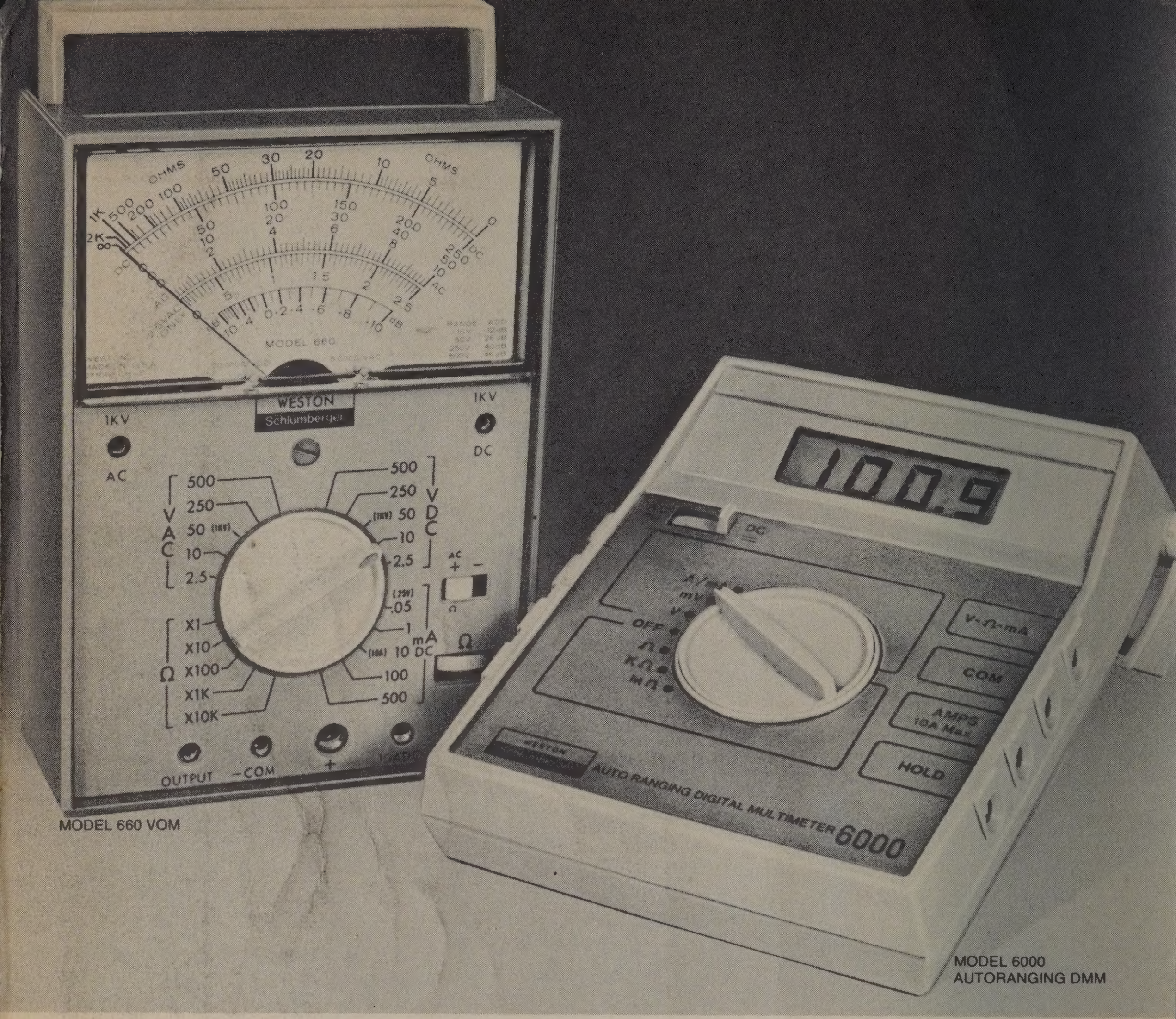
Pioneer-Standard

Industrial Electronics
13th Edition


WESTON
Schlumberger
MODEL 660
100.9
V·Ω·mA
COM
AMPS 10A Max
HOLD
AUTO RANGING DIGITAL MULTIMETER 6000

MODEL 660 VOM

MODEL 6000
AUTORANGING DMM

Analog or Digital . . . WESTO solves field test problems.

660 Series VOM

- Completely "Drop-Proofed"
- Temperature Compensated
- Custom Ruggedized Self-Shielded Taut Band Mechanism
- External Fuse Replacement

Model 6000 *Autoranging* DMM

- Long Life Liquid Crystal Display
- Fully Portable
- LSI Microcircuitry
- Up To 350 Hours Battery Life

SANGAMO WESTON
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See pages 679 to 705 for Weston products

NEW PRODUCTS shown for the first time in the Pioneer-Standard catalog

Jewell

PANEL METERS and METER RELAYS
Pages 619 thru 621

Thermalloy, Inc.

HEAT SINKS
Pages 552 thru 554

CORNING®

PRECISION RESISTORS and CAPACITORS
Pages 166, 167, 191 thru 196

gel/cell®

GLOBE
RECHARGEABLE BATTERIES
Page 580

GENERAL TIME
A TALLEY INDUSTRIES COMPANY

SYNCHRONOUS TIMING MOTORS
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Siliconix incorporated

FETS and ANALOG SWITCHES
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CONTINENTAL SPECIALTIES CORPORATION
CSC

LOGIC PROBES and PROTOTYPE TEST EQUIPMENT
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TRW *GLOBE MOTOR DIVISION*

PRECISION MINIATURE GEAR MOTORS
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ULTRA-VIOLET PRODUCTS, INC.®

ULTRA-VIOLET LAMPS
Page 140

HEWLETT hp PACKARD
COMPONENTS

OPTOELECTRONICS and MICROWAVE SEMICONDUCTORS
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gulton®
Measurement & Control Systems Division

THERMAL PRINTERS
Page 617

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QUICK FIND THUMB TABS
Semiconductors
Resistors, Controls
Capacitors
Connectors, Sockets
Relays
Switches
Transformers
Tubes
Racks & Cabinets
Motors & Fans
Miniature Lamps
Fuses & Breakers
Terminals
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Hardware
Solder & Tools
Batteries, Holders
Instruments
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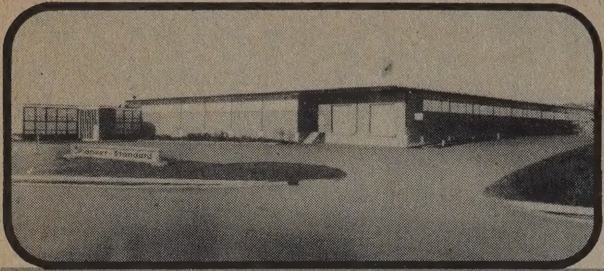
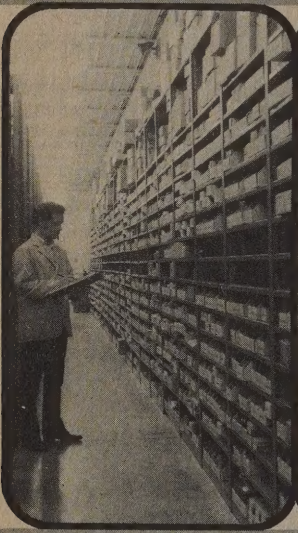
Pioneer-Standard



Pictured is one of our eleven modern industrial warehouses. These eleven warehouses have a total of 184,000 square feet devoted to the distribution of electronic components.

Each Pioneer facility is well staffed with trained telephone personnel. Personnel capable of taking your orders, processing them promptly and efficiently for one day shipment.

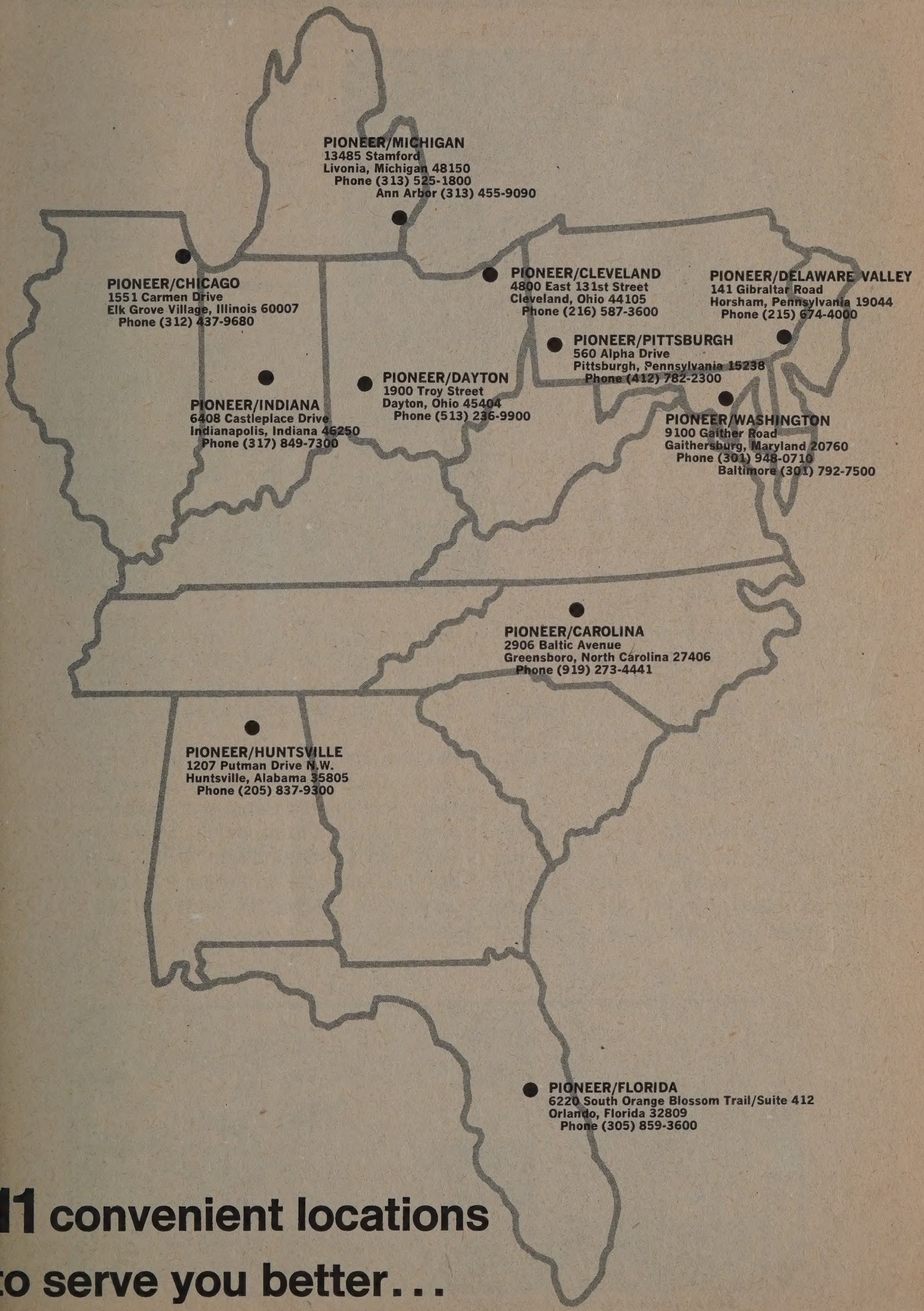


Pictured at the far left is one of the Pioneer warehouse personnel checking stock. Physical stock checks are made to help eliminate erroneous stock information. If you are told it is in stock, there is less chance for errors that are found on stock checks through Visi-records or computers.

Each facility maintains its own well-stocked catalog room (pictured left). An ample supply of all manufacturers catalogs are kept by trained personnel who stand ready to send you catalogs and semiconductor data sheets and application notes on request.

You have probably talked with many of our inside and outside sales personnel and, therefore, picture them as Pioneer. They are a very important part of Pioneer, but without our "operations group" nothing would happen. As an example, our Cleveland group perform receiving, stocking, order checking, and shipping functions. Through direct phone contact they respond to sales department questions—primarily how many of these do we have in stock?

Pioneer-Standard



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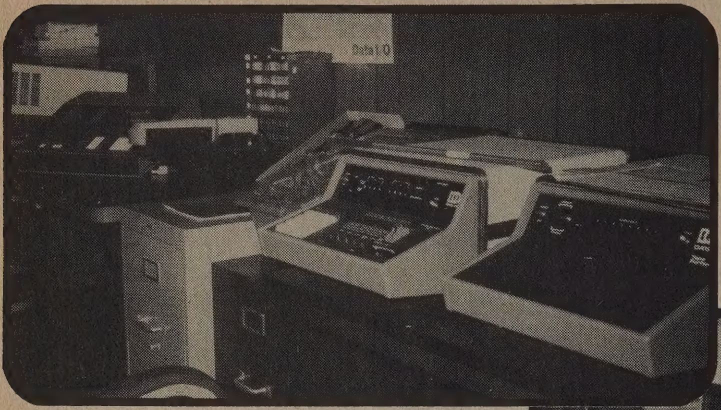
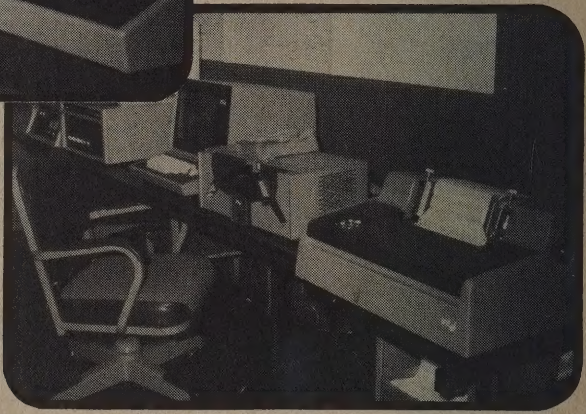
11 convenient locations
to serve you better. . .

Pioneer-Standard



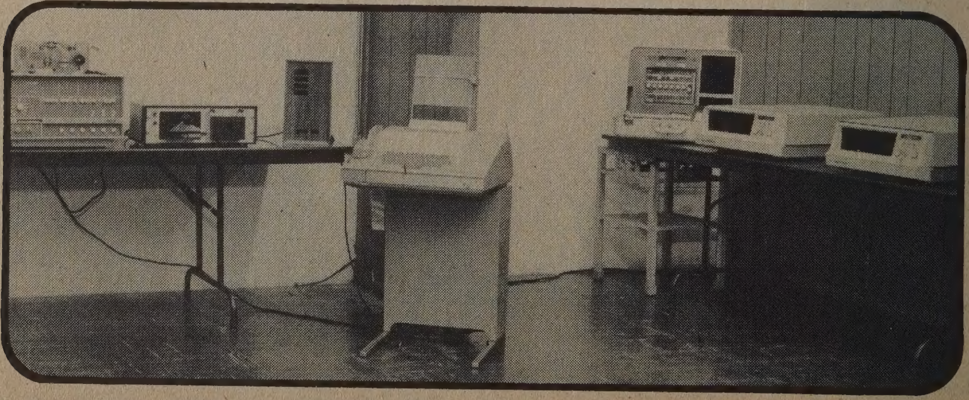


MICROPROCESSOR AND PROM PROGRAMMING CENTERS

PIONEER has established a number of Microprocessor Development and Service Centers. They are available by appointment for your use.

We are prepared to introduce microprocessors to those who have not used them before. We will compare microprocessor types and suppliers for those who are ready to choose which product best serves their application. We can make available our facility for those who need a place to develop and test their software.

We presently are equipped, at one or more of our Microprocessor Development and Service Centers, to demonstrate products from: INTEL, MOTOROLA, NATIONAL, and FAIRCHILD. We are also equipped to program a wide variety of PROMs in most of our centers.



Delco Electronics Semiconductors

SILICON NPN HIGH ENERGY POWER TRANSISTORS

1 TO 15 AMPS HIGH VOLTAGE (TO-3)

V_{EBO} = 5 volts at I_{EBO} = 5.0 mA (DTS424, -425, 2N5157 V_{EBO} = 6.0 volts; DTS430 I_{EBO} = 20.0 mA; DTS431, 2N5241 I_{EBO} = 2.0 mA).

Delco Type	Max. I_C A	V_{CEV} V	h_{FE} at I_C Min.	A	Typ. f_T MHz	R_T °C/W	Net Ea., Lots 1-99	100-999
DTS401	2.0	400	20	0.5	.....	1.0	$ 3.68	$ 2.94
DTS402	3.5	700#	.....	.....	1.2‡	0.75	4.69	3.75
DTS403	3.5	400	.....	.....	0.7‡	0.75	6.07	4.85
DTS409	3.5	400	15	1.0	2.2†	0.75	3.58	2.87
DTS410	3.5	200	30	1.0	2.0†	0.75	3.58	2.87
DTS411	3.5	300	30	1.0	2.0†	0.75	3.91	3.13
DTS413	2.0	400	20	0.5	4.0	1.0	3.58	2.87
DTS423	3.5	400	30	1.0	2.5†	0.75	4.69	3.75
DTS424	3.5	700	30	1.0	2.5†	0.75	5.83	4.67
DTS425	3.5	700	30	1.0	2.5†	0.75	6.24	4.99
DTS430	5.0	400	15	2.5	2.5	0.7	6.64	5.32
DTS431	5.0	400	15	2.5	4.0	0.7	9.73	7.80
DTS515	10.0	300	15	3.0	5.0§	1.4	3.97	3.18
DTS516	10.0	400	20	3.0	5.0§	1.4	4.54	3.63
DTS517	10.0	500	20	3.0	5.0§	1.4	5.29	4.23
DTS518	10.0	600	25	3.0	5.0§	1.4	6.02	4.82
DTS519	10.0	700	25	3.0	5.0§	1.4	6.69	5.35
DTS520	10.0	700	20	3.0	5.0§	1.4	4.91	3.93
DTS701	1.0	800	20	0.15	1.5†	1.5	5.22	4.18
DTS702	3.0	1200#	2.5	2.0	1.5†	1.5	13.73	11.00
DTS704	3.0	1000	2.5	2.0	1.5†	1.5	14.22	11.40
DTS708	3.0	900	.....	.....	1.5‡	1.5	5.41	4.33
DTS709	3.0	900	.....	.....	1.5‡	1.5	5.96	4.77
DTS710	3.0	900	10	0.15	1.5†	1.5	5.86	4.69
DTS712	3.0	900	2.5	2.0	1.5†	1.5	7.07	5.65
DTS714	3.0	900	2.5	2.0	1.5†	1.5	7.52	6.02
DTS720	3.0	1000	18	0.15	1.5†	1.5	10.02	8.03
DTS723	3.0	1000	10	0.5	1.5†	1.5	7.43	5.94
DTS801	2.0	800	20	0.2	1.5†	1.0	6.60	5.28
DTS802	5.0	1200#	2.2	3.5	1.5†	1.0	14.81	11.87
DTS804	5.0	1400#	2.2	3.5	1.5†	1.0	15.08	12.56
DTS812	5.0	1200#	2.2	3.5	1.5†	1.0	8.22	6.59
DTS814	5.0	1400#	2.2	3.5	1.5†	1.0	9.12	7.31
2N3902*	3.5	700#	30	1.0	2.8§	0.75	4.69	3.75
2N5157*	3.5	700#	30	1.0	2.8§	0.75	7.04	5.63
2N5241*	5.0	400	15	2.5	2.5§	0.75	11.51	9.22
2N6573	10.0	500	15	3.0	5.0	1.4	5.46	4.37
2N6574	10.0	600	20	3.0	5.0	1.4	6.19	4.95
2N6575	10.0	700	20	3.0	5.0	1.4	6.88	5.50

MONOLITHIC AMPLIFIER MODULE

Separate gain and power stages contained in a modified DIP package with heat sink. Operates on a 10–16 volt supply.

Delco Type	Max. V_{CC} Volts	Max. I_C mA	Input Bias μA	Gain dB	Out. W	Net Each, Lots of 1-99	100-999
DA101	16	3.0	0.8	90	6.0	$6.22	$4.98

DARLINGTON TRANSISTORS

Delco Type	Max. I_C A	V_{CEV} V	h_{FE} at I_C Min.	A	Typ. f_T MHz	R_T °C/W	Net Ea., Lots 1-99	100-999
DTS2000▴	0.6	40	2000	0.6	75†	173	$ 0.56	$0.44
DTS2001	0.6	60	2000	0.6	75†	173	.68	.54
DTS2002	0.6	80	2000	0.6	75†	173	.78	.62
DTS2003	0.6	100	2000	0.6	75†	173	.89	.70
DTS4062	20.0	350	75	10.0	8.0§	0.75	8.67	6.94
DTS4066	20.0	350	75	10.0	8.0§	0.75	8.22	6.59
DTS4067	20.0	350	150	10.0	8.0§	0.75	9.12	7.31
DTS4072	20.0	350	75	10.0	8.0§	0.75	9.56	7.54
DTS4074	20.0	350	75	10.0	8.0§	0.75	9.12	7.31
DTS4075	20.0	350	150	10.0	8.0§	0.75	10.02	8.03

*JAN and JANTX types available. †Min. f_T. ‡t_f in μsec. §AC gain at 1 MHz. #V_{CEV} at 25° C. •High energy Darlington; V_{EBO} = 7.0 V at I_{EBO} = 50 mA. ▴TO-92 package.

10 AMPS HIGH VOLTAGE (TO-36)

I_C = 10 amps maximum. $V_{CEO(sus)}$ at I_C = 100 mA. V_{CEO} at I_{CEO} = 5 mA. V_{EBO} = 5.0 V at I_{EBO} = 50 mA. AC gain = 2.0 at 1 MHz. Thermal resistance = 0.7° C/W max.

Delco Type	$V_{CEO(sus)}$ V	V_{CEO} V	h_{FE} Min.*	$V_{CE(sat)}$ at I_C V	A	$V_{BE(sat)}$ V	Net Each, Lots 1-99	100-999
2N2580	325	400	4	0.7	5.0	1.5	$ 40.22	$33.52
2N2581	325	400	10	1.0	10.0	1.7	90.92	75.77
2N2582	325	500	4	0.7	5.0	1.5	52.59	43.83
2N2583	325	500	10	1.0	10.0	1.7	117.49	97.91
2N3079	200	200	10†	0.7	5.0	1.5	11.15	8.93
2N3080	300	300	10†	0.7	5.0	1.5	15.15	12.14

*At I_C = 10 amps. †At I_C = 5 amps.

MONOLITHIC VOLTAGE REGULATOR (TO-220)

Delco Type	V_{IN} Max.	Typ.	V_O Typ.	V_O with Load Var. mV	mA	I_C Max.	Net Ea., Lots 1-99	100-999
DVR-8	25	10.5–16	8.0	50	50–100	0.2 A	$1.09	$0.87

SILICON RECTIFIERS

BUTTON DIODES

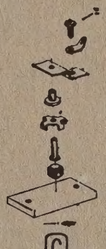
$I_{F(AV)}$ = 2 amps–22 amps, depending on mounting (data sheet on request). V_{FM} measured at I_F = 6 amps, T_C = 25° C.

Delco Type	PRV V	$I_{R(AV)}$ mA	V_{FM} V	Net Each, Lots of 1-99	100-999
DBD101	100	0.25	0.9	$0.45	$0.35
DBD102	200	0.25	0.9	.55	.43
DBD104	400	0.25	0.9	.77	.60

HEAT SINKS AND ACCESSORIES

Transistor and rectifier prices include mounting hardware. Heat sinks packaged 10 per carton.

Delco Type	Fig.	Description	R_T °C/W	Maximum Size, Inches W.	D.	L.	Net Each, 1-999
7269634	....	Insulating spacer for heat sink	.....	.....	.....	.....	$0.07
7274633	D	TO-36 (round base) mtg. kit	.....	.....	.....	.....	.17
7274775	D	TO-3 (diamond base) mtg. kit	.....	.....	.....	.....	.17
7305209	D	TO-41 (diamond base) mtg. kit	.....	.....	.....	.....	.17
7305210	D	TO-3 (silicon) mtg. kit	.....	.....	.....	.....	.17
9341320	D	TO-66 mounting kit	.....	.....	.....	.....	.29
DMK-1	C	Button diode mounting kit	.....	.....	.....	.....	.57
DMK-2	K	Same, but with heat sink	.....	.....	.....	.....	1.85
7270725	E	Single punch, TO-3, TO-36, TO-41	2.3	3.125	1.370	4.690	.99
7281352	E	Double punched, TO-3, TO-36, TO-41	2.3	3.125	1.370	4.690	1.11
7270606	E	Unpunched, unpainted	2.3	3.125	1.370	4.690	.83
7300811	E	Double punched, press fit rectifier	2.3	3.125	1.370	4.690	.99
7281361	F	Double punched, TO-3, TO-46, TO-41	1.6	3.125	1.080	6.135	1.65
7281364	F	Unpunched, unpainted	1.6	3.125	1.080	6.135	1.44
7281357	G	Punched for TO-3, TO-41	5.0	1.625	1.330	2.930	.99
7281360	G	Unpunched, unpainted	5.0	1.625	1.330	2.930	.72
7281351	H	Double punched, TO-3, TO-36, TO-41	2.2	3.125	.750	6.775	1.65
7281354	H	Unpunched, unpainted	2.2	3.125	.750	6.775	1.44
7281355	I	Double punched, TO-3, TO-36, TO-41	2.2	3.125	1.330	4.850	1.94
7281353	I	Unpunched, unpainted	2.2	3.125	1.330	4.850	1.65
7276040	I	Punched for round base only	3.5	1.531	1.330	4.850	.99
7277151	I	Punched for TO-3, TO-41	3.5	1.531	1.330	4.850	.99
7278482	I	Unpunched, unpainted	3.5	1.531	1.330	4.850	.83
7281366	J	Double punched, TO-3, TO-36, TO-41	1.6	3.125	2.500	4.850	1.94
7281369	J	Unpunched, unpainted	1.6	3.125	2.500	4.850	1.65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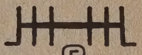
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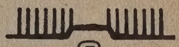
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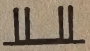
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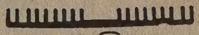
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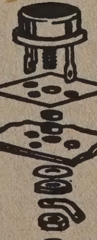
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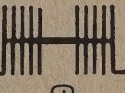
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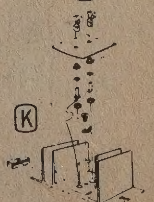
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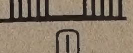
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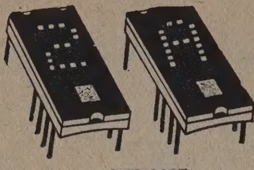
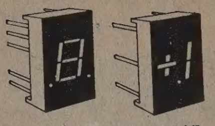
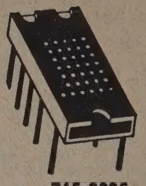
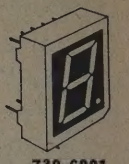
DIALIGHT LED READOUTS AND ACCESSORIES

DIALCO®


745-0007
.270″ Char.


745-0014 745-0015
.300″ Char.


745-0005
.300″ Char.


730-6001
.600″ Char.

SERIES 745 READOUTS, HEXADECIMAL DISPLAY

(CHARACTER HEIGHT .270″ & .300″)

Compatible with most TTL and DTL circuits. Standard 14 or 16 pin DIP. Gallium arsenide phosphide light source, single-plane wide angle visibility. Availability with left and right decimal. **Reverse Voltage at 25° C Ambient:** 3 volts each segment and decimal point. **Peak Forward Current:** 150 mA. **Continuous Forward Current:** Each segment or decimal point, 25 mA. **Luminance:** 500 μcd typical. **Wavelength at Peak Emission:** 6500° A. **Static Forward Voltage:** 1.7 V typ. **Ambient Temperature Range:** −20° C to +85° C. 745-0007 has hexadecimal display with left and right hand decimals. Model 745-0008 has numeric display with left hand decimal including latch. Model 745-0009 has numeric display, left hand decimal, plus counter and latch. **Size:** 745-0007, overall .400″ w. x .149″ d. x .740″ h.; digit .270″. 745-0008, overall .420″ w. x .149″ d. x 1.030″ h.; digit .270″. 745-0009, overall .420″ w. x .149″ d. x 1.030″ h.; digit .270″. 745-0014, overall .400″ w. x .240″ d. x .750″ h.; digit .300″. 745-0015, same as 745-0014, plus-minus sign, .174″ h. x .160″ w.; digit .290″ h.

MODEL 745-0005 ALPHA-NUMERIC DISPLAY

(CHARACTER HEIGHT .300″)

Gallium arsenide phosphide display mounted on a 14 pin dual inline substrate and cast within an electrically non-conductive transparent epoxy. High brightness, low power requirements, single-plane wide-angle visibility, compatible with USASCII and EBCDIC codes. Complete alpha-numeric and symbol capability, 35 dot matrix. 5 x 7 array with X-Y select and decimal point. **Reverse Voltage at 25° C Ambient:** 3 volts. **Peak Forward Current:** Each diode, 100 mA. **Continuous Forward Current:** Each diode, 20 mA; total, 400 mA. **Luminance:** 300 fL typical. **Wavelength at Peak Emission:** 6500° A typ. **Static Forward Voltage:** 1.6 V typ. **Ambient Temperature Range:** 0° to 70° C. **Size:** Overall, .400″ w. x .120″ d. x .740″ h. **Characters:** Alpha-numeric with decimal point.

730 SERIES DIODE-LITE READOUTS

(CHARACTER HEIGHT .600″)

High efficiency diodes in 7 segment format provide uniform segments, with wide viewing angle and high contrast ratio. Model 730-6001 requires a resistor for each segment and for the decimal point. A 200 ohm, ¼ watt resistor is recommended for 5 V operation. 730-6005 is plus-minus module. Model 730-6007, for bezel mounting, includes all resistors and decoder/driver on a PC board. Requires 4 line or bits of information in a 8421 BCD code for each character in a display. User has option of using edge card connector or hard wiring to board. Terminals are also brought out for automatic blanking of leading and/or trailing edge zeros, and a lamp test to check for possible display malfunction. **Supply Voltage** (Vcc)**:** 730-6007, 5 V ±0.5 at 145 mA all segments illuminated; 730-6009 & 730-6001, 5 V at 91 mA. **Logic Inputs:** 4 lines BCD per character; logic "1", 2 to 5.5 V; logic "0", 0.0 to 0.8 V, sink 13 mA. **Operating Temperature:** 0–70° C. **Size:** 730-6001 & 730-6005, .988″ h. x .713″ w. x .433″ d. 730-6007 includes 1.59″ x 1.06″ PC card with resistors and decoder/driver.

739 SERIES READOUT ASSEMBLY

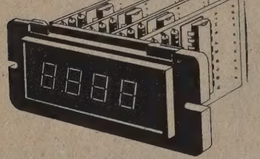
Supplied in an attractively designed bezel, ready for instant panel mounting of multi-digit displays, with or without decoder/drivers. The display is made up of high efficiency GaP, in a highly legible red seven segment format. When supplied with decoder/drivers on a PC board, each character in the display requires 4 lines of information in an 8421 code. Terminals are also brought out for automatic blanking of leading and/or trailing edge zeros, and for a lamp test to check for a possible display malfunction.

Dialco Numbers		No. of Char.	Panel Cutout Width, Inches†	Mtg. Flange Width, Inches♯
With Decoder-Driver	Without Decoder-Driver			
739-0260-601	739-0261-601	2	1.606	2.098
739-0360-601	739-0361-601	3	2.323	2.815
739-0460-601	739-0461-601	4	3.040	3.532
739-0560-601	739-0561-601	5	3.757	4.249
739-0660-601	739-0661-601	6	4.474	4.966
739-0760-601	739-0761-601	7	5.191	5.683
739-0860-601	739-0861-601	8	5.908	6.400
739-0960-601	739-0961-601	9	6.625	7.117
739-1060-601	739-1061-601	10	7.342	7.834

†Height of panel cutout, 1.114″ all models. ♯Behind panel.

SERIES 749 READOUT ASSEMBLIES

(CHARACTER HEIGHT .300″)


Typical Assembly
.300″ or .600″ Char.

The 749 Series displays are supplied with a stylish black bezel for simplified panel mounting of multi-digit groupings. The displays feature bright, highly legible characters in a 7-segment format, .300″ in height. The alphanumeric display is a 5 x 7 dot matrix, with a .300″ high character. When supplied with decoder/drivers, latch and counters, all components are either mounted on a PC board, or provided as an integral MSI chip. with terminations provided for automatic blanking of leading and/or trailing edge zeros and for intensity control. The user has the option of hard wiring to the board or using edge card connectors.

Dialco Number	Char-acters	Dimensions		Dialco Number	Char-acters	Dimensions	
		A″	B″			A″	B″
749-1801	1	.958	1.259	749-1501	1	1.100	1.401
749-1802	2	1.379	1.680	749-1502	2	1.663	1.964
749-1803	3	1.800	2.101	749-1503	3	2.226	2.527
749-1804	4	2.221	2.522	749-1504	4	2.787	3.088
749-1805	5	2.642	2.943	749-1505	5	3.352	3.653
749-1806	6	3.063	3.364	749-1506	6	3.915	4.216
749-1807	7	3.484	3.785	749-1507	7	4 478	4.779
749-1808	8	3.905	4.206	749-1508	8	5.041	5.342
749-1809	9	4.326	4.627	749-1509	9	5.603	5.904
749-1810	10	4.747	5.048	749-1510	10	6.167	6.488

A = panel cutout, B = mounting centers

Dimensions also apply to 749-08xx & 749-12xx.

Dimensions also apply to 749-16xx.

SERIES 749 READOUT ASSEMBLIES

Character Height	Description	Complete* Assembly Series No.	Module Part No.
.300″	Display w/Decoder/Driver	749-15xx	740-3006
.300″	Display	749-18xx	745-0014
.300″	Display w/Decoder/Driver & Latch	749-16xx	740-3012
.270″	Hexadecimal Display w/Latch, Decoder/Driver	749-12xx	745-0007
.300″	Alphanumeric	749-08xx	745-0005

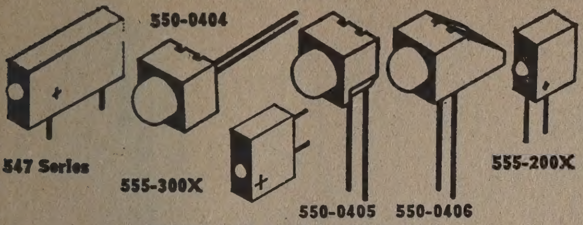
*The last two digits are determined by the number of digits in the assembly.

CHECK WITH YOUR DISTRIBUTOR FOR PRICING ON THESE PRODUCTS.

DIALIGHT LED INDICATORS AND LAMPS

DIALCO®

DIODE-LITE® LED LED LOGIC/STATE FAULT INDICATORS



SERIES 547 FAULT INDICATOR

Compact, versatile unit may be used as a fault indicator for trouble shooting complex printed circuit cards, as logic/state indicator, or indicator light. Binary data display permits stacking so multiple functions can be displayed. Features gallium arsenide phosphide LED; identified polarity; built-in series resistor. Can be driven directly from DTL and TTL logic. Gold plated leads. Size, .094″–.098″ w. x .540″ d. overall x .248″ h. Pin length, .150″.

Dialco No.	Volts	mA	Dialco No.	Volts	mA
547-2001	1.7*	......	547-2005	10.0	14
547-2002	3.6	20	547-2006	14.0	10
547-2003	5.0	6	547-2007	5.0	3
547-2004	5.0†	16			

Dialco No.	Net Each, Lots of						
	1-9	10-24	25-99	100-249	250-499	500-999	1000-2499
547-2001 Red	$1.95	$1.81	$1.70	$1.57	$1.45	$1.33	$1.20
547-2002 Red	1.99	1.85	1.74	1.61	1.48	1.36	1.23
547-2003 Red	1.99	1.85	1.74	1.61	1.48	1.36	1.23
547-2004 Red	1.99	1.85	1.74	1.61	1.48	1.36	1.23
547-2005 Red	1.99	1.85	1.74	1.61	1.48	1.36	1.23
547-2006 Red	1.99	1.85	1.74	1.61	1.48	1.36	1.23
547-2007 Red	1.99	1.85	1.74	1.61	1.48	1.36	1.23

SERIES 550 SOLID STATE LED RED, GREEN, YELLOW DIFFUSED LIGHT SOURCE

Ideal for indicator light, panel illumination, logic/state indicator, binary data display. Allows for high density packaging. Polarity identified. Model 550-0x06 designed for installations where a more rigid assembly is required. **V$_F$:** 1.8 volts typical at 50 mA, 2.3 volts max. **I$_F$:** 50 mA max. **V$_R$:** 3 volts max. **BV$_R$:** 3.0 volts min. at 10 μA, 8.0 volts typical. **Power Dissipation:** 100 mW (derate 1.3 mW/° C above 25° C). **Storage Operating Temp.:** −40° to +100° C. **Solder Temp.:** 250° C at 0.1″ from seating plane for 5 seconds. **Luminous Intensity:** 2.0 mcd at 20 mA. **Wavelength:** Red 650 nM, Green, 560 nM, Yellow 580 nM at peak. **Rise and Fall Time:** 10 ns for 10–90% of light.

Dialco No.	Net Each, Lots of		
	1-99	100-999	1000-2499
550-0204 Green	$1.19	$0.88	$0.80
555-0205 Green	1.19	.88	.80
550-0206 Green	1.19	.88	.80
550-0304 Yellow	1.19	.88	.80
550-0305 Yellow	1.19	.88	.80
550-0306 Yellow	1.19	.88	.80
550-0404 Red	.59	.45	.39
550-0405 Red	.59	.45	.39
550-0406 Red	.59	.45	.39
550-0504 Red*	.89	.73	.62
550-0505 Red*	.89	.73	.62
550-0506 Red*	.89	.73	.62

*Built-in series resistor.

SERIES 555 LOGIC/STATE FAULT INDICATOR

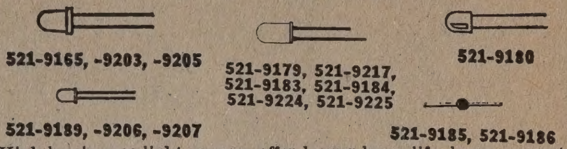
Use as fault indicator for trouble shooting complex circuits, logic/state indicator, indicator light, or binary data display. High intensity red diffused light. Gallium arsenide phosphide LED. Polarity identified. Built-in series resistor. Size, .100″ w. x .240″ d. x .250″ h. Lead length, .281″ min. Lamp, .080″ diameter.

Dialco No.	Volts	mA	Dialco No.	Volts	mA
555-2001 Red	1.7	*	555-3001 Red	1.7	*
555-2002 Red	3.6	20	555-3002 Red	3.6	20
555-2003 Red	5.0	6	555-3003 Red	5.0	6
555-2004 Red	5.0†	16	555-3004 Red	5.0†	16
555-2005 Red	10.0	14	555-3005 Red	10.0	14
555-2006 Red	14.0	10	555-3006 Red	14.0	10
555-2007 Red	5.0	3	555-3007 Red	5.0	3

Dialco No.	Net Each, Lots of						
	1-9	10-24	25-99	100-249	250-499	500-999	1000-2499
555-2001 Red	$1.00	$0.91	$0.83	$0.76	$0.69	$0.63	$0.57
555-2002 Red	1.11	1.01	.92	.84	.76	.69	.62
555-2003 Red	1.11	1.01	.92	.84	.76	.69	.62
555-2004 Red	1.11	1.01	.92	.84	.76	.69	.62
555-2005 Red	1.11	10.1	.92	.84	.76	.69	.62
555-2006 Red	1.11	1.01	.92	.84	.76	.69	.62
555-2007 Red	1.11	1.01	.92	.84	.76	.69	.62
555-3001 Red	1.10	1.00	.91	.84	.76	.69	.63
555-3002 Red	1.22	1.11	1.01	.92	.84	.76	.68
555-3003 Red	1.22	1.11	1.01	.92	.84	.76	.68
555-3004 Red	1.22	1.11	1.01	.92	.84	.76	.68
555-3005 Red	1.22	1.11	1.01	.92	.84	.76	.68
555-3006 Red	1.22	1.11	1.01	.92	.84	.76	.68
555-3007 Red	1.22	1.11	1.01	.92	.84	.76	.68

*Requires external resistor. Maximum DC forward current, 50 mA. Typical operating current, 20 mA. †For higher brightness, can be operated at 6 V at 20 mA.

SERIES 521 DIODE-LITES® SOLID STATE LAMPS

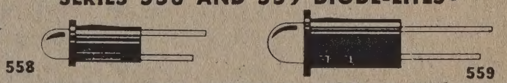


High luminance light sources offer longer lamp life, lower current at low cost. For applications requiring direct mounting through a panel. IC compatible; vibration and shock resistant; wide viewing angle. Solid state reliability, with life measured in years. Consist of a light emitting diode, completely encapsulated, with clear or diffused lens. The 521-9165 base has a flat on one side which gives the device an antirotation feature as well as indicating whch lead is the cathode. Leads are flexible enough for bending and rigid enough for direct mounting to a PC board. **Forward Voltage:** 1.8 volts typical at 50 mA, 2.3 volts max. **Forward DC Current:** 50 mA max. **Reverse Voltage:** 3 volts max. **Reverse Breakdown Voltage:** 3.0 volts minimum at 10 μA, 8.0 volts typical. **Power Dissipation:** 100 mW (derate 1.3 mW/° C above 25° C). **Storage/Operating Temperature:** −40° to +100° C. **Relative Humidity:** 98% at 65° C. **Solder Temperature:** 250° C at 0.1″ from seating plane for 5 seconds. **Luminous Intensity:** 2.0 mcd at 20 mA, except 521-9167, 521-9168, 1.0 mcd: 521-9189, 1.35 mlumen. **Wavelength:** red, 650 nM; green, 560 nM; yellow, 580 nM. **Spectral Line Width:** 25 nM. **Rise and Fall Time:** 10 ns for 10–90% of light intensity for step change in current. **Angle of Half Intensity:** 35°. **Angle of 0.1 Intensity:** 85°.

Dialco No.	Diffusion	Lens Size, In.		Net Each, Lots of		
		Dia.	Height	1-99	100-999	1000-2499
521-9165	Red	.192	.240	$0.50	$0.37	$0.33
521-9166	Clear*	.192	.240	.50	.37	.33
521-9180	Red	.185	.190	.50	.37	.33
521-9185	Red*	.120	.100	.45	.25	.17
521-9186	Red	.120	.100	.45	.25	.17
521-9189	Red	.125	.190	.29	.19	.15
521-9190	Clear*	.192	.240	.50	.37	.33
521-9200	Red	.192	.240	.28	.21	.17
521-9202	Green*	.192	.240	.99	.75	.55
521-9203	Green	.192	.240	.99	.75	.55
521-9204	Yellow*	.192	.240	.99	.75	.55
521-9205	Yellow	.192	.240	.99	.75	.55
521-9206	Green	.120	.190	.99	.75	.55
521-9207	Yellow	.120	.190	.99	.75	.55
521-9212	Red	.200	.340	.50	.37	.33
521-9215	Red†	.120	.190	.75	.60	.50
521-9216	Red	.120	.190	.29	.19	.15
521-9217	Red	.200	.340	.30	.21	.17
521-9224	Green	.200	.340	.99	.75	.55
521-9225	Yellow	.200	.340	.99	.75	.55
521-9240	Red	.200	.340	.30	.21	.17
521-9244	Red/Grn	.185	.290	2.24†	1.73	1.32
521-9245	Red/Grn	.185	.290	2.24†	1.73	1.32
521-9179	Red	.200	.340	.50	.37	.33
521-9183	Red†	.200	.340	.75	.60	.50
521-9184	Clear*†	.200	.340	.75	.60	.50
521-9195	Red	.120	.100	.62	.50	.39
521-9214	Red	.192	.240	.56	.42	.34

*Non-diffused, balance diffused. †Rated 5 V with integral resistor. †Lots of 10–24.

SERIES 558 AND 559 DIODE-LITES®

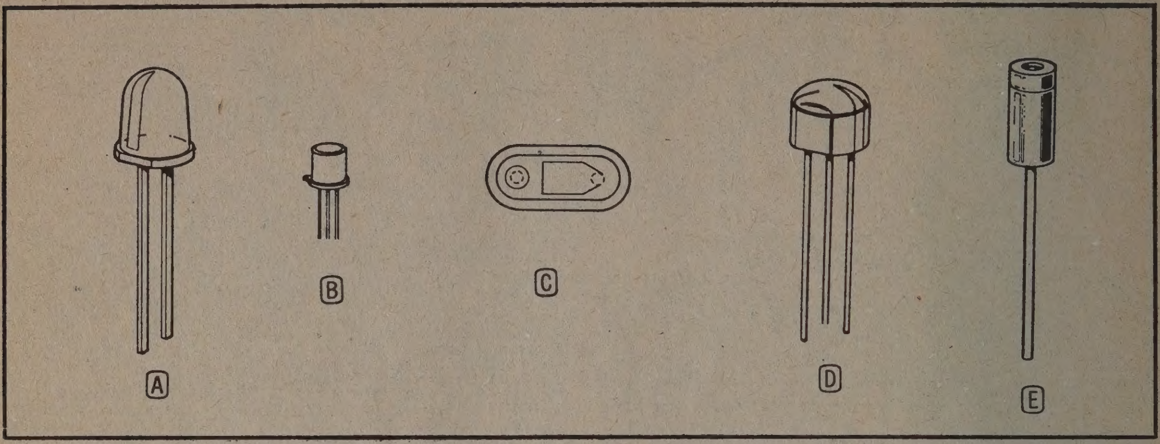


Snap-in mounting design requires no additional hardware and provides quick positive insertion in panels from .031″ through .062″. The black housing enhances the contrast ratio of the high brightness LED. Available with and without integral current-limiting resistors. **Mounting Hole Size:** Series 558, .156″ dia.; Series 559, .250″ dia. **Mounting Centers:** Series 558, 0.2″; Series 559, 0.3″. **Terminals:** .020″ sq. pins for wire wrap or solder except **-003** suffix units supplied with wire leads.

Dialco No.	LED Color	Integral Resistor	Net Each, Lots of			
			1-9	10-99	100-999	1000-2499
558-0101-001	Red	No	$0.75	$0.60	$0.40	$0.33
558-0101-003	Red	No	1.17	1.02	.88	.75
558-0102-001	Red	Yes	1.00	.85	.65	.58
558-0102-003	Red	Yes	1.52	1.31	1.13	.95
558-0201-001	Green	No	1.10	.95	.75	.65
558-0201-003	Green	No	1.53	1.32	1.15	.97
558-0202-001	Green	Yes	1.40	1.25	.95	.85
558-0202-003	Green	Yes	2.08	1.80	1.56	1.31
558-0301-001	Yellow	No	1.10	.95	.75	.65
558-0301-003	Yellow	No	1.53	1.32	1.15	.97
558-0302-001	Yellow	Yes	1.40	1.25	.95	.85
558-0302-003	Yellow	Yes	2.08	1.80	1.51	1.31
559-0101-001	Red	No	.75	.60	.40	.33
559-0101-003	Red	No	1.13	.98	.84	.71
559-0102-001	Red	Yes	1.00	.85	.65	.58
559-0102-003	Red	Yes	1.47	1.27	1.09	.92
559-0201-001	Green	No	1.10	.95	.75	.65
559-0201-003	Green	No	1.49	1.29	1.11	.94
559-0202-001	Green	Yes	1.40	1.25	.95	.85
559-0202-003	Green	Yes	2.02	1.75	1.50	1.27
559-0301-001	Yellow	No	1.10	.95	.75	.65
559-0301-003	Yellow	No	1.49	1.29	1.11	.94
559-0302-001	Yellow	Yes	1.40	1.25	.95	.85
559-0302-003	Yellow	Yes	2.02	1.75	1.50	1.27

FAIRCHILD SEMICONDUCTOR

Optoelectronic Devices



VISIBLE LAMPS

Fairchild Type	Fig.	Description	Net Each, Lots of 1-99	100-999	1000 Up
FLV104	A	Clear narrow beam	$2.00	$1.50	$1.30
FLV110	A	Red diffused	.30	.25	.20
FLV111	A	Clear point source	.30	.25	.20
FLV112	A	Clear diffused	.30	.25	.20
FLV117	A	Red diffused	.25	.20	.17
FLV118	A	Clear point source	.25	.20	.17
FLV140	A	Red diffused	.30	.25	.20
FLV141	A	Red point source	.30	.25	.20
FLV150	A	Red diffused	.30	.25	.20
FLV151	A	Red point source	.30	.25	.20
FLV152	A	Red backlighting	.92	.69	.60
FLV160	A	Red diffused	.30	.25	.20
FLV161	A	Red point source	.30	.25	.20
FLV251	A	Red point source	.60	.50	.40
FLV252	A	Red point source	.80	.70	.55
FLV310	A	Green diffused	.60	.50	.40
FLV315	A	Green diffused	.50	.45	.35
FLV340	A	Green diffused	.60	.50	.40
FLV341	A	Green point source	.60	.50	.40
FLV350	A	Green diffused	.60	.50	.40
FLV351	A	Green point source	.60	.50	.40
FLV355	A	Green diffused	.50	.45	.35
FLV360	A	Green diffused	.60	.50	.40
FLV365	A	Green diffused	.50	.45	.35
FLV410	A	Yellow diffused	.60	.50	.40
FLV440	A	Yellow diffused	.60	.50	.40
FLV450	A	Yellow diffused	.60	.50	.40
FLV460	A	Yellow diffused	.60	.50	.40
FLV510	A	Red diffused	.60	.50	.40
FLV540	A	Red diffused	.60	.50	.40
FLV550	A	Red diffused	.60	.50	.40
FLV560	A	Red diffused	.60	.50	.40
MV5050	A	Clear point source	.50	.35	......
MV5051	A	Clear diffused	.50	.35	......
MV5052	A	Red point source	.50	.35	......
MV5053	A	Red diffused	.50	.35	......
MV5054-1	A	Red semidiffused	.28	.21	......
MV5054-2	A	Red semidiffused	.60	.45	......
MV5054-3	A	Red semidiffused	1.00	.80	......
MV5152	A	Amber point source	.90	.72	......
MV5153	A	Amber backlighting	.90	.72	......
MV5154	A	Amber diffused	.90	.72	......
MV5252	A	Green point source	.90	.72	......
MV5253	A	Green backlighting	.90	.72	......
MV5254	A	Green diffused	.90	.72	......
MV5352	A	Yellow point source	.90	.72	......
MV5353	A	Yellow backlighting	.90	.72	......
MV5354	A	Yellow diffused	.90	.72	......
MV5752	A	Red point source	.90	.72	......
MV5753	A	Red diffused	.90	.72	......
MV5754	A	Red semidiffused	.90	.72	......

INFRARED EMITTERS

Fairchild Type	Fig.	Description	Net Each, Lots of 1-24	25-99	100-999	1000 Up
FPE100	B	Wide beam	$3.50	$3.30	$2.75	$2.50
FPE104	A	Narrow beam	2.00	2.00	1.80	1.50
FPE106	C	Flat lens	3.95	3.50	2.85	2.30
FPE500	B	Round lens	1.60	1.35	1.10	....
FPE510	B	Flat lens	1.60	1.35	1.10	....
FPE520	B	Round lens	2.60	2.20	1.80	....
FPE530	B	Flat lens	2.60	2.20	1.80	....

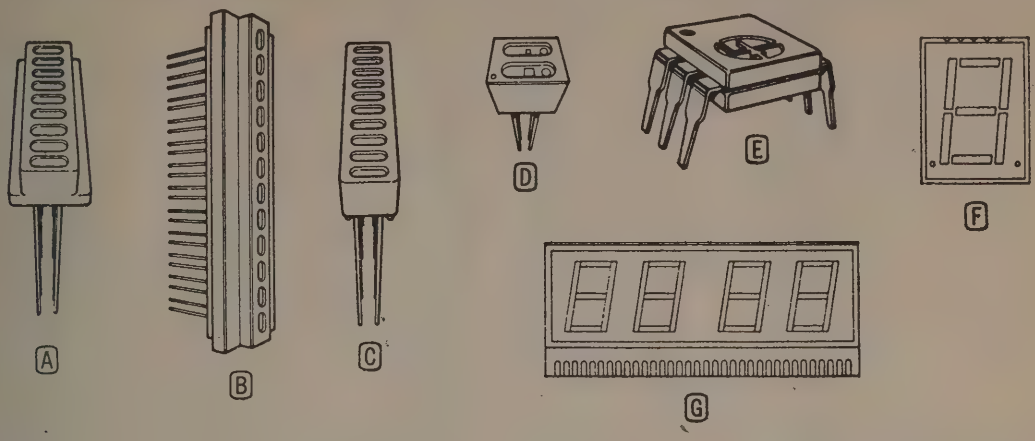
PHOTO TRANSISTORS

Fairchild Type	Fig.	Description	Net Each, Lots of 1-24	25-99	100-999	1000 Up
FPT100	D	Round lens gen pur	$0.82	$0.82	$0.61	$0.55
FPT100A	D	Round lens 1:3 sen	.97	.97	.71	.65
FPT100B	D	Round lens 1:2 sen	1.20	1.20	.88	.80
FPT101	E	.080″ dia. coax pkg.	6.80	6.00	4.50	.....
FPT102	E	.080″ dia. coax pkg.	6.80	6.00	4.50	.....
FPT110	D	Flat lens gen pur	.82	.82	.61	.55
FPT110A	D	Flat lens 1:3 sen	.97	.97	.71	.65
FPT110B	D	Flat lens 1:2 sen	1.20	1.20	.88	.80
FPT120	D	Round lens high sen	1.33	1.33	.98	.89
FPT120A	D	Round lens 1:3 sen	1.94	1.94	1.43	1.30
FPT120B	D	Round lens 1:1.5 sen	2.10	2.10	1.54	1.40
FPT130	D	Flat lens high sen	1.33	1.33	.98	.89
FPT130A	D	Flat lens 1:3 sen	1.94	1.94	1.43	1.30
FPT130B	D	Flat lens 1:2 sen	2.10	2.10	1.54	1.40
FPT131	D	Round lens gen pur	.44	.44	.33	.30
FPT132	D	Flat lens gen pur	.62	.62	.46	.....
FPT136	D	Round lens gen pur	.44	.44	.33	.30
FPT137	D	Flat lens gen pur	.62	.62	.46	.42
FPT220	D	Round lens 1:2 sen	1.77	1.77	1.30	1.18
FPT230	D	Flat lens 1:2 sen	1.77	1.77	1.30	1.18
FPT320	D	Round lens 1:3 sen	1.60	1.60	1.17	1.06
FPT330	D	Flat lens 1:3 sen	1.60	1.60	1.17	1.06
FPT400	D	Round lens dar	1.20	1.00	.85	.....
FPT410	D	Flat lens dar	1.20	1.00	.85	.....
FPT500	B	Round lens	1.60	1.35	1.10	.....
FPT500A	B	Round lens 1:3 sen	2.00	1.70	1.40	.....
FPT510	B	Flat lens	1.60	1.35	1.10	.....
FPT510A	B	Flat lens 1:3 sen	2.00	1.85	1.55	.....
FPT520	B	Round lens	1.70	1.45	1.20	.....
FPT520A	B	Round lens 1:3 sen	2.20	1.85	1.55	.....
FPT530	B	Flat lens	1.70	1.45	1.20	.....
FPT530A	B	Flat lens 1:3 sen	2.20	1.85	1.55	.....
FPT540	B	Round lens	1.80	1.55	1.25	.....
FPT540A	B	Round lens 1:3 sen	2.40	2.05	1.70	.....
FPT550	B	Flat lens	1.80	1.55	1.25	.....
FPT550A	B	Flat lens 1:3 sen	2.40	2.05	1.70	.....
FPT560	B	Round lens dar	2.20	1.85	1.55	.....
FPT570	B	Flat lens dar	2.20	1.85	1.55	.....
FPT610	C	Flat lens	3.20	2.85	2.20	1.76
FPT630	C	Flat lens high sen	3.95	3.50	2.85	2.30

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

FAIRCHILD SEMICONDUCTOR

Optoelectronic Devices



SOURCE/SENSOR ARRAYS

Fairchild Type	Fig.	Function	Net Ea. Lots of 1-24
FPA100	A	9 element source and sensor arr	$48.00
FPA101	B	IR 12 element source and sensor arr	68.00
FPA102	C	IR 10 element source and sensor arr	57.00
FPA700	A	9 element sensor arr	19.90
FPA700A	A	9 element sensor arr close match	22.75
FPA710	B	12 element sensor arr	28.50
FPA710A	B	12 element sensor arr close match	34.00
FPA720	C	10 element sensor arr	24.10
FPA720A	C	10 element sensor arr close match	28.50

EMITTER/SENSOR ARRAYS

Fairchild Type	Fig.	Function	Net Each, Lots of		
			1-99	100-999	1000 Up
FPA103	D	Light reflect. transducer	$ 6.74	$ 5.98	$4.49
FPA104	D	Same except 3:1 match	9.00	8.00	6.00
FPA105	D	Same except 2:1 match	12.00	10.65	8.00

OPTICALLY COUPLED ISOLATORS

Type	Fig.	Description	Net Each, Lots of	
			1-99	100-999
		TRANSISTOR OUTPUT		
FCD810	E	1500 V AC isolation	$0.80	$0.70
FCD810A	E	1500 V isolation	.80	.70
FCD810B	E	2500 V isolation	.80	.70
FCD810C	E	5000 V isolation	.90	.75
FCD810D	E	6000 V isolation	1.20	1.00
FCD820	E	1500 V AC isolation	.90	.75
FCD820A	E	1500 V isolation	.90	.75
FCD820B	E	2500 V isolation	.90	.75
FCD820C	E	5000 V isolation	1.10	.95
FCD820D	E	6000 V isolation	1.40	1.20
FCD825	E	1500 V AC isolation	1.10	.95
FCD825A	E	1500 V isolation	1.10	.95
FCD825B	E	2500 V isolation	1.10	.95
FCD825C	E	5000 V isolation	1.20	1.00
FCD825D	E	6000 V isolation	1.50	1.30
FCD830	E	1500 V AC isolation	1.30	1.10
FCD830A	E	1500 V isolation	1.20	1.00
FCD830B	E	2500 V isolation	1.20	1.00
FCD830C	E	5000 V isolation	1.40	1.20
FCD830D	E	6000 V isolation	1.70	1.45
FCD831	E	1500 V AC isolation	1.20	1.00
FCD831A	E	1500 V isolation	1.10	.95
FCD831B	E	2500 V isolation	1.10	.95
FCD831C	E	5000 V isolation	1.30	1.10
FCD831D	E	6000 V isolation	1.60	1.35
FCD836	E	1500 V AC isolation	1.00	.85
FCD836C	E	5000 V isolation	1.20	1.00
FCD836D	E	6000 V isolation	1.50	1.30
4N25	E	1500 V isolation	.90	.75
4N26	E	1500 V isolation	.90	.75
4N27	E	1500 V isolation	.80	.70
4N28	E	500 V isolation	.70	.60
4N35	E	3500 V isolation	1.60	1.35
4N36	E	2500 V isolation	1.60	1.35
4N37	E	1500 V isolation	1.60	1.35

OPTICALLY COUPLED ISOLATORS (CONTINUED)

Fairchild Type	Fig.	Description	Net Each, Lots of	
			1-99	100-999
		DARLINGTON OUTPUT		
FCD850	E	1500 V AC isolation	$1.40	$1.20
FCD850C	E	5000 V isolation	1.50	1.30
FCD850D	E	6000 V isolation	1.80	1.55
FCD855	E	1500 V AC isolation	1.60	1.35
FCD855C	E	5000 V isolation	1.70	1.45
FCD855D	E	6000 V isolation	2.00	1.70
FCD860	E	1500 V AC isolation	1.60	1.35
FCD860C	E	5000 V isolation	1.70	1.45
FCD860D	E	6000 V isolation	2.00	1.70
FCD865	E	1500 V AC isolation	1.90	1.60
FCD865C	E	5000 V isolation	2.00	1.70
FCD865D	E	6000 V isolation	2.30	1.95
4N29	E	2500 V isolation	1.30	1.10
4N30	E	1500 V isolation	1.30	1.10
4N31	E	1500 V isolation	1.10	.95
4N32	E	2500 V isolation	1.70	1.45
4N33	E	1500 V isolation	1.70	1.45

SINGLE CHARACTER DISPLAYS

Fairchild Type	Fig.	Description	Net Each, Lots of		
			1-99	100-999	1000 Up
FND357	F	0.375″ com cath	$1.75	$1.50	$1.25
FND358	F	0.375″ com cath ± 1 dec	1.75	1.50	1.25
FND500	F	0.500″ com cath	1.75	1.50	1.25
FND501	F	0.500″ com cath ± 1 dec	1.75	1.50	1.25
FND507	F	0.500″ com an	1.75	1.50	1.25
FND508	F	0.500″ com an ± 1 dec	1.75	1.50	1.25
FND800	F	0.800″ com cath rt dec	4.40	3.50	2.70
FND807	F	0.800″ com an rt dec	4.40	3.50	2.70
FND847	F	0.800″ com an left dec	4.40	3.50	2.70
FND850	F	0.800″ com cath left dec	4.40	3.50	2.70

MULTIPLE CHARACTER DISPLAYS

Fairchild Type	Fig.	Description	Net Ea., Lots of	
			1-99	100-999
FCS8000	G	0.800″ 3½ digital clock	$8.00	$6.80
FCS8001	G	0.800″ 3½ digital clock	8.00	6.80
FCS8024	G	0.800″ 4 digital clock	9.00	7.50
FCS8025	G	0.800″ 4 digital clock	9.00	7.50

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

CURRENT PRICES WILL APPLY ON ALL LINES

FAIRCHILD
SEMICONDUCTOR

Silicon Diodes And Rectifiers

FAST SWITCHING DIODES

Fairchild Type	Function	Net Each, Lots of		
		1-99	100-999	1000 Up
1N914	DO-35 pkg. only	$0.26	$0.19	$0.13
1N914A	100 V 4 ns computer	.255	.187	.127
1N914B	100 V 4 ns computer	.255	.187	.127
JAN1N914	DO-7 pkg.	.74	.54	.37
JTX1N914	DO-7 only	3.30	2.42	1.65
1N916	100 V 4 ns computer	.27	.20	.14
1N916A	100 V 4 ns computer	.27	.20	.14
1N916B	100 V 4 ns computer	.27	.202	.14
1N3064	75 V 4 ns computer	.26	.19	.13
JAN1N3064	75 V 4 ns computer	.76	.56	.38
JTX1N3064	75 V 4 ns computer	3.30	2.42	1.65
1N3600	75 V 3 ns computer	.26	.19	.13
JAN1N3600	75 V 3 ns computer	.73	.54	.37
JANTXV1N3600	75 V 4 ns computer	7.05	5.17	3.52
JTX1N3600	75 V 3 ns computer	3.30	2.42	1.65
1N3604	75 V 4 ns computer	.26	.19	.13
1N4009	35 V 4 ns computer	.20	.14	.10
1N4148	100 V 4 ns computer	.26	.19	.13
JAN1N4148	100 V 5 ns computer	.33	.24	.17
JANTXV1N4148	100 V 4 ns computer	5.40	2.70	1.80
JAN1N4148-1	100 V 4 ns computer	.40	.29	.20
JANTX1N4148-1	100 V 4 ns computer	1.98	1.44	1.12
JANTXV1N4148-1	100 V 4 ns computer	6.48	3.24	2.16
JTX1N4148	100 V 5 ns computer	1.65	1.20	.93
1N4149	100 V 4 ns computer	.27	.20	.14
1N4150	75 V 4 ns computer	.26	.19	.13
1N4151	75 V 4 ns computer	.58	.43	.30
1N4152	40 V 2 ns computer	.58	.43	.30
1N4153	75 V 2 ns computer	.58	.43	.30
1N4154	35 V 4 ns computer	.26	.19	.13
1N4305	75 V 4 ns computer	.27	.20	.14
1N4376	20 V 0.75 ns computer	2.25	1.68	1.17
JAN1N4376	20 V 0.75 ns computer	2.75	2.00	1.30
JANTX1N4376	20 V 0.75 ns computer	7.50	3.75	2.50
1N4446	100 V 4 ns computer	.26	.19	.13
1N4447	100 V 4 ns computer	.27	.20	.14
1N4448	100 V 4 ns computer	.27	.20	.14
1N4450	40 V 4 ns computer	.26	.19	.13
1N4454	75 V 4 ns computer	.26	.19	.13
JAN1N4454	75 V 4 ns computer	.33	.24	.16
JANTXV1N4454	75 V 4 ns computer	5.40	2.70	1.80
JAN1N4454-1	75 V 4 ns computer	.40	.29	.20
JANTX1N4454-1	75 V 4 ns computer	1.98	1.44	1.12
JANTXV1N4454-1	75 V 4 ns computer	6.40	3.24	2.16
JTX1N4454	75 V 4 ns computer	1.65	1.20	.93
1N5282	80 V 2 ns computer	.27	.20	.14
FD600	75 V 4 ns computer	1.80	1.35	.40
FD700	30 V 0.7 ns computer	3.40	2.50	.50
FD777	15 V 0.75 ns computer	1.88	1.40	.975
FD6666	40 V 4 ns computer	.90	.67	.20
FDH600	75 V 4 ns computer	1.80	1.35	.40
FDH666	40 V 4 ns computer	.90	.67	.20
FDH900	45 V 4 ns computer	.21	.15	.11
FDH999	35 V 4 ns computer	.20	.14	.10

RF DIODES

Fairchild Type	Function	Net Each, Lots of		
		1-99	100-999	1000 Up
BA243	Band switch	$0.22	$0.14	$0.12
BA244	Band switch	.25	.17	.14
FH1100	5 V hot carrier	1.00	.67	.33
RF400	AFC diode	1.00	.90	.80
RF401	AFC diode	1.00	.90	.80

GLASS RECTIFIERS

Fairchild Type	Function	Net Each, Lots of		
		1-99	100-999	1000 Up
1N4001	50 V, 1 amp rectifier	$0.32	$0.20	$0.11
1N4002	100 V, 1 amp rectifier	.33	.21	.12
1N4003	200 V, 1 amp rectifier	.35	.22	.13
1N4004	400 V, 1 amp rectifier	.45	.27	.16
1N4005	600 V, 1 amp rectifier	.75	.52	.29
1N4933	50 V, 1 amp 200 ns rectifier	.37	.29	.25
1N4934	100 V, 1 amp 200 ns rectifier	.42	.33	.285
1N4935	200 V, 1 amp 200 ns rectifier	.51	.38	.33
1N4936	400 V, 1 amp 200 ns rectifier	.67	.52	.39
1N4937	600 V, 1 amp 200 ns rectifier	.79	.61	.46

GENERAL PURPOSE DIODES

Fairchild Type	Function	Net Each, Lots of		
		1-99	100-999	1000 Up
1N456	30 V low leakage	$0.36	$0.26	$0.18
1N457	70 V low leakage	.37	.27	.19
1N457A	70 V low leakage	.37	.27	.185
JAN1N457	70 V low leakage	.76	.56	.38
1N458	150 V low leakage	.38	.26	.19
1N458A	150 V low leakage	.38	.26	.19
JAN1N458	150 V low leakage	.76	.56	.38
1N459	200 V low leakage	.39	.29	.20
1N459A	200 V low leakage	.39	.29	.195
JAN1N459	200 V low leakage	.45	.35	.23
1N461A	30 V general purpose	.36	.26	.18
1N462	70 V general purpose	.37	.27	.19
1N462A	70 V low leakage	.37	.27	.185
1N463	200 V general purpose	.39	.29	.20
1N463A	200 V low leakage	.39	.29	.195
1N482B	40 V general purpose	.36	.26	.18
1N483B	80 V general purpose	.38	.28	.19
JAN1N483B	80 V low leakage	.765	.561	.383
JANTX1N483B	80 V low leakage	3.30	2.42	1.65
1N484A	150 V general purpose	.38	.28	.19
1N485A	200 V low leakage	.39	.29	.195
1N485B	200 V general purpose	.39	.29	.20
JAN1N485B	200 V low leakage	.77	.55	.38
JANTX1N485B	200 V low leakage	3.30	2.42	1.65
1N486B	250 V low leakage	.39	.29	.20
JAN1N486B	250 V low leakage	.77	.55	.38
JANTX1N486B	250 V low leakage	3.30	2.42	1.65
1N625	30 V switch	.36	.26	.18
1N626	50 V switch	.36	.26	.18
1N627	100 V switch	.38	.28	.19
1N628	150 V switch	.38	.28	.19
1N629	200 V switch	.39	.29	.20
1N643	200 V switch	.39	.29	.20
1N658	120 V switch	.38	.28	.19
1N659	60 V low leakage	.37	.27	.185
1N660	120 V switch	.38	.28	.19
1N661	240 V general purpose	.39	.29	.20
1N662	100 V switch	.38	.28	.19
1N662A	100 V low leakage	.38	.28	.19
1N663	100 V switch	.38	.28	.19
1N816	General purpose	.36	.26	.18
1N842	General purpose	.39	.29	.20
1N3070	General purpose	.39	.29	.20
1N3595	150 V low leakage	2.28	1.68	.96
JAN1N3595	150 V low leakage	2.75	2.00	1.30
1N4306	Matched dual 4 ns sw.	8.00	6.00	5.00
JAN1N4306	Matched dual 4 ns sw.	9.60	7.00	5.40
JANTX1N4306	Matched dual 4 ns sw.	16.10	15.30	12.40
1N4307	Matched quad 4 ns sw.	13.50	10.00	9.60
JAN1N4307	Matched quad 4 ns sw.	18.00	13.00	10.00
JANTX1N4307	Matched quad 4 ns sw.	30.50	25.00	22.50
FD300	150 V low leakage	1.80	1.33	.36
FD333	150 V low leakage	.90	.67	.22
FDH300	150 V low leakage	1.80	1.33	.36
FDH333	150 V low leakage	.35	.25	.18
FDH400	200 V low leakage	2.05	1.50	.36
FDH444	150 V low leakage	.90	.67	.22

DIODE ARRAYS

Fairchild Type	Function	Net Each, Lots of		
		1-99	100-999	1000 Up
FSA1410M	8 common anode	$8.64	$7.65	$6.98
FSA1411M	8 common cathode	8.64	7.65	6.98
FSA2002M	8 common cathode	4.25	3.76	3.43
FSA2003M	8 common anode	4.25	3.76	3.43
FSA2500M	16 diode core driver	4.25	3.76	3.43
FSA2501M	16 diode core driver	3.71	3.31	3.04
FSA2502M	8 diode core driver	8.64	7.65	6.98
FSA2503M	Dual 8 diode core driver	4.06	3.62	3.33
FSA2504M	Dual 8 diode core driver	4.55	4.06	3.73
FSA2508M	Quad 4 core driver	4.19	3.73	3.44
FSA2509M	Dual 8 core driver	3.83	3.41	3.14
FSA2510M	16 diode core driver	2.75	2.35	1.95
FSA2563M	8 common cathode	3.50	3.12	2.87
FSA2564M	8 common anode	3.50	3.12	2.87
FSA2565M	16 common cathode	4.20	3.74	3.44
FSA2566M	16 common anode	4.20	3.74	3.44
FSA2619M	8 diode memory stack	2.85	2.45	2.05
FSA2620M	7 diode memory stack	2.75	2.35	1.95
FSA2621M	7 diode memory stack	3.71	3.31	3.04
FSA2702M	Bridge	5.04	4.49	4.13
FSA2703M	Bridge	4.20	3.74	3.44
FSA2704M	Bridge	4.20	3.74	3.44
FSA2705M	Bridge	3.50	3.12	2.87
FSA2719M	8 diode memory stack	2.75	2.35	1.95
FSA2720M	7 diode memory stack	2.65	2.25	1.85
FSA2721M	7 diode memory stack	3.61	3.21	2.94
JAN1N5768	8 common cathode	17.81	12.30	11.35
JANTX1N5768	8 common cathode	22.95	20.59	15.85
JAN1N5770	8 common anode	17.81	12.30	11.35
JANTX1N5770	8 common anode	22.95	20.59	15.85
JAN1N5772	8 diode core driver	19.30	17.30	16.00
JANTX1N5772	8 diode core driver	25.73	23.05	21.30
JAN1N5774	Dual 8 core driver	19.30	17.30	16.00
JANTX1N5774	Dual 8 core driver	25.73	23.05	21.30
JAN1N6100	7 straight-through	19.30	17.30	16.00
JANTX1N6100	7 straight-through	25.73	23.05	21.30

PRICES LISTED ARE FOR GUIDANCE ONLY

Zener Diodes

400 mW ZENER DIODES

Fairchild Type	Function	Net Each, Lots of 1-99	100-999	1000 Up
1N746A	3.3 V, 10% tolerance	$0.80	$0.60	$0.40
1N747A	3.6 V, 10% tolerance	.80	.60	.40
JAN1N747A	3.6 V, Mil DO-7	1.06	.80	.53
1N748A	3.9 V, 10% tolerance	.80	.60	.40
JAN1N748A	3.9 V, Mil DO-7	1.06	.80	.53
1N749A	4.3 V, 10% tolerance	.80	.60	.40
JAN1N749A	4.3 V, Mil DO-7	1.06	.80	.53
1N750A	4.7 V, 10% tolerance	.80	.60	.40
JAN1N750A	4.7 V, Mil DO-7	1.06	.80	.53
1N751A	5.1 V, 10% tolerance	.80	.60	.40
JAN1N751A	5.1 V, Mil DO-7	1.06	.80	.53
1N752A	5.6 V, 10% tolerance	.80	.60	.40
JAN1N752A	5.6 V, Mil DO-7	1.06	.80	.53
1N753A	6.2 V, 10% tolerance	.80	.60	.40
1N754A	6.8 V, 5% tolerance	.80	.60	.40
1N755A	7.5 V, 5% tolerance	.80	.60	.40
1N756A	8.2 V, 5% tolerance	.80	.60	.40
1N757A	9.1 V, 5% tolerance	.80	.60	.40
1N758A	10.0 V, 5% tolerance	.80	.60	.40
1N759A	12.0 V, 5% tolerance	.80	.60	.40
1N957AB	6.8 V, 5% tolerance	.80	.60	.40
1N958AB	7.5 V, 5% tolerance	.80	.60	.40
1N959AB	8.2 V, 5% tolerance	.80	.60	.40
1N960AB	9.1 V, 5% tolerance	.80	.60	.40
1N961AB	10 V, 5% tolerance	.80	.60	.40
1N962AB	11 V, 5% tolerance	.80	.60	.40
JAN1N962B-1	11 V, metal bond DO-35	1.06	.80	.53
JANTX1N962B-1	11 V, metal bond DO-35	2.98	2.20	1.45
JANTXV1N962B-1	11 V, metal bond DO-35	8.70	6.60	4.35
1N963AB	12 V, 5% tolerance	.80	.60	.40
JAN1N963B-1	12 V, metal bond DO-35	1.06	.80	.53
JANTX1N963B-1	12 V, metal bond DO-35	2.98	2.20	1.45
JANTXV1N963B-1	12 V, metal bond DO-35	8.70	6.60	4.35
1N964AB	13 V, 5% tolerance	.80	.60	.40
JAN1N964B-1	13 V, metal bond DO-35	1.06	.80	.53
JANTX1N964B-1	13 V, metal bond DO-35	2.98	2.20	1.45
JANTXV1N964B-1	13 V, metal bond DO-35	8.70	6.60	4.35
1N965AB	15 V, 5% tolerance	.80	.60	.40
JAN1N965B-1	15 V, metal bond DO-35	1.06	.80	.53
JANTX1N965B-1	15 V, metal bond DO-35	2.98	2.20	1.45
JANTXV1N965B-1	15 V, metal bond DO-35	8.70	6.60	4.35
1N966AB	16 V, 5% tolerance	.80	.60	.40
JAN1N966B-1	16 V, metal bond DO-35	1.06	.80	.53
JANTX1N966B-1	16 V, metal bond DO-35	2.98	2.20	1.45
JANTXV1N966B-1	16 V, metal bond DO-35	8.70	6.60	4.35
1N967AB	18 V, 5% tolerance	.80	.60	.40
JAN1N967B-1	18 V, metal bond DO-35	1.06	.80	.53
JANTX1N967B-1	18 V, metal bond DO-35	2.98	2.20	1.45
JANTXV1N967B-1	18 V, metal bond DO-35	8.70	6.60	4.35
1N968AB	20 V, 5% tolerance	.80	.60	.40
JAN1N968B-1	20 V, metal bond DO-35	1.06	.80	.53
JANTX1N968B-1	20 V, metal bond DO-35	2.98	2.20	1.45
JANTXV1N968B-1	20 V, metal bond DO-35	8.70	6.60	4.35
1N969AB	22 V, 5% tolerance	.80	.60	.40
JAN1N969B-1	22 V, metal bond DO-35	1.06	.80	.53
JANTX1N969B-1	22 V, metal bond DO-35	2.98	2.20	1.45
JANTXV1N969B-1	22 V, metal bond DO-35	8.70	6.60	4.35
1N970AB	24 V, 5% tolerance	.80	.60	.40
JAN1N970B-1	24 V, metal bond DO-35	1.06	.80	.53
JANTX1N970B-1	24 V, metal bond DO-35	2.98	2.20	1.45
JANTXV1N970B-1	24 V, metal bond DO-35	8.70	6.60	4.35
1N971AB	27 V, 5% tolerance	.80	.60	.40
JAN1N971B-1	27 V, metal bond DO-35	1.06	.80	.53
JANTX1N971B-1	27 V, metal bond DO-35	2.98	2.20	1.45
JANTXV1N971B-1	27 V, metal bond DO-35	8.70	6.60	4.35
1N972AB	30 V, 5% tolerance	.80	.60	.40
JAN1N972B-1	30 V, metal bond DO-35	1.06	.80	.53
JANTX1N972B-1	30 V, metal bond DO-35	2.98	2.20	1.45
JANTXV1N972B-1	30 V, metal bond DO-35	8.70	6.60	4.35
1N973AB	33 V, 5% tolerance	.80	.60	.40
JAN1N973B-1	33 V, metal bond DO-35	1.06	.80	.53
JANTX1N973B-1	33 V, metal bond DO-35	2.98	2.20	1.45
JANTXV1N973B-1	33 V, metal bond DO-35	8.70	6.60	4.35

500 mW ZENER DIODES

Fairchild Type	Function	Net Each, Lots of 1-99	100-999	1000 Up
1N5221A, B	2.4 V, 5% tolerance	$0.80	$0.60	$0.40
1N5222A, B	2.5 V, 5% tolerance	.80	.60	.40
1N5223A, B	2.7 V, 5% tolerance	.80	.60	.40
1N5224A, B	2.8 V, 5% tolerance	.80	.60	.40
1N5225A, B	3.0 V, 5% tolerance	.80	.60	.40
1N5226A, B	3.3 V, 5% tolerance	.80	.60	.40
1N5227A, B	3.6 V, 5% tolerance	.80	.60	.40
1N5228A, B	3.9 V, 5% tolerance	.80	.60	.40
1N5229A, B	4.3 V, 5% tolerance	.80	.60	.40
1N5230A, B	4.7 V, 5% tolerance	.80	.60	.40
1N5231A, B	5.0 V, 5% tolerance	.80	.60	.40
1N5232A, B	5.6 V, 5% tolerance	.80	.60	.40
1N5233A, B	6.0 V, 5% tolerance	.80	.60	.40
1N5234A, B	6.2 V, 5% tolerance	.80	.60	.40
1N5235A, B	6.8 V, 5% tolerance	.80	.60	.40
1N5236A, B	7.5 V, 5% tolerance	.80	.60	.40
1N5237A, B	8.2 V, 5% tolerance	.80	.60	.40
1N5238A, B	8.7 V, 5% tolerance	.80	.60	.40
1N5239A, B	9.1 V, 5% tolerance	.80	.60	.40
1N5240A, B	10 V, 5% tolerance	.80	.60	.40
1N5241A, B	11 V, 5% tolerance	.80	.60	.40
1N5242A, B	12 V, 5% tolerance	.80	.60	.40
1N5243A, B	13 V, 5% tolerance	.80	.60	.40
1N5244A, B	14 V, 5% tolerance	.80	.60	.40
1N5245A, B	15 V, 5% tolerance	.80	.60	.40
1N5246A, B	16 V, 5% tolerance	.80	.60	.40
1N5247A, B	17 V, 5% tolerance	.80	.60	.40
1N5248A, B	18 V, 5% tolerance	.80	.60	.40
1N5249A, B	19 V, 5% tolerance	.80	.60	.40
1N5250A, B	20 V, 5% tolerance	.80	.60	.40
1N5251A, B	22 V, 5% tolerance	.80	.60	.40
1N5252A, B	24 V, 5% tolerance	.80	.60	.40
1N5253A, B	25 V, 5% tolerance	.80	.60	.40
1N5254A, B	27 V, 5% tolerance	.80	.60	.40
1N5255A, B	28 V, 5% tolerance	.80	.60	.40
1N5256A, B	30 V, 5% tolerance	.80	.60	.40
1N5257A, B	33 V, 5% tolerance	.80	.60	.40

1 WATT ZENER DIODES

Fairchild Type	Function	Net Each, Lots of 1-99	100-999	1000 Up
1N4728, A	3.3 V, 5% tolerance	$0.90	$0.75	$0.60
1N4729, A	3.6 V, 5% tolerance	.90	.75	.60
1N4730, A	3.9 V, 5% tolerance	.90	.75	.60
1N4731, A	4.3 V, 5% tolerance	.90	.75	.60
1N4732, A	4.7 V, 5% tolerance	.90	.75	.60
1N4733, A	5.1 V, 5% tolerance	.90	.75	.60
1N4734, A	5.6 V, 5% tolerance	.90	.75	.60
1N4735, A	6.2 V, 5% tolerance	.90	.75	.60
1N4736, A	6.8 V, 5% tolerance	.90	.75	.60
1N4737, A	7.5 V, 5% tolerance	.90	.75	.60
1N4738, A	8.2 V, 5% tolerance	.90	.75	.60
1N4739, A	9.1 V, 5% tolerance	.90	.75	.60
1N4740, A	10 V, 5% tolerance	.90	.75	.60
1N4741, A	11 V, 5% tolerance	.90	.75	.60
1N4742, A	12 V, 5% tolerance	.90	.75	.60
1N4743, A	13 V, 5% tolerance	.90	.75	.60
1N4744, A	15 V, 5% tolerance	.90	.75	.60
1N4745, A	16 V, 5% tolerance	.90	.75	.60
1N4746, A	18 V, 5% tolerance	.90	.75	.60
1N4747. A	20 V, 5% tolerance	.90	.60	.40
1N4748, A	22 V, 5% tolerance	.90	.60	.40
1N4749, A	24 V, 5% tolerance	.90	.60	.40
1N4750, A	27 V, 5% tolerance	.90	.75	.60
1N4751, A	30 V, 5% tolerance	.90	.75	.60
1N4752, A	33 V, 5% tolerance	.90	.75	.60

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

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Silicon Power Transistors

NPN-PNP POWER TRANSISTORS

NPN except as otherwise noted.

Fairchild Type	Function	Net Each, Lots of	
		1-99	100-999
2N3054	55 V, 4 A, TO-66	$ 1.10	$ 0.82
2N3055	60 V, 15 A, TO-3	1.42	1.05
2N3439	350 V, 1 A, 1 W, TO-5	2.00	1.35
2N3440	250 V, 1 A, 1 W, TO-5	1.35	.90
2N3713	60 V, 10 A, 150 W, TO-3	1.53	1.18
2N3714	80 V, 10 A, 150 W, TO-3	1.64	1.26
2N3715	60 V, 10 A, 150 W, TO-3	2.35	1.55
2N3716	80 V, 10 A, 150 W, TO-3	3.10	2.05
2N3740*	60 V, 4 A, 25 W, TO-66	1.80	1.20
2N3741*	80 V, 4 A, 25 W, TO-66	2.10	1.40
2N3766	60 V, 4 A, 20 W, TO-66	1.62	1.20
2N3767	80 V, 4 A, 20 W, TO-66	1.83	1.35
2N3771	40 V, 30 A, 150 W, TO-3	4.13	3.00
2N3772	60 V, 20 A, 150 W, TO-3	4.13	3.00
2N3789*	60 V, 10 A, 150 W, TO-3	3.65	2.45
2N3790*	80 V, 10 A, 150 W, TO-3	4.25	2.85
2N3791*	60 V, 10 A, 150 W, TO-3	4.20	2.80
2N3792*	80 V, 10 A, 150 W, TO-3	4.65	3.10
2N4231	40 V, 3 A, 35 W, TO-66	1.25	.85
2N4232	60 V, 3 A, 35 W, TO-66	1.42	.95
2N4233	80 V, 3 A, 35 W, TO-66	1.85	1.25
2N4234*	40 V, 3 A, 1 W, TO-5	1.80	1.20
2N4235*	60 V, 3 A, 1 W, TO-5	2.10	1.40
2N4236*	80 V, 3 A, 1 W, TO-5	2.30	1.55
2N4237	40 V, 1 A, 1 W, TO-5	1.35	.90
2N4238	60 V, 1 A, 1 W, TO-5	1.65	1.10
2N4239	80 V, 1 A, 1 W, TO-5	1.80	1.20
2N4348	120 V, 20 A, 120 W, TO-3	4.40	2.95
2N4398*	40 V, 30 A, 200 W, TO-3	6.75	5.00
2N4399*	60 V, 30 A, 200 W, TO-3	8.75	6.50
2N4895	60 V, 2 A, 1 W, TO-5	7.55	4.70
2N4896	60 V, 2 A, 7 W, TO-5	8.85	5.50
2N4897	80 V, 2 A, 1 W, TO-5	10.85	6.75
2N4898*	40 V, 1 A, 25 W, TO-66	1.50	1.00
2N4899*	60 V, 1 A, 25 W, TO-66	1.80	1.20
2N4900*	80 V, 1 A, 25 W, TO-66	2.10	1.40
2N4901*	40 V, 5 A, 87.5 W, TO-3	1.45	1.30
2N4902*	60 V, 5 A, 87.5 W, TO-3	2.70	1.80
2N4903*	80 V, 5 A, 87.5 W, TO-3	3.40	2.25
2N4904*	40 V, 5 A, 80 W, TO-3	2.31	1.71
2N4905*	60 V, 5 A, 80 W, TO-3	3.08	2.28
2N4906*	80 V, 5 A, 80 W, TO-3	3.85	2.85
2N4907*	40 V, 4 A, 150 W, TO-3	5.25	3.50
2N4908*	60 V, 4 A, 150 W, TO-3	6.00	4.00
2N4909*	80 V, 4 A, 150 W, TO-3	6.75	4.50
2N4910	40 V, 4 A, 25 W, TO-66	1.05	.70
2N4911	60 V, 4 A, 25 W, TO-66	1.20	.80
2N4912	80 V, 4 A, 25 W, TO-66	1.40	.95
2N4913	40 V, 5 A, 80 W, TO-3	1.73	1.20
2N4914	60 V, 5 A, 80 W, TO-3	1.95	1.30
2N4915	80 V, 5 A, 80 W, TO-3	2.10	1.40
2N5067	40 V, 5 A, 80 W, TO-3	1.42	1.09
2N5068	60 V, 5 A, 80 W, TO-3	1.48	1.14
2N5069	80 V, 5 A, 80 W, TO-3	1.64	1.26
2N5301	40 V, 30 A, 200 W, TO-3	5.25	3.50
2N5302	60 V, 30 A, 200 W, TO-3	5.70	3.80
2N5303	80 V, 20 A, 200 W, TO-3	9.00	6.00
2N5320	TO-5	1.14	.83
2N5321	TO-5	.91	.66
2N5322*	TO-5	1.40	1.02
2N5323*	TO-5	1.01	.73

*PNP.

Fairchild Type	Function	Net Each, Lots of	
		1-99	100-999
2N5335	TO-5	$3.52	$2.82
2N5336	TO-5	4.18	3.34
2N5337	TO-5	4.53	3.63
2N5338	TO-5	4.88	3.90
2N5339	TO-5	5.50	4.38
2N5629	100 V, 20 A, TO-3	3.65	3.25
2N5632	100 V, 10 A, TO-3	3.20	2.75
2N5679*	TO-5	1.65	1.34
2N5680*	TO-5	1.85	1.48
2N5681	TO-5	1.40	1.00
2N5682	TO-5	1.65	1.34
2N5871	60 V, 7 A, TO-3	1.47	1.12
2N5872*	80 V, 7 A, TO-3	1.82	1.39
2N5873	60 V, 7 A, TO-3	1.53	1.18
2N5874	80 V, 7 A, TO-3	1.65	1.30
2N5875*	60 V, 10 A, TO-3	2.29	1.75
2N5876*	80 V, 10 A, TO-3	2.69	2.07
2N5877	60 V, 10 A, TO-3	1.64	1.26
2N5878	80 V, 10 A, TO-3	2.03	1.56
2N5879*	60 V, 15 A, TO-3	3.40	2.61
2N5880*	80 V, 15 A, TO-3	3.91	3.00
2N5881	60 V, 15 A, TO-3	2.80	2.15
2N5882	80 V, 15 A, TO-3	3.12	2.40
2N5883*	60 V, 25 A, TO-3	3.95	3.05
2N5884*	80 V, 25 A, TO-3	4.50	3.45
2N5885	60 V, 25 A, TO-3	3.80	2.90
2N5886	80 V, 25 A, TO-3	4.30	3.30
2N6121	45 V, 4 A, 40 W, TO-220	.85	.61
2N6122	60 V, 4 A, 40 W, TO-220	.90	.66
2N6123	80 V, 4 A, 40 W, TO-220	.95	.71
2N6124*	45 V, 4 A, 40 W, TO-220	.90	.60
2N6125*	60 V, 4 A, 40 W, TO-220	.95	.71
2N6126*	80 V, 4 A, 40 W, TO-220	1.05	.76
2N6129	40 V, 7 A, 50 W, TO-220	1.10	.80
2N6130	60 V, 7 A, 50 W, TO-220	1.20	.90
2N6131	80 V, 7 A, 50 W, TO-220	1.35	1.00
2N6132*	40 V, 7 A, 50 W, TO-220	1.20	.90
2N6133*	60 V, 7 A, 50 W, TO-220	1.35	1.00
FT401	400 V, 100 W, TO-3	3.32	2.60
FT402	400 V, 100 W, TO-3	4.55	3.70
FT410	200 V, 100 W, TO-3	2.30	1.85
FT411	300 V, 100 W, TO-3	2.55	2.05
FT413	400 V, 100 W, TO-3	3.20	2.55
FT423	400 V, 100 W, TO-3	3.90	3.06
FT430	400 V, 125 W, TO-3	5.33	4.30
FT431	400 V, 125 W, TO-3	5.00	3.95
FT2955*	60 V, 10 A, 70 W, TO-220	1.47	1.27
FT3055	60 V, 10 A, 70 W, TO-220	1.12	.85
FT5415*	200 V, 1 A, 10 W	1.90	1.67
FT5416*	300 V, 1 A, 10 W	2.40	2.10
TIP29	40 V, 1 A, 30 W, TO-220	.61	.45
TIP29A	60 V, 1 A, 30 W, TO-220	.65	.48
TIP29B	80 V, 1 A, 30 W, TO-220	.70	.52
TIP30	40 V, 1 A, 30 W, TO-220	.66	.49
TIP30A	60 V, 1 A, 30 W, TO-220	.70	.52
TIP30B	80 V, 1 A, 30 W, TO-220	.78	.57
TIP31	40 V, 3 A, 40 W, TO-220	.68	.51
TIP31A	60 V, 3 A, 40 W, TO-220	.72	.54
TIP31B	80 V, 3 A, 40 W, TO-220	.81	.60
TIP32	40 V, 3 A, 40 W, TO-220	.77	.57
TIP32A	60 V, 3 A, 40 W, TO-220	.79	.59
TIP32B	80 V, 3 A, 40 W, TO-220	.77	.65

*PNP.

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

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FAIRCHILD SEMICONDUCTOR

NPN-PNP Silicon Semiconductors

Lead Forming On TO-92 Plastic Transistors: Lead forming to TO-5 or TO-18 outline dimension is available on all standard small signal plastic TO-92 transistors for a price adder of **$0.01** per unit. To order lead formed devices, add a dash five (**-5**) or dash eighteen (**-18**) to the standard device type number: i.e., 2N3906**-5** leads formed to TO-5 outline; 2N3906**-18** leads formed to TO-18 outline. **Military Approved Devices:** All Fairchild devices, which indicate military approval are qualified to the current revisions of Military Specification 19500.

NPN RF/IF—METAL AND PLASTIC

Plastic except as otherwise noted.

Fairchild Type	Function	Net Each, Lots of 1-99	Net Each, Lots of 100-999
2N918*	15 V, 200 MHz amp and osc	$0.74	$0.46
2N3563	12 V, 200 MHz RF amp and osc	.34	.21
2N5130	12 V, 200 MHz RF amp and osc	.31	.19
2N5770	12 V, 200 MHz RF amp and osc	.29	.18
PE3100†	VHF Oscillator	.64	.40
PE5025†	30 V, 45 MHz RF amplifier	.64	.40
PE5029†	30 V, 45 MHz RF amplifier	.77	.48
PE5030B†	40 V, 45 MHz RF amplifier	.94	.58
PE5031†	30 V, 200 MHz RF amplifier	.81	.50
PN918†	15 V, 200 MHz amp and osc	.43	.27
PN3563†	12 V, 500 MHz amp and osc	.29	.18
PN3690†	40 V, 200 MHz AGC RF amp	.50	.31

*Metal. †TO-92 package.

MICROWAVE TRANSISTORS

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100 Up
2N2857	UHF small signal	$ 2.25	$ 1.50	$ 1.25
2N3570		2.75	1.85	1.70
2N3571		2.45	1.65	1.50
2N3572		2.15	1.45	1.30
2N3683	UHF small signal	2.55	2.25	1.70
2N3839		8.70	7.20	6.55
2N3880		5.50	4.85	3.65
2N5031	UHF small signal	8.00	6.60	6.00
2N5179		.75	.52	.47
FMT1060	UHF oscillator	4.50	3.00	2.75
FMT1060A	UHF oscillator	6.00	4.00	3.60
FMT1061	UHF small signal	2.50	1.70	1.55
FMT1061A	UHF small signal	3.75	2.50	2.25
FMT2060	UHF small signal	2.20	1.50	1.35

GENERAL PURPOSE AMPLIFIERS

Fairchild Type	Function	Net Each, Lots of 1-99	Net Each, Lots of 100-999
2N697	NPN/MET 40 V, 150 mA	$0.87	$0.57
2N718	NPN/MET 40 V, 150 mA	.46	.32
2N718A	NPN/MET 50 V, 150 mA	.60	.37
2N915	NPN/MET 50 V, 50 mA	1.48	.92
2N930	NPN/MET 45 V, 25 mA lo-NF, hi-beta	.51	.32
2N1132	PNP/MET 50 V, 150 mA	.97	.64
2N1613	NPN/MET 50 V, 150 mA	.90	.60
2N1711	NPN/MET 50 V, 500 mA	.93	.61
2N1893	NPN/MET 60 V, 150 mA	.86	.53
2N2270	NPN/MET 45 V, 500 mA	.82	.55
2N2405	NPN/MET 90 V, 150 mA	1.40	.87
2N2484	NPN/MET 60 V	1.78	1.11
2N3019	NPN/MET 80 V, 1 A	2.50	1.67
2N3020	NPN/MET 80 V, 1 A	1.62	1.01
2N3053	NPN/MET 40 V, 150 mA	.57	.35
2N3114	NPN/MET 150 V, 100 mA	2.28	1.42
2N3117	NPN/MET 60 V, 25 mA lo-NF, hi-beta	2.80	1.75
2N3565	NPN/PLA 25 V, 25 mA lo-NF, hi-beta	.34	.21
2N3566	NPN/PLA 30 V, 500 mA hi-gain	.34	.21
2N3962	PNP/MET 60 V, 50 mA lo-NF, hi-beta	.91	.57
2N3964	PNP/MET 45 V lo-NF, hi-beta	1.48	.92
2N3965	PNP/MET 60 V lo-NF, hi-beta	1.30	.80
2N4030	PNP/MET 60 V, 1 A	.90	.61
2N4032	PNP/MET 60 V, 1 A	1.05	.70
2N4033	PNP/MET 80 V, 1 A	1.32	.88
2N4036	PNP/MET 65 V, 1 A	$1.77	$1.10
2N4037	PNP/MET 40 V, 1 A	1.43	.89
2N4248	PNP/PLA 40 V 50 mA lo-NF, hi-beta	.34	.21
2N4249	PNP/PLA 60 V	.37	.23
2N4250	PNP/PLA 40 V	.40	.25
2N4250A	PNP/PLA 60 V, 50 mA	.43	.27
2N4354	PNP/PLA 60 V, 1 A	.46	.29
2N4355	PNP/PLA 60 V, 1 A	.51	.32
2N4356	PNP/PLA 80 V, 1 A	.51	.32
2N4410	NPN/PLA 80 V, 25 mA	.90	.56
2N4926	NPN/MET 200 V, 100 mA	2.00	1.24
2N4927	NPN/MET 250 V, 100 mA	2.30	1.42
2N5058	NPN/MET 300 V, 100 mA	2.70	1.66
2N5059	NPN/MET 250 V, 100 mA	3.00	1.86
2N5086	PNP/PLA 50 V, 500 mA	.34	.21
2N5087	PNP/PLA 50 V, 500 mA	.76	.47
2N5088	NPN/PLA 30 V 50 mA lo-NF, hi-beta	.34	.21
2N5089	NPN/PLA 25V	.43	.27
2N5128	NPN/PLA 12 V, 500 mA	.31	.19
2N5133	NPN/PLA 18 V, 50 mA, lo-NF, hi-beta	.31	.19
2N5138	PNP/PLA 30 V, 50 mA	.31	.19
2N5209	NPN/PLA 50 V 50 mA lo-NF, hi-beta	.34	.21
2N5210	NPN/PLA 50 V	.69	.43
2N5223	NPN/PLA 20 V, 100 mA	.21	.13
2N5225	NPN/PLA 25 V, 500 mA	.23	.14
2N5226	PNP/PLA 25 V, 500 mA	.24	.15
2N5227	PNP/PLA 30 V, 100 mA	.24	.15
2N5400	PNP/PLA 120 V, 50 mA	.40	.25
2N5401	PNP/PLA 150 V, 50 mA	.51	.32
2N5550	NPN/PLA 140 V, 50 mA	.51	.32
2N5830	NPN/PLA 100 V, 50 mA	.51	.32
2N5831	NPN/PLA 140 V, 50 mA	.57	.35
2N5832	NPN/PLA 140 V, 50 mA	.68	.42
2N5833	NPN/PLA 180 V, 50 mA	.63	.39
2N5961	NPN/PLA 60 V 50 mA lo-NF, hi-beta	.34	.21
2N5962	NPN/PLA 45 V	.63	.39
SE4001	NPN/PLA 25 V 25 mA lo-NF, hi-beta	.43	.27
SE4002	NPN/PLA 25V	.47	.29
SE4010	NPN/PLA 25 V	.50	.31
SE4020	NPN/PLA 60 V 50 mA lo-NF, hi-beta	.50	.31
SE4021	NPN/PLA 45 V	.86	.53
SE6020	NPN/PLA 60 V, 500 mA	.57	.35
SE6021	NPN/PLA 80 V, 500 mA	.60	.37
SE7055	NPN/MET 220 V, 100 mA	2.80	1.75
MPSA05	NPN/PLA 60 V 350 ma GPA	.34	.21
MPSA06	NPN/PLA 80 V and driver	.37	.23
MPSA10	NPN/PLA 40 V, 5 mA	.23	.14
MPSA20	NPN/PLA 40 V, 10 mA	.23	.14
MPSA42	NPN/PLA 300 V, 50 mA	.71	.44
MPSA43	NPN/PLA 200 V, 50 mA	.51	.32
MPSA55	PNP/PLA 60 V 350 mA GPA	.55	.35
MPSA56	PNP/PLA 80 V and driver	.62	.39
MPSA70	PNP/PLA 40 V, 10 mA	.23	.14
MPSA92	PNP/PLA 300 V, 50 mA	.80	.50
MPSA93	PNP/PLA 200 V, 50 mA	.57	.35
MPSL01	NPN/PLA 120 V, 50 mA	.43	.27
MPSL51	PNP/PLA 100 V, 50 mA	.43	.27
MPS2924	NPN/PLA 25 V, 2 mA	.34	.21
MPS2925	NPN/PLA 25 V, 2 mA	.38	.24
MPS3392	NPN/PLA 25 V, 2 mA	.31	.19
MPS3393	NPN/PLA 25 V, 2 mA	.31	.19
MPS3702	PNP/PLA 25 V, 50 mA	.37	.28
MPS3703	PNP/PLA 25 V, 50 mA	.34	.25
MPS3704	NPN/PLA 30 V, 100 mA	.34	.25
MPS5172	NPN/PLA 25 V, 10 mA	.19	.12
MPS5551M	NPN/PLA 160 V, 50 mA	.51	.32
MPS6514	NPN/PLA 25 V, 100 mA	.57	.36
MPS6515	NPN/PLA 25 V, 100 mA	.62	.39
MPS6516	PNP/PLA 40 V, 100 mA	.57	.36
MPS6519	PNP/PLA 25 V, 100 mA	.51	.32
MPS6531	NPN/PLA 40 V, 500 mA	.71	.45
MPS6534M	PNP/PLA 40 V	.76	.47
MPS6560	NPN/PLA 25 V, 500 mA	.48	.31
MPS6561	NPN/PLA 20 V, 500 mA	.45	.30
MPS6562	PNP/PLA 25 V, 500 mA	.54	.34
MPS6563	PNP/PLA 20 V, 500 mA	.51	.33
PE6020	NPN/PLA 60 V, 500 mA	.51	.32
PE6021	NPN/PLA 80 V, 500 mA	.55	.35
PE7058	NPN/PLA 220 V, 100 mA	.71	.44
PE7059	NPN/PLA 300 V, 100 mA	.86	.53
PE8050	NPN/PLA 25 V, 500 mA	.52	.35
PE8051	NPN/PLA 35 V, 500 mA	.59	.40
PE8551	PNP/PLA 35 V, 500 mA	.61	.41
PN2484	NPN/PLA 60 V, 25 mA low noise	.34	.21
PN3565	NPN/PLA 25 V, 25 mA low noise	.23	.14
PN3566	NPN/PLA 30 V, 500 mA hi-gain	.29	.18
PN4248	PNP/PLA 40 V, 50 mA low noise	.23	.14
PN4249	PNP/PLA 60 V, 50 mA low noise	.29	.18
PN4250	PNP/PLA 40 V, 50 mA low noise	.34	.21
PN4355	PNP/PLA 60 V, 1 A	.40	.25
PN4888	PNP/PLA 150 V, 50 mA	.52	.32
PN4889	PNP/PLA 150 V, 50 mA	.74	.46

FAIRCHILD SEMICONDUCTOR NPN-PNP Silicon Semiconductors

HIGH SPEED SWITCHES

Fairchild Type	Function	Net Each, Lots of	
		1-99	100-999
2N708	NPN/MET 15 V, 100 mA	$0.51	$0.32
2N914	NPN/MET 20 V, 300 mA	.51	.32
2N2369	NPN/MET 15 V, 100 mA	.57	.38
2N2369A	NPN/MET 15 V, 100 mA	.60	.40
2N2894	PNP/MET 12 V, 100 mA	.68	.43
2N3009	NPN/MET 15 V, 300 mA	.51	.32
2N3013	NPN/MET 15 V, 300 mA	.48	.30
2N3014	NPN/MET 20 V, 300 mA	1.00	.62
2N3209	PNP/MET 20 V, 100 mA	1.28	.80
2N3639	PNP/PLA 6 V, 50 mA	.36	.22
2N3640	PNP/PLA 12 V, 50 mA	.43	.27
2N3646	NPN/PLA 15 V, 300 mA	.34	.21
2N4208	PNP/MET 12 V, 50 mA	3.30	2.05
2N4209	PNP/MET 15 V, 50 mA	4.00	2.50
2N4257	PNP/PLA 6 V, 50 mA	.37	.23
2N4258	PNP/PLA 12 V, 50 mA	.51	.32
2N4258A	PNP/PLA 12 V, 50 mA	.57	.36
2N4274	NPN/PLA 12 V, 100 mA	.34	.21
2N4275	NPN/PLA 15 V, 100 mA	.37	.23
2N4313	PNP/PLA 12 V, 50 mA	.54	.34
2N5134	PNP/PLA 10 V, 100 mA	.34	.21
2N5224	NPN/PLA 12 V, 300 mA	.21	.13
2N5769	NPN/PLA 15 V, 100 mA	.29	.18
2N5771	PNP/PLA 15 V, 50 mA	.43	.27
2N5772	NPN/PLA 15 V, 300 mA	.29	.18
2N5910	PNP/PLA 20 V, 50 mA	.29	.18
MPS3646	NPN/PLA 15 V, 300 mA	.26	.16
PN2369	NPN/PLA 15 V, 100 mA	.26	.16
PN3639	PNP/PLA 6 V, 50 mA	.29	.18
PN3640	PNP/PLA 12 V, 50 mA	.37	.23
PN4258	PNP/PLA 12 V, 50 mA	.32	.20
PN4916	PNP/PLA 30 V, 100 mA	.34	.21
PN4917	PNP/PLA 30 V, 100 mA		

QUADS

FPQ3467	PNP DIP 40 V	$5.60	$3.75
FPQ3468	PNP DIP 50 V	7.90	5.25
FPQ3724	NPN DIP 40 V	3.40	2.25
FPQ3725	NPN DIP 50 V	5.60	3.75

NPN DARLINGTONS

2N997	MET 45 V, 300 mA	$10.50	$6.55
2N2725	MET 45 V, 500 mA	12.00	8.00
MPSA12	TO-92 20 V, 100 mA	.64	.40
MPSA13	TO-92 30 V, 100 mA	.43	.32
MPSA14	TO-92 30 V, 100 mA	.50	.31
SE9300	TO-220 PLA, 60 V, 70 W	1.05	.90
SE9301	TO-220 PLA, 80 V, 70 W	1.12	.97
SE9302	TO-220 PLA, 100 V, 70 W	1.20	1.04
SE9303	TO-3, 60 V, 100 W	1.49	1.34
SE9304	TO-3, 80 V, 100 W	1.62	1.46
SE9305	TO-3, 100 V, 100 W	1.95	1.76

CORE DRIVERS

2N3253	NPN/MET 40 V, 1 A	$3.28	$2.04
2N3467	PNP/MET 40 V, 1 A	.74	.46
2N3468	PNP/MET 50 V, 1 A	.74	.46
2N3724	NPN/MET 30 V, 1 A	.87	.57
2N3725	NPN/MET 50 V, 1 A	.94	.58
2N4013	NPN/MET 30 V, 1 A	1.00	.67
2N4014	NPN/MET 50 V, 1 A	1.85	1.15
2N4047	NPN/MET 50 V, 1 A	1.16	.78
2N5022	PNP/MET 50 V, 1 A	2.50	1.68
2N5023	PNP/MET 30 V, 1 A	2.25	1.50

GENERAL PURPOSE AMPLIFIERS AND SWITCHES

2N2218	NPN/MET 30 V, 500 mA	$0.51	$0.32
2N2218A	NPN/MET 40 V, 500 mA	.90	.60
2N2219	NPN/MET 30 V, 500 mA	.51	.32
2N2219A	NPN/MET 40 V, 500 mA	.93	.61
2N2221	NPN/MET 30 V, 500 mA	.53	.35
2N2221A	NPN/MET 40 V, 500 mA	.57	.38
2N2222	NPN/MET 30 V, 500 mA	.53	.35
2N2222A	NPN/MET 40 V, 500 mA	.60	.40
2N2904	PNP/MET 40 V, 500 mA	.87	.57

GP AMPLIFIERS AND SWITCHES (CONT'D)

Fairchild Type	Function	Net Each, Lots of	
		1-99	100-999
2N2904A	PNP/MET 60 V, 500 mA	$0.90	$0.60
2N2905	PNP/MET 40 V, 500 mA	.48	.30
2N2905A	PNP/MET 60 V, 500 mA	.93	.61
2N2906	PNP/MET 40 V, 500 mA	.40	.25
2N2906A	PNP/MET 60 V, 500 mA	.53	.35
2N2907	PNP/MET 40 V, 500 mA	.40	.25
2N2907A	PNP/MET 60 V, 500 mA	.51	.32
2N3250	PNP/MET 40 V, 100 mA	.46	.28
2N3250A	PNP/MET 60 V, 100 mA	.88	.55
2N3251	PNP/MET 40 V, 100 mA	.48	.30
2N3251A	PNP/MET 60 V, 100 mA	1.23	.76
2N3300	NPN/MET 30 V, 500 mA	.86	.53
2N3302	NPN/MET 30 V, 500 mA	1.20	.74
2N3502	PNP/MET 45 V, 500 mA	1.68	1.04
2N3503	PNP/MET 60 V, 500 mA	2.45	1.52
2N3504	PNP/MET 45 V, 500 mA	1.68	1.04
2N3505	PNP/MET 60 V, 500 mA	1.71	1.06
2N3567	NPN/PLA 40 V, 1 A	.34	.21
2N3568	NPN/PLA 60 V, 1 A	.37	.23
2N3569	NPN/PLA 40 V, 1 A	.40	.25
2N3638	PNP/PLA 25 V, 500 mA	.34	.21
2N3638A	PNP/PLA 25 V, 500 mA	.37	.23
2N3641	NPN/PLA 30 V, 500 mA	.34	.21
2N3642	NPN/PLA 45 V, 500 mA	.37	.23
2N3643	NPN/PLA 30 V, 500 mA	.37	.23
2N3644	PNP/PLA 45 V, 500 mA	.40	.25
2N3645	PNP/PLA 60 V, 500 mA	.43	.27
2N3903	NPN/PLA 40 V, 100 mA	.26	.16
2N3905	PNP/PLA 40 V, 100 mA	.26	.16
2N3947	NPN/MET 40 V, 50 mA	2.25	1.40
2N4123	NPN/PLA 25 V, 100 mA	.34	.21
2N4124	NPN/PLA 25 V, 2 mA	.34	.21
2N4125	PNP/PLA 30 V, 2 mA	.34	.21
2N4126	PNP/PLA 25 V, 2 mA	.34	.21
2N4400	NPN/PLA 40 V, 500 mA	.23	.14
2N4401	NPN/PLA 40 V, 150 mA	.71	.45
2N4402	PNP/PLA 40 V, 150 mA	.23	.14
2N4403	PNP/PLA 40 V, 150 mA	.29	.18
2N5135	NPN/PLA 25 V, 500 mA	.31	.19
2N5136	NPN/PLA 20 V, 500 mA	.31	.19
2N5142	PNP/PLA 20 V, 500 mA	.31	.19
MPS3638A	PNP/PLA 25 V, 500 mA	.31	.19
PN2222A	NPN/PLA, 40 V, 500 mA	.29	.18
PN2907A	PNP/PLA 60 V, 500 mA	.37	.23
PN3251	PNP/PLA 40 V; 100 mA	.37	.23
PN3567	NPN/PLA 40 V, 1A	.26	.16
PN3639	NPN/PLA 40 V, 1A	.26	.16
PN3642	NPN/PLA 45 V, 500 mA	.29	.18
PN3643	NPN/PLA 30 V, 500 mA	.29	.18
PN3644	PNP/PLA 45 V, 500 mA	.29	.18
PN3645	PNP/PLA 60 V, 500 mA	.31	.19
PN3693	NPN/PLA 45 V	.34	.21
PN3694	NPN/PLA 45 V	.37	.23
PN5139	PNP/PLA 20 V, 100 mA	.20	.12

DUALS

2N2913	NPN/MET 45 V, 100 mA	$ 1.45	$0.88
2N2914	NPN/MET 45 V, 50 mA	2.25	1.40
2N2915	NPN/MET 45 V, 50 mA	4.30	2.65
2N2917	NPN/MET 45 V, 50 mA	2.85	1.75
2N2918	NPN/MET 45 V, 50 mA	3.55	2.20
2N2920	NPN/MET 60 V, 50 mA	5.25	3.40
2N2920A	NPN/MET 60 V, 50 mA	10.00	6.15
2N3800	PNP/MET 60 V, 100 mA	4.30	2.85
2N3802	PNP/MET 60 V, 100 mA	7.15	4.75
2N3804	PNP/MET 60 V, 100 mA	10.00	6.65
2N3805	PNP/MET 60 V, 100 mA	14.30	9.55
2N3806	PNP/MET 60 V, 100 mA	4.30	2.85
2N3808	PNP/MET 60 V, 100 mA	7.15	4.75
2N3810	PNP/MET 60 V, 100 mA	10.00	6.65
2N3811	PNP/MET 60 V, 100 mA	14.30	9.55
2N4017	PNP/MET 80 V, 500 mA	10.80	6.60
2N4020	PNP/MET 45 V, 500 mA	10.80	6.60
2N4023	PNP/MET 60 V, 500 mA	12.80	7.75
2N4025	PNP/MET 60 V, 500 mA	15.00	9.20
MD918A	NPN/MET 15 V, 1mA	15.10	9.90
MD918B	NPN/MET 15 V, 1 mA	12.50	8.25
MD2218A	NPN/MET 40 V, 500 mA	11.00	7.30
MD2219A	NPN/MET 40 V, 500 mA	12.50	8.25
MD2369A	NPN/MET 15 V, high speed	10.85	7.20
MD2369B	NPN/MET 15 V high speed	8.25	5.40

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

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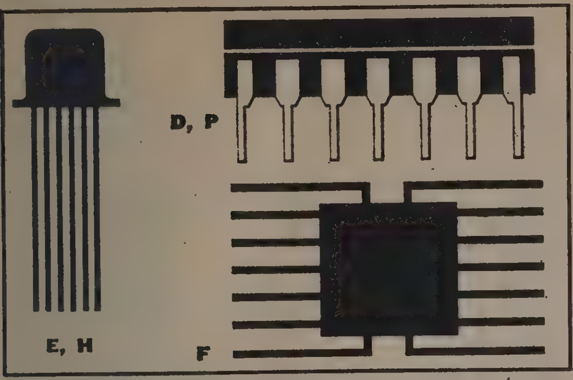
FAIRCHILD
SEMICONDUCTOR

Digital Integrated Circuits



Fairchild digital integrated circuits ordering procedure: Last two letters in suffix indicate package and temperature range: **First Letter—D,** ceramic DIP; **E,** plastic can circular lead configuration; **F,** ceramic flat pack; **H,** metal can circular lead configuration; **P,** plastic DIP. **Second Letter—C,** commercial/industrial range 0° C to +75° C; **M,** military range −55° C to +125° C. In addition to the part number, the date code will be marked on the part. The Fairchild F will appear in front of the date code.

STANDARD TTL/MSI

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
5441DMQB	4-bit binary counter	$ 5.40	$ 4.57	$ 3.69
5442DM 5442DMQB	BCD-to-decimal decoder/driver	4.12 4.95	3.48 4.19	2.81 3.38
5443DM 5443DMQB	Excess-3-to-decimal decoder	4.74 5.57	4.01 4.72	3.23 3.80
5444DM 5444DMQB	Excess-3 Gray-to-decimal decoder	6.15 7.34	5.50 6.21	4.41 5.00
5445DM 5445DMQB	1-of-10 decoder	7.28 8.11	6.16 6.86	4.92 5.53
5447DM	BCD-to-7-segment decoder	5.92	5.01	4.05
5448DM 5448DMQB	BCD-to-7-segment decoder	6.51 7.13	5.50 6.04	4.44 4.87
5449FM 5449DMQB	BCD-to-7-segment decoder	15.00 7.07	12.00 5.98	10.00 4.83
5475DM 5475DMQB	Quad latch	2.72 3.55	2.30 3.00	1.86 2.43
5476DM 5476DMQB	Dual J-K master-slave flip-flop	2.10 2.77	1.78 2.34	1.43 1.89
5477FM 5477DMQB	Quad latch	11.90 8.11	9.55 6.86	7.95 5.53
5480DM 5480FM 5480DMQB	Full adder	2.18 10.20 3.02	1.84 8.15 2.55	1.49 6.80 2.06
5482DM 5482FM 5482DMQB	2-bit binary full adder	4.12 16.80 4.97	3.48 13.45 4.20	2.81 11.20 3.39
5483DM 5483FM 5483ADMQB	4-bit binary full adder	7.28 18.90 5.87	6.16 15.10 4.96	4.97 12.60 4.00
5485DM 5485DMQB	4-bit magnitude comparator	5.10 5.92	4.31 5.00	3.50 4.05
5490DM 5490FM 5490DMQB	Decade counter	3.06 15.50 3.89	2.59 12.40 3.24	2.09 10.35 2.66
5491DM 5491FM 5491DMQB	8-bit shift register	4.74 21.60 5.57	4.01 17.30 4.72	3.23 14.40 3.81
5492DM 5492FM 5492DMQB	Divide by 12 counter	3.06 15.50 3.89	2.59 12.40 3.29	2.09 10.35 2.66
5493DM 5493FM 5493DMQB	4-bit binary counter	3.06 15.50 3.89	2.59 12.40 3.29	2.09 10.35 2.66
5494DM 5494DMQB	4-bit shift register	4.12 4.97	3.48 4.20	2.81 3.39
5495DM 5495FM 5495DMQB	4-bit right/left shift register	3.24 11.50 4.08	2.74 9.25 3.45	2.15 7.70 2.78
5496DM 5496DMQB	5-bit shift register	4.74 5.57	4.01 4.47	3.23 3.61
5497DM 5497DMQB	Synchronous rate multiplier	9.48 11.04	8.03 8.03	6.48 6.48
54107DM 54107DMQB	Dual J-K master-slave flip-flop	1.95 2.62	1.65 2.22	1.33 1.79
54116DM 54116DMQB	Dual 4-bit latch	8.94 9.77	7.56 8.27	6.10 6.67
54145DM 54145DMQB	BCD-to-decimal decoder/driver	7.11 7.95	6.02 6.72	4.85 5.42
54150DM 54150DMQB	16-input multiplexer	4.68 5.51	3.96 4.66	3.20 3.76

STANDARD TTL/MSI (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
54151DM 54151DMQB	8-input multiplexer	$ 4.78 5.61	$ 4.00 4.75	$ 3.26 3.83
54152DM 54152FM 54152DMQB	8-input multiplexer	4.68 19.85 5.51	3.96 15.90 4.66	3.20 13.25 3.76
54153DM 54153DMQB	Dual 4-input multiplexer	4.68 5.51	3.96 4.66	3.20 3.76
54154DM 54154DMQB	1-of-16 decoder	7.80 8.63	6.60 7.30	5.35 5.90
54155DM 54155DMQB	Dual 1-of-4 decoder	8.69 5.05	7.39 4.28	5.97 3.45
54156DM 54156DMQB	Dual 1-of-4 decoder OC	8.69 5.05	7.39 4.28	5.97 3.45
54157DM 54157DMQB	Quad 2-input multiplexer	4.68 5.51	3.96 4.66	3.20 3.76
54160DM 54160DMQB	BCD decade counter	4.43 5.05	3.75 4.28	3.02 3.45
54161DM 54161DMQB	4-bit binary counter	4.14 4.89	3.50 4.14	2.83 3.34
54162DM 54162DMQB	BCD decade counter	4.43 5.05	3.75 4.28	3.02 3.45
54163DM 54163DMQB	4-bit binary counter	4.14 4.89	3.50 4.14	2.83 3.34
54164DM 54164DMQB	8-bit serial-to-parallel converter	5.67 8.59	4.80 7.26	3.87 5.86
54165DM 54165DMQB	8-bit parallel-to-serial converter	10.82 11.65	9.15 9.85	7.38 7.95
54166DM 54166DMQB	8-bit shift register	10.82 11.65	9.15 9.85	7.38 7.95
54167DM 54167DMQB	Synchronous rate multiplier	9.48 11.04	8.03 9.35	6.48 7.54
54170DM 54170DMQB	4-by-4 register file	13.20 14.04	11.17 11.88	9.01 9.58
54174DM 54174DMQB	Hex D type flip-flop with clear	5.32 8.24	4.50 6.97	3.63 5.62
54175DM 54175DMQB	Quad D type flip-flop with clear	5.20 6.03	4.40 5.10	3.55 4.12
54176DM 54176DMQB	BCD decade counter	4.43 5.26	3.75 4.45	3.02 3.60
54177DM 54177DMQB	4-bit binary counter	4.43 5.26	3.75 4.45	3.02 3.60
54178DM 54178DMQB	4-bit shift register	4.99 5.82	4.22 4.92	3.40 3.97
54179DM 54179DMQB	4-bit shift register	4.99 5.82	4.22 4.92	3.40 3.97
54180DM 54180DMQB	8-bit parity generator/checker	5.62 6.45	4.75 5.45	3.83 4.40
54181DM 54181FM 54181DMQB	4-bit arithmetic logic unit	13.65 19.45 14.35	11.45 17.90 12.14	9.25 15.55 9.80
54182DM 54182FM 54182DMQB	Carry lookahead	4.85 5.55 5.67	4.10 5.10 4.80	3.30 4.44 3.87
54190DM 54190DMQB	Up/down decade counter	8.30 9.13	7.02 7.76	5.66 6.23
54191DM 54191DMQB	Up/down binary counter	8.30 9.13	7.02 7.76	5.66 6.23
54192DM 54192DMQB	Up/down decade counter	9.46 10.50	8.00 8.88	6.46 7.17
54193DM 54193DMQB	Up/down binary counter	9.46 10.50	8.00 8.88	6.46 7.17
54194DM 54194DMQB	4-bit right/left shift register	4.37 5.30	3.70 4.49	2.98 3.62
54195DM 54195DMQB	4-bit right/left shift register	3.02 3.95	2.55 3.34	2.06 2.70
54196DM 54196DMQB	Decade counter	5.32 6.36	4.50 5.38	3.63 4.34
54197DM 54197DMQB	4-bit binary counter	5.32 6.36	4.50 5.38	3.63 4.34
54198DM 54198DMQB	8-bit shift register	12.48 13.31	10.56 11.26	8.52 9.10
54199DM 54199DMQB	8-bit shift register	12.48 13.31	10.56 11.26	8.52 9.10
54283DM 54283DMQB	4-bit full adder	4.47 5.41	3.78 4.58	3.05 3.69
54290DM 54290DMQB	Decade counter	2.91 3.95	2.46 3.34	1.99 2.70
54293DM 54293DMQB	Binary counter	2.91 3.95	2.46 3.34	1.99 2.70
54298DM 54298DMQB	Quad 2-input multiplexer	5.30 6.14	4.49 5.19	3.62 4.19
7441DC 7441PC	BCD-to-decimal decoder/driver	2.87 2.21	2.43 1.87	1.98 1.52
7442DC 7442PC	1-of-10 decoder	2.60 1.00	2.18 .84	1.78 .68

STANDARD TTL/MSI CONTINUED ON FOLLOWING PAGE

STANDARD TTL/MSI (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
7443DC 7443PC	Excess-3-to-decimal decoder	$3.95 3.26	$3.33 2.60	$2.70 2.01
7444DC 7444PC	Excess-3-Gray-to-decimal decoder	3.95 3.26	3.33 2.60	2.70 2.01
7445DC 7445PC	BCD-to-decimal decoder/ driver 30 V	5.95 1.85	4.75 1.57	3.95 1.26
7446DC 7446PC	BCD-to-7-segment decoder	3.46 3.00	2.92 2.40	2.38 1.86
7447DC 7447PC	BCD-to-7-segment decoder	3.35 1.54	2.84 1.30	2.31 1.05
7448DC 7448PC	BCD-to-7-segment decoder	4.69 2.60	3.93 2.08	3.20 1.51
7475DC 7475PC	Quad latch	1.60 .81	1.35 .69	1.10 .55
7480DC 7480PC	Gated full adder	1.65 1.45	1.40 1.16	1.15 .90
7482DC 7482PC	2-bit binary full adder	2.92 1.50	2.57 1.27	2.01 1.02
7483DC 7483PC	4-bit binary full adder	3.36 1.56	2.85 1.32	2.30 1.07
7485PC	4-bit magnitude comparator	2.25	1.90	1.53
7490DC 7490PC	Decade counter	1.81 .81	1.53 .69	1.24 .55
7491DC 7491PC	8-bit shift register	2.92 1.35	2.57 1.14	2.01 .92
7492DC 7492PC	Divide by 12 counter	1.79 .81	1.52 .69	1.23 .55
7493DC 7493PC	4-bit binary counter	1.79 .81	1.52 .69	1.23 .55
7494DC 7494PC	4-bit shift register	2.92 2.18	2.57 1.70	2.01 1.29
7495DC 7495PC	4-bit right/left shift register	2.48 1.02	2.10 .86	1.70 .70
7496DC 7496PC	5-bit shift register	2.81 2.30	2.37 1.84	1.93 1.37
7497DC 7497PC	Synchronous rate multiplier	5.28 4.06	4.47 3.43	3.61 2.77
74116DC 74116PC	Dual 4-bit latch	5.25 4.07	4.25 3.75	3.00 2.29
74141DC 74141PC	BCD-to-decimal decoder/ driver	2.92 2.40	2.57 1.92	2.01 1.49
74145DC 74145PC	BCD-to-decimal decoder/ driver	3.36 2.76	2.85 2.20	2.30 1.60
74150DC 74150PC	16-bit data selector	5.72 4.70	4.85 3.75	3.94 2.70
74151DC 74151PC	8-bit data selector	3.93 1.46	3.13 1.23	2.43 .99
74152DC 74152PC	8-input multiplexer	9.80 7.80	7.85 6.30	6.55 5.25
74153DC 74153PC	Dual 4-input multiplexer	3.46 1.46	2.92 1.23	2.83 .99
74154DC 74154PC	1-of-16 decoder	4.62 3.19	3.80 2.55	3.15 2.04
74155DC 74155PC	Dual 1-of-4 decoder	3.20 1.46	2.57 1.23	2.01 .99
74156DC 74156PC	Dual 1-of-4 decoder OC	3.20 1.46	2.57 1.23	2.01 .99
74157DC 74157PC	Quad 2-input multiplexer	1.85 1.16	1.56 .99	1.27 .80
74160DC 74160PC	BCD-decade counter	2.29 1.77	1.94 1.50	1.56 1.21
74161DC 74161PC	4-bit binary counter	2.04 1.56	1.72 1.32	1.39 1.07
74162DC 74162PC	BCD-decade counter	2.29 1.77	1.94 1.50	1.56 1.21
74163DC 74163PC	4-bit binary counter	2.04 1.56	1.72 1.32	1.39 1.07
74164DC 74164PC	8-bit serial-to-parallel converter	3.60 2.08	2.88 1.76	2.30 1.42
74165DC 74165PC	8-bit parallel-to-serial converter	3.60 1.87	2.88 1.58	2.30 1.28
74166DC 74166PC	8-bit shift register	7.00 2.18	6.10 1.85	5.49 1.49
74167DC 74167PC	Synchronous rate multiplier	5.28 4.06	4.47 3.43	3.61 2.77
74170DC 74170PC	4-by-4 register file	6.78 7.90	5.74 6.30	4.63 4.65
74174DC 74174PC	Hex D type flip-flop with clear	5.25 2.08	4.20 1.76	3.50 1.42
74175DC 74175PC	Quad D type flip-flop with clear	4.00 1.77	3.20 1.50	2.65 1.21
74176DC 74176PC	BCD-decade counter	3.45 1.56	2.75 1.32	2.30 1.07
74177DC 74177PC	4-bit binary counter	3.45 1.56	2.75 1.32	2.30 1.07
74178DC 74178PC	4-bit shift register	4.20 1.77	3.35 1.50	2.80 1.21

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
74179DC 74179PC	4-bit shift register	$ 4.20 1.77	$ 3.35 1.50	$ 2.80 1.21
74180DC 74180PC	Parity generator/checker	4.21 1.93	3.55 1.64	2.84 1.32
74181DC 74181FC 74181PC	4-bit arithmetic logic unit	9.70 11.35 4.78	8.95 10.45 4.05	7.70 9.10 3.27
74182DC 74182FC 74182PC	Carry lookahead	2.78 3.35 1.46	2.56 3.05 1.23	2.20 2.66 .99
74190DC 74190PC	Up/down decade counter	7.60 2.29	6.05 1.94	5.05 1.56
74191DC 74191PC	Up/down binary counter	7.60 2.29	6.05 1.94	5.05 1.56
74192DC 74192PC	Up/down decade counter	5.40 1.79	4.32 1.51	3.47 1.22
74193DC 74193PC	Up/down binary counter	5.40 1.79	4.32 1.51	3.47 1.22
74194DC 74194PC	4-bit right/left shift register	2.16 1.66	1.83 1.41	1.48 1.14
74195DC 74195PC	4-bit shift register	1.50 1.14	1.27 .97	1.02 .78
74196DC 74196PC	Decade counter	3.50 1.41	2.95 1.20	2.40 .97
74197DC 74197PC	4-bit binary counter	3.50 1.41	2.95 1.20	2.40 .97
74198DC 74198PC	8-bit right/left shift register	8.70 3.64	6.60 3.08	5.80 2.49
74199DC 74199PC	8-bit shift register	8.70 3.64	6.60 3.08	5.80 2.49
74283DC 74283PC	4-bit full adder	2.23 1.71	1.88 1.44	1.52 1.16
74290DC 74290PC	Decade counter	1.41 .98	1.20 .83	.97 .67
74293DC 74293PC	Binary counter	1.41 .98	1.20 .83	.97 .67
74298DC 74298PC	Quad 2-input multiplexer	2.70 2.08	2.29 1.76	1.85 1.42
9300DC 9300DM 9300FC 9300FM 9300PC 9300DMQB	4-bit universal register	2.84 4.24 5.45 9.85 2.20 5.07	2.40 3.59 5.00 9.10 1.75 4.29	1.86 2.90 4.35 7.90 1.31 3.46
9301DC 9301DM 9301FC 9301FM 9301PC 9301DMQB	1-of-10 decoder	3.05 4.00 5.45 9.85 2.12 4.86	2.85 3.41 5.00 9.10 1.80 4.12	2.45 2.75 4.35 7.90 1.44 3.32
9302DC 9302DM 9302PC 9302DMQB	1-of-10 decoder OC	3.05 4.00 2.40 4.86	2.85 3.41 2.02 4.12	2.45 2.75 1.65 3.32
9304DC 9304DM 9304FC 9304FM 9304PC 9304DMQB	Dual full adder	3.70 4.24 10.30 12.35 2.65 5.07	3.40 3.59 9.50 11.35 2.25 4.29	2.95 2.90 8.25 9.90 1.83 3.46
9305DC 9305DM 9305FC 9305FM 9305PC 9305DMQB	Variable modulo counter	2.80 5.61 5.45 10.50 2.12 6.45	2.60 4.75 5.00 9.95 1.80 5.45	2.25 3.83 4.35 8.65 1.46 4.40
9307DC 9307DM 9307FC 9307FM 9307PC 9307DMQB	BCD-to-7-segment decoder	4.45 5.39 7.30 14.40 3.45 6.20	4.10 4.56 6.65 13.30 2.93 5.26	3.55 3.68 5.75 11.55 2.38 4.24
9308DC 9308DM 9308FC 9308FM 9308PC 9308DMQB	8-bit latch	6.05 8.46 6.80 12.35 4.50 9.30	5.55 7.16 6.25 11.35 3.80 7.86	4.65 5.77 5.45 9.90 3.02 6.34
9309DC 9309DM 9309FC 9309FM 9309PC 9309DMQB	Dual 4-input multiplexer	2.45 4.00 4.05 7.40 2.12 4.86	2.25 3.41 3.75 6.80 1.80 4.12	1.95 2.75 3.25 5.90 1.44 3.32
9310DC 9310DM 9310FC 9310FM 9310PC 9310DMQB	BCD-decade counter	4.00 5.61 8.95 16.25 1.56 6.45	3.70 4.75 8.20 14.95 1.32 5.45	3.20 3.83 7.15 13.00 1.07 4.40

STANDARD TTL/MSI CONTINUED ON FOLLOWING PAGE

STANDARD TTL/MSI (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
9311DC	1-of-16 digital decoder	$ 4.62	$ 3.80	$ 3.15
9311DM		8.46	7.16	5.77
9311FC		8.59	6.88	5.77
9311FM		12.35	11.35	9.90
9311PC		3.75	3.00	2.40
9311DMQB		9.30	7.87	6.34
9312DC	8-input multiplexer	2.45	2.25	1.95
9312DM		3.95	3.34	2.70
9312FC		4.05	3.75	3.25
9312FM		7.40	6.80	5.90
9312PC		2.12	1.80	1.44
9312DMQB		4.22	3.57	2.88
9313DC	8-input multiplexer OC	2.45	2.25	1.95
9313DM		3.95	3.34	2.70
9313FC		3.25	3.00	2.60
9313FM		6.50	6.00	5.20
9313PC		2.12	1.80	1.44
9313DMQB		4.78	4.04	3.26
9314DC	Quad latch	3.05	2.85	2.45
9314DM		3.62	3.06	2.47
9314FC		4.05	3.75	3.25
9314FM		7.40	6.80	5.90
9314PC		2.00	1.69	1.37
9314DMQB		4.45	3.76	3.03
9315DC	1-of-10 decoder/driver	2.87	2.43	1.98
9315DM		4.55	3.87	3.12
9315FC		6.80	6.25	5.45
9315FM		13.55	12.50	10.85
9315PC		2.21	1.87	1.52
9315DMQB		5.40	4.57	3.69
9316DC	Up binary counter	4.00	3.70	3.20
9316DM		5.94	5.03	4.06
9316FC		8.95	8.20	7.15
9316FM		16.25	14.95	13.00
9316PC		1.56	1.32	1.07
9316DMQB		4.70	3.97	3.20
9317BDC	BCD-to-7-segment decoder/driver	5.20	4.75	4.15
9317BDM		5.39	4.56	3.68
9317BFM		20.70	19.10	16.60
9317BPC		3.45	2.93	2.38
9317CDC		4.80	4.40	3.85
9317CDM		4.82	4.08	3.29
9317CFM		19.25	17.70	15.40
9317CPC		3.45	2.93	2.38
9317BDMQB		6.20	5.25	4.24
9317CDMQB		5.65	4.78	3.86
9318DC	8-input priority encoder	7.50	6.90	6.00
9318DM		7.36	6.23	5.03
9318FC		8.95	8.20	7.15
9318FM		16.25	14.95	13.00
9318PC		4.15	3.50	2.81
9318DMQB		8.20	6.93	5.59
9319DC	Decade sequencer	2.39	2.02	1.63
9319DM		4.78	4.05	3.27
9319PC		1.77	1.50	1.21
9319DMQB		5.82	4.93	3.98
9320DC	Decade sequencer	2.39	2.02	1.63
9320DM		4.78	4.05	3.27
9320PC		1.77	1.50	1.21
9320DMQB		5.82	4.93	3.98
9321DC	Dual 1-of-4 decoder	3.05	2.85	2.45
9321DM		4.24	3.59	2.90
9321FC		6.30	5.80	5.05
9321FM		12.25	11.25	9.80
9321PC		2.12	1.80	1.44
9321DMQB		5.07	4.29	3.46
9322DC	Quad 2-input multiplexer	1.85	1.56	1.23
9322DM		4.24	3.59	2.90
9322FC		4.05	3.75	3.25
9322FM		7.40	6.80	5.90
9322PC		1.54	1.30	1.06
9322DMQB		5,07	4.29	3.46
9324DC	5-bit comparator	4.10	3.47	2.80
9324DM		5.39	4.56	3.68
9324FC		8.10	7.45	6.45
9324FM		14.75	13.60	11.80
9324PC		3.45	2.93	2.38
9324DMQB		6.20	5.25	4.24
9328DC	Dual 8-bit shift register	7.50	6.90	6.00
9328DM		7.82	6.62	5.34
9328FC		10.90	10.05	8.75
9328FM		19.70	17.70	15.90
9328PC		4.40	3.73	3.03
9328DMQB		8.65	7.32	5.90
9334DC	8-bit addressable latch	6.05	5.60	4.85
9334DM		10.17	8.60	6.94
9334FC		6.80	6.25	5.45
9334FM		13.60	12.50	10.90
9334PC		5.20	4.40	3.57
9334DMQB		11.00	9.30	7.50
9338DC	8-bit multiport register	7.35	6.80	5.90
9338DM		11.52	9.75	7.87
9338FC		8.10	7.45	6.45
9338FM		16.85	15.50	13.50
9338PC		5.75	4.85	3.95
9338DMQB		12.35	10.45	8.43

STANDARD TTL/MSI (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
9340DC	4-bit arithmetic logic unit	$ 9.70	$ 8.95	$ 7.77
9340DM		22.05	18.65	15.05
9340FC		19.30	17.75	15.40
9340FM		38.50	35.40	30.80
9340PC		8.60	7.40	6.05
9340DMQB		22.88	19.36	15.62
9341DC	4-bit arithmetic logic unit	9.70	8.95	7.77
9341DM		13.65	11.45	9.25
9341FC		11.35	10.45	9.10
9341FM		19.45	17.90	15.55
9341PC		8.80	7.45	5.95
9341DMQB		14.35	12.14	9.80
9342DC	Carry lookahead	2.78	2.56	2.22
9342DM		4.85	4.10	3.30
9342FC		2.78	2.56	2.22
9342FM		5.55	5.10	4.44
9342PC		2.60	2.07	1.61
9342DMQB		5.67	4.80	3.87
9350DC	Decade counter	1.41	1.20	.97
9350DM		2.91	2.46	1.99
9350PC		.98	.83	.67
9350DMQB		3.95	3.34	2.70
9368DC	FND-70 driver/latch	2.90	2.65	2.30
9368PC		3.32	2.82	2.29
9370DC	7-segment decoder/driver latch	2.90	2.65	2.30
9370PC		3.32	2.82	2.29
9374DC	LED digit driver	2.90	2.45	2.00
9374PC		2.60	2.10	1.78

LOW POWER TTL/MSI

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
9L00DC	Quad 2-input NAND gate	$ 0.50	$ 0.46	$ 0.40
9L00DM		2.55	2.35	2.05
9L00FC		1.30	1.15	1.05
9L00FM		2.55	2.35	2.05
9L04DC	Hex inverter	.63	.58	.50
9L04DM		3.20	2.95	2.55
9L04FC		1.56	1.44	1.25
9L04FM		3.20	2.95	2.55
9L24DC	J-K flip-flop	1.32	1.20	1.05
9L24DM		6.50	6.00	5.20
9L24FC		3.25	3.00	2.60
9L24FM		6.50	6.00	5.20
9L54DC	AND/NOR gate	.50	.46	.40
9L54DM		2.55	2.35	2.05
9L54FC		1.30	1.15	1.05
9L54FM		2.55	2.35	2.05
9L86DC	Exclusive-OR gate	.90	.83	.72
9L86DM		4.65	4.25	3.70
9L86FC		2.30	2.15	1.85
9L86FM		4.65	4.25	3.70
93L00DC	4-bit shift register	3.15	2.90	2.50
93L00DM		7.45	6.85	5.95
93L00FC		5.45	5.00	4.35
93L00FM		9.90	9.10	7.90
93L00PC		2.90	2.53	2.07
93L01DC	1-to-10 decoder	3.05	2.80	2.45
93L01DM		7.45	6.85	5.95
93L01FC		5.45	5.00	4.35
93L01FM		9.90	9.10	7.90
93L01PC		2.66	2.25	1.84
93L08DC	8-bit latch	6.05	5.60	4.85
93L08DM		9.25	8.50	7.40
93L08FC		6.80	6.25	5.45
93L08FM		12.40	11.40	9.90
93L08PC		5.30	4.20	3.55
93L09DC	Dual 4-input multiplexer	2.45	2.25	1.95
93L09DM		5.55	5.10	4.45
93L09FC		4.05	3.75	3.25
93L09FM		7.40	6.80	5.90
93L09PC		2.20	2.00	1.70
93L10DC	BCD decade counter	4.00	3.70	3.20
93L10DM		12.20	11.20	9.75
93L10FC		8.95	8.20	7.15
93L10FM		16.25	14.95	13.00
93L10PC		3.75	3.45	2.95
93L11DC	1-of-16 digital decoder	6.00	5.60	4.85
93L11DM		9.25	8.50	7.40
93L11FC		6.80	6.25	5.45
93L11FM		12.40	11.40	9.90
93L11PC		5.30	4.20	3.55
93L12DC	8-input digital multiplexer	2.45	2.25	1.95
93L12DM		5.55	5.10	4.45
93L12FC		4.05	3.75	3.25
93L12FM		7.40	6.80	5.90
93L12PC		2.20	2.00	1.70
93L14DC	Quad latch	3.00	2.80	2.45
93L14DM		5.55	5.10	4.45
93L14FC		4.05	3.75	3.25
93L14FM		7.40	6.80	5.90
93L14PC		2.52	2.12	1.74

LOW POWER TTL/MSI CONTINUED ON NEXT PAGE

LOW POWER TTL/MSI (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
93L16DC	4-bit binary counter	$ 4.00	$ 3.70	$ 3.20
93L16DM		12.20	11.20	9.75
93L16FC		8.95	8.20	7.15
93L16FM		16.25	14.95	13.00
93L16PC		3.75	3.45	2.95
93L18DC	8-input priority encoder	7.50	6.90	6.00
93L18DM		12.20	11.20	9.75
93L18FC		8.95	8.20	7.15
93L18FM		16.25	14.95	13.00
93L18PC		5.00	4.25	3.45
93L21DC	Dual 1-of-4 decoder	3.00	2.80	2.45
93L21DM		6.15	5.65	4.90
93L21FC		6.30	5.80	5.05
93L21FM		12.25	11.30	9.80
93L21PC		2.66	2.25	1.84
93L22DC	Quad 2-input multiplexer	2.45	2.25	1.95
93L22DM		5.55	5.10	4.45
93L22FC		4.05	3.75	3.25
93L22FM		7.40	6.80	5.90
93L22PC		2.20	2.00	1.70
93L24DC	5-bit comparator	6.20	5.70	4.95
93L24DM		11.05	10.20	8.85
93L24FC		8.10	7.45	6.45
93L24FM		14.75	13.60	11.80
93L24PC		4.15	3.50	2.85
93L28DC	8-bit shift register	7.50	6.90	6.00
93L28DM		14.95	13.75	11.95
93L28FC		10.90	10.05	8.75
93L28FM		19.90	18.30	15.90
93L28PC		5.35	4.50	3.65
93L34DC	8-bit addressable latch	6.05	5.60	4.85
93L34PC		5.65	5.30	4.30
93L38DC	8-bit multiport register	7.35	6.80	5.90
93L38PC		6.85	5.75	4.70
93L41DC	4-bit arithmetic logic unit	9.70	8.95	7.77
93L41PC		8.95	8.25	7.15

LOW POWER SCHOTTKY TTL

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
54LS00DM	Quad 2-input NAND gate	$ 0.94	$ 0.79	$ 0.64
54LS00DMQB		2.89	1.94	1.56
54LS02DM	Quad 2-input NOR gate	.94	.79	.64
54LS02DMQB		2.89	1.94	1.56
54LS03DM	Quad 2-input NAND gate OC	.94	.79	.64
54LS03DMQB		2.89	1.94	1.56
54LS04DM	Hex inverter	1.04	.88	.71
54LS04DMQB		2.54	2.15	1.73
54LS05DM	Hex inverter OC	1.04	.88	.71
54LS05DMQB		2.54	2.15	1.73
54LS08DM	Quad 2-input AND gate	.94	.79	.64
54LS08DMQB		2.29	1.94	1.56
54LS09DM	Quad 2-input AND gate OC	.94	.79	.64
54LS09DMQB		2.29	1.94	1.56
54LS10DM	Triple 3-input NAND gate	.94	.79	.64
54LS10DMQB		2.89	1.94	1.56
54LS11DM	Triple 3-input NAND gate OC	.94	.79	.64
54LS11DMQB		2.89	1.94	1.56
54LS11FMQB		10.40	8.80	7.10
54LS13DM	Dual 4-input Schmitt trigger	1.98	1.67	1.35
54LS13DMQB		3.12	2.64	2.13
54LS14DM	Hex Schmitt trigger	2.60	2.20	1.78
54LS14DMQB		3.74	3.17	2.56
54LS15DM	Triple 3-input AND gate OC	.94	.79	.64
54LS15FM		8.52	7.21	5.82
54LS15DMQB		2.89	1.94	1.56
54LS20DM	Dual 4-input NAND gate	.94	.79	.64
54LS20FM		8.52	7.21	5.82
54LS20DMQB		2.89	1.94	1.56
54LS20FMQB		10.40	8.80	7.10
54LS21DM	Dual 4-input AND gate	.94	.79	.64
54LS21DMQB		2.29	1.94	1.56
54LS22DM	Dual 4-input NAND gate OC	.94	.79	.64
54LS22DMQB		2.89	1.94	1.56
54LS26DM	Quad 2-input NAND gate 15 V OC	1.14	.97	.78
54LS26DMQB		2.70	2.29	1.85
54LS27DM	Triple 3-input NOR gate	.94	.79	.64
54LS27DMQB		2.29	1.94	1.56
54LS30DM	8-input NAND gate	.94	.79	.64
54LS30DMQB		2.29	1.94	1.56
54LS32DM	Quad 2-input OR gate	.94	.79	.64
54LS32DMQB		2.89	1.94	1.56
54LS42DM	1-of-10 decoder	3.24	2.75	2.22
54LS42DMQB		4.49	3.80	3.07
54LS51DM	Dual AND/OR invert gate	.94	.79	.64
54LS51DMQB		2.89	1.94	1.56
54LS54DM	2-3-3-2-input AND/OR invert gate	.94	.79	.64
54LS54DMQB		2.29	1.94	1.56
54LS55DM	2-wide 4-input AND/OR invert gate	.94	.79	.64
54LS55DMQB		2.29	1.94	1.56
54LS74DM	Dual D type flip-flop	1.87	1.58	1.28
54LS74DMQB		3.02	2.55	2.06

LOW POWER SCHOTTKY TTL (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
54LS86DM	Quad Exclusive-OR gate	$ 1.87	$ 1.58	$ 1.28
54LS86DMQB		3.02	2.55	2.06
54LS90DM	Decade counter	2.91	2.46	1.99
54LS90DMQB		4.16	3.52	2.84
54LS92DM	Divide by 12 counter	2.91	2.46	1.99
54LS92DMQB		4.16	3.52	2.84
54LS93DM	4-bit binary counter	2.91	2.46	1.99
54LS93DMQB		4.16	3.52	2.84
54LS95DM	4-bit shift register	3.72	3.15	2.54
54LS95DMQB		4.87	4.12	3.32
54LS109DM	Dual edge-triggered flip-flop	1.87	1.58	1.28
54LS109DMQB		3.02	2.55	2.06
54LS112DM	Dual variable skew flip-flop	1.87	1.58	1.28
54LS112DMQB		3.02	2.55	2.06
54LS113DM	Dual edge-triggered flip-flop	1.87	1.58	1.28
54LS113DMQB		3.02	2.55	2.06
54LS114DM	Dual edge-triggered flip-flop	1.87	1.58	1.28
54LS114DMQB		3.02	2.55	2.06
54LS125DM	Quad 3-state buffer	1.98	1.67	1.35
54LS125DMQB		3.12	2.64	2.13
54LS126DM	Quad 3-state buffer	1.98	1.67	1.35
54LS126DMQB		3.12	2.64	2.13
54LS132DM	Quad 2-input Schmitt trigger	2.60	2.20	1.78
54LS132DMQB		3.74	3.17	2.56
54LS133DM	13-input NAND gate	.94	.79	.64
54LS133DMQB		2.29	1.94	1.56
54LS136DM	Quad Exclusive-OR gate OC	1.87	1.58	1.28
54LS136DMQB		3.02	2.55	2.06
54LS138DM	1-of-8 decoder/ demultiplexer	3.33	2.82	2.27
54LS138DMQB		4.47	3.78	3.05
54LS139DM	Dual 1-of-4 decoder/ demultiplexer	3.33	2.82	2.27
54LS139DMQB		4.47	3.78	3.05
54LS151DM	8-input multiplexer	2.64	2.24	1.80
54LS151DMQB		3.79	3.20	2.58
54LS153DM	Dual 4-input multiplexer	2.64	2.34	1.80
54LS153DMQB		3.79	3.20	2.58
54LS155DM	Dual 1-of-4 decoder	3.33	2.82	2.27
54LS155DMQB		4.47	3.78	3.05
54LS156DM	Dual 1-of-4 decoder OC	3.33	2.82	2.27
54LS156DMQB		4.47	3.78	3.05
54LS157DM	Quad 2-input multiplexer non-inverting	3.25	2.75	2.22
54LS157DMQB		4.39	3.71	3.00
54LS158DM	Quad 2-input multiplexer inverting	3.25	2.75	2.22
54LS158DMQB		4.39	3.71	3.00
54LS160DM	BCD decimal counter asynchronous reset	3.64	3.08	2.49
54LS160DMQB		4.68	3.96	3.20
54LS161DM	4-bit binary counter asynchronous reset	3.64	3.08	2.49
54LS161DMQB		4.68	3.96	3.20
54LS162DM	BCD counter synchronous reset	3.64	3.08	2.49
54LS162DMQB		4.68	3.96	3.20
54LS163DM	4-bit binary counter synchronous reset	3.64	3.08	2.49
54LS163DMQB		4.68	3.96	3.20
54LS170DM	4-by-4 register file	8.42	7.13	5.75
54LS170DMQB		10.40	8.80	7.10
54LS174DM	Hex D type flip-flop with clear	3.72	3.15	2.54
54LS174DMQB		4.87	4.12	3.32
54LS175DM	Quad D type flip-flop with clear	3.72	3.15	2.54
54LS175DMQB		4.87	4.12	3.32
54LS192DM	Up/down decade counter	3.72	3.15	2.54
54LS192DMQB		4.87	4.12	3.32
54LS193DM	Up/down binary counter	3.72	3.15	2.54
54LS193DMQB		4.87	4.12	3.32
54LS194DM	4-bit right/left shift register	3.72	3.15	2.54
54LS194DMQB		4.87	4.12	3.32
54LS195DM	4-bit shift register	3.72	3.15	2.54
54LS195DMQB		4.87	4.12	3.32
54LS196DM	Decade counter	3.72	3.15	2.54
54LS196DMQB		4.87	4.12	3.32
54LS197DM	4-bit binary counter	3.72	3.15	2.54
54LS197DMQB		4.87	4.12	3.32
54LS251DM	8-input 3-state multiplexer	3.43	2.90	2.34
54LS251DMQB		4.87	4.12	3.32
54LS253DM	Dual 4-input 3-state multiplexer	3.72	3.15	2.54
54LS253DMQB		4.87	4.12	3.32
54LS257DM	Quad 2-input 3-state multiplexer	3.72	3.15	2.54
54LS257DMQB		4.87	4.12	3.32
54LS258DM	Quad 2-input 3-state multiplexer	3.72	3.15	2.54
54LS258DMQB		4.87	4.12	3.32
54LS259DM	8-bit address latch	11.19	9.47	7.64
54LS259DMQB		12.11	10.24	8.26
54LS260DM	Dual 5-input NOR gate	.94	.79	.64
54LS260DMQB		2.89	1.94	1.56
54LS266DM	Quad Exclusive-OR gate OC	1.87	1.58	1.28
54LS266DMQB		3.02	2.55	2.06
54LS279DM	Quad S-R latch	1.98	1.67	1.35
54LS279DMQB		3.12	2.64	2.13

LOW POWER SCHOTTKY CONTINUED ON NEXT PAGE

FAIRCHILD
SEMICONDUCTOR

Digital Integrated Circuits

LOW POWER SCHOTTKY TTL (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
54LS290DM 54LS290DMQB	Decade counter	$ 3.24 4.49	$ 2.75 3.80	$2.22 3.07
54LS293DM 54LS293DMQB	4-bit binary counter	3.24 4.49	2.75 3.80	2.22 3.07
54LS295DM 54LS295DMQB	4-bit shift register	4.28 5.43	3.63 4.59	2.93 3.71
54LS298DM 54LS298DMQB	Quad 2-input multiplexer without latch	4.28 5.43	3.63 4.59	2.93 3.71
54LS365DM 54LS365DMQB	Hex buffer 3-state with common enable	1.98 3.12	1.67 2.64	1.35 2.13
54LS366DM 54LS366DMQB	Hex inverter 3-state with common enable	1.98 3.12	1.67 2.64	1.35 2.13
54LS367DM 54LS367DMQB	Hex buffer 3-state 4-bit and 2-bit	1.98 3.12	1.67 2.64	1.35 2.13
54LS368DM 54LS368DMQB	Hex inverter 3-state 4-bit and 2-bit	1.98 3.12	1.67 2.64	1.35 2.13
54LS393DM 54LS393DMQB	Dual 4-bit binary counter	6.49 8.57	5.49 7.25	4.43 5.85
54LS670DM 54LS670DMQB	4-by-4 register file 3-state	9.71 11.96	8.22 10.12	6.63 8.17
74LS00DC 74LS00PC	Quad 2-input NAND gate	.52 .40	.44 .33	.36 .27
74LS02DC 74LS02PC	Quad 2-input NOR gate	.52 .40	.44 .33	.36 .27
74LS03DC 74LS03PC	Quad 2-input NAND gate OC	.52 .40	.44 .33	.36 .27
74LS04DC 74LS04PC	Hex inverter	.58 .44	.49 .37	.40 .30
74LS05DC 74LS05PC	Hex inverter OC	.58 .44	.49 .37	.40 .30
74LS08DC 74LS08PC	Quad 2-input AND gate	.52 .40	.44 .33	.36 .27
74LS09DC 74LS09PC	Quad 2-input AND gate OC	.52 .40	.44 .33	.36 .27
74LS10DC 74LS10PC	Triple 3-input NAND gate	.52 .40	.44 .33	.36 .27
74LS11DC 74LS11PC	Triple 3-input NAND gate OC	.52 .40	.44 .33	.36 .27
74LS13DC 74LS13PC	Dual 4-input Schmitt trigger	1.14 .87	.97 .74	.78 .64
74LS14DC 74LS14PC	Hex Schmitt trigger	1.98 1.58	1.67 1.34	1.35 1.08
74LS15DC 74LS15PC	Triple 3-input AND gate OC	.52 .40	.44 .33	.36 .27
74LS20DC 74LS20PC	Dual 4-input NAND gate	.52 .40	.44 .33	.36 .27
74LS21DC 74LS21PC	Dual 4-input AND gate	.52 .40	.44 .33	.36 .27
74LS22DC 74LS22PC	Dual 4-input NAND gate OC	.52 .40	.44 .33	.36 .27
74LS26DC 74LS26PC	Quad 2-input NAND gate OC 15 V	.62 .48	.53 .40	.43 .33
74LS27DC 74LS27PC	Triple 3-input NOR gate	.52 .40	.44 .33	.36 .27
74LS28DC 74LS28PC	Quad 2-input NOR buffer	.75 .60	.63 .51	.51 .41
74LS30DC 74LS30PC	8-input NAND gate	.52 .40	.44 .33	.36 .27
74LS32DC 74LS32PC	Quad 2-input OR gate	.52 .42	.44 .35	.36 .28
74LS33DC 74LS33PC	Quad 2-input NOR buffer OC	.75 .60	.63 .51	.51 .41
74LS37DC 74LS37PC	Quad 2-input NAND buffer	.62 .48	.53 .40	.43 .33
74LS38DC 74LS38PC	Quad 2-input NAND buffer OC	.62 .48	.53 .40	.43 .33
74LS40DC 74LS40PC	Dual 4-input NAND buffer	.58 .44	.49 .37	.40 .30
74LS42DC 74LS42PC	1-of-10 decoder	2.00 1.56	1.72 1.32	1.39 1.07
74LS47PC 74LS48PC 74LS49PC	BCD-to-7-segment decoder/driver	1.56 1.56 1.56	1.32 1.32 1.32	1.07 1.07 1.07
74LS51DC 74LS51PC	Dual AND/OR invert gate	.52 .40	.44 .33	.36 .27
74LS54DC 74LS54PC	2-3-3-2-input AND/OR invert gate	.52 .40	.44 .33	.36 .27
74LS55DC 74LS55PC	2-wide 4-input AND/OR invert gate	.52 .40	.44 .33	.36 .27
74LS74DC 74LS74PC	Dual D type flip-flop	1.41 .62	1.20 .53	.96 .43
74LS85DC 74LS85PC	4-bit magnitude comparator	2.87 1.87	2.43 1.58	1.96 1.28
74LS86DC 74LS86PC	Quad Exclusive-OR gate	1.41 .69	1.20 .58	.96 .47
74LS90DC 74LS90PC	Decade counter	1.81 1.40	1.53 1.19	1.24 .95
74LS92DC 74LS92PC	Divide by 12 counter	$ 1.81 1.40	$1.53 1.19	$1.24 .95
74LS93DC 74LS93PC	4-bit binary counter	1.81 1.40	1.53 1.19	1.24 .95
74LS95DC 74LS95PC	4-bit shift register	2.87 1.87	2.43 1.58	1.96 1.28
74LS109DC 74LS109PC	Dual edge-triggered flip-flop	1.41 .62	1.20 .53	.96 .43
74LS112DC 74LS112PC	Dual variable skew flip-flop	1.41 .62	1.20 .53	.96 .43
74LS113DC 74LS113PC	Dual edge-triggered flip-flop	1.41 .62	1.20 .53	.96 .43
74LS114DC 74LS114PC	Dual edge-triggered flip-flop	1.41 .62	1.20 .53	.96 .43
74LS125DC 74LS125PC	Quad 3-state buffer	1.14 .87	.97 .74	.78 .60
74LS126DC 74LS126PC	Quad 3-state buffer	1.14 .87	.97 .74	.78 .60
74LS132DC 74LS132PC	Quad 2-input Schmitt trigger	1.77 1.50	1.50 1.27	1.20 1.02
74LS133DC 74LS133PC	13-input NAND gate	.52 .40	.44 .33	.36 .27
74LS136DC 74LS136PC	Quad Exclusive-OR gate OC	.82 .69	.70 .58	.57 .47
74LS138DC 74LS138PC	1-of-8 decoder/ demultiplexer	2.43 1.87	2.09 1.58	1.69 1.28
74LS139DC 74LS139PC	Dual 1-of-4 decoder/ demultiplexer	2.43 1.87	2.09 1.58	1.69 1.28
74LS151DC 74LS151PC	8-input multiplexer	2.04 1.66	1.72 1.41	1.39 1.14
74LS153DC 74LS153PC	Dual 4-input multiplexer	2.00 1.66	1.72 1.41	1.39 1.14
74LS155DC 74LS155PC	Dual 1-of-4 decoder	2.43 1.87	2.09 1.58	1.69 1.28
74LS156DC 74LS156PC	Dual 1-of-4 decoder OC	2.43 1.87	2.09 1.58	1.69 1.28
74LS157DC 74LS157PC	Quad 2-input multiplexer non-inverting	2.50 1.75	2.11 1.48	1.70 1.19
74LS158DC 74LS158PC	Quad 2-input multiplexer inverting	2.50 1.58	2.11 1.34	1.70 1.08
74LS160DC 74LS160PC	BCD-to-decimal counter with asynchronous reset	2.81 2.18	2.38 1.81	1.92 1.49
74LS161DC 74LS161PC	4-bit binary counter with asynchronous reset	2.81 2.18	2.38 1.81	1.92 1.49
74LS162DC 74LS162PC	BCD counter with synchronous reset	2.81 2.18	2.38 1.81	1.92 1.49
74LS163DC 74LS163PC	4-bit binary counter with synchronous reset	2.81 2.18	2.38 1.81	1.92 1.49
74LS168DC 74LS168PC	Up/down decade counter	2.50 2.08	2.11 1.76	1.70 1.42
74LS169DC 74LS169PC	Up/down binary counter	2.50 2.08	2.11 1.76	1.70 1.42
74LS170DC 74LS170PC	4-by-4 register file	5.62 4.06	4.75 3.41	3.83 2.77
74LS173DC 74LS173PC	4-bit D register 3-state	5.10 2.08	2.07 1.76	1.67 1.42
74LS174DC 74LS174PC	Hex D type flip-flop with clear	2.82 1.87	2.43 1.58	1.96 1.28
74LS175DC 74LS175PC	Quad D type flip-flop with clear	2.82 1.87	2.43 1.58	1.96 1.28
74LS181DC 74LS181PC	4-bit arithmetic logic unit	11.60 5.26	9.82 4.46	7.92 3.60
74LS190DC 74LS190PC	Up/down decade counter	3.87 3.12	3.27 2.64	2.64 2.13
74LS191DC 74LS191PC	Up/down binary counter	3.87 3.12	3.27 2.64	2.64 2.13
74LS192DC 74LS192PC	Up/down decade counter	2.87 2.39	2.43 2.02	1.96 1.63
74LS193DC 74LS193PC	Up/down binary counter	2.87 2.39	2.43 2.02	1.96 1.63
74LS194DC 74LS194PC	4-bit right/left shift register	2.87 1.87	2.43 1.58	1.96 1.28
74LS195DC 74LS195PC	4-bit shift register	2.87 1.87	2.43 1.58	1.96 1.28
74LS196DC 74LS196PC	Decade counter	2.82 1.87	2.43 1.58	1.96 1.28
74LS197DC 74LS197PC	4-bit binary counter	2.82 1.87	2.43 1.58	1.96 1.28
74LS251DC 74LS251PC	8-input multiplexer 3-state	2.60 1.91	2.20 1.62	1.78 1.31
74LS253DC 74LS253PC	Dual 4-input multiplexer 3-state	2.82 1.87	2.43 1.58	1.96 1.28
74LS257DC 74LS257PC	Quad 2-input multiplexer 3-state	2.87 1.91	2.43 1.62	1.96 1.31

LOW POWER SCHOTTKY CONTINUED ON NEXT PAGE

LOW POWER SCHOTTKY TTL (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
74LS258DC 74LS258PC	Quad 2-input multiplexer 3-state	$2.87 2.02	$2.43 1.71	$1.96 1.38
74LS259DC 74LS259PC	8-bit address latch	7.88 4.47	6.67 3.78	5.38 3.05
74LS260DC 74LS260PC	Dual 5-input NOR gate	.52 .40	.44 .33	.36 .27
74LS266DC 74LS266PC	Quad Exclusive-NOR gate OC	.83 .69	.70 .58	.57 .47
74LS279DC 74LS279PC	Quad S-R latch	1.14 .87	.97 .74	.78 .60
74LS290DC 74LS290PC	Decade counter	2.00 1.56	1.72 1.32	1.39 1.07
74LS293DC 74LS293PC	4-bit binary counter	2.00 1.56	1.72 1.32	1.39 1.07
74LS295DC 74LS295PC	4-bit shift register	3.31 2.18	2.80 1.85	2.26 1.49
74LS298DC 74LS298PC	Quad 2-input multiplexer without latch	3.31 2.18	2.80 1.85	2.26 1.49
74LS365DC 74LS365PC	Hex buffer 3-state with common enable	1.14 .87	.97 .74	.78 .60
74LS366DC 74LS366PC	Hex inverter 3-state with common enable	1.14 .87	.97 .74	.78 .60
74LS367DC 74LS367PC	Hex buffer 3-state 4-bit and 2-bit	1.14 .87	.97 .74	.78 .60
74LS368DC 74LS368PC	Hex inverter 3-state 4-bit and 2-bit	1.14 .87	.97 .74	.78 .60
74LS390DC 74LS390PC	Dual decade counter	3.83 3.20	3.24 2.71	2.61 2.19
74LS393DC 74LS393PC	Dual 4-bit binary counter	4.06 3.12	3.43 2.64	2.77 2.13
74LS395DC 74LS395PC	4-bit shift register 3-state	2.75 2.29	2.32 1.93	1.87 1.56
74LS490DC 74LS490PC	Dual decade counter	4.11 3.45	3.48 2.92	2.81 2.36
74LS670DC 74LS670PC	4-by-4 register file 3-state	6.47 4.68	5.47 3.94	4.42 3.20

STANDARD TTL/SSI

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
5400DM 5400FM 5400DMQB	Quad 2-input NAND gate	$1.25 3.05 1.97	$1.05 2.45 1.67	$0.85 2.05 1.35
5401DM 5401FM 5401DMQB	Quad 2-input NAND gate OC	1.25 3.05 1.97	1.05 2.45 1.67	.85 2.05 1.35
5402DM 5402FM 5402DMQB	Quad 2-input NOR gate	1.25 3.35 1.97	1.05 2.70 1.67	.85 2.25 1.35
5403DM 5403DMQB	Quad 2-input NAND gate OC	1.25 1.97	1.05 1.67	.85 1.35
5404DM 5404FM 5404DMQB	Hex inverter	1.56 3.80 2.22	1.32 3.05 1.88	1.06 2.55 1.50
5405DM 5405FM 5405DMQB	Hex inverter OC	1.56 3.80 2.22	1.32 3.05 1.88	1.06 2.55 1.50
5406DM 5406FM 5406DMQB	30 V hex inverter/ driver OC	2.18 8.00 2.85	1.84 6.40 2.41	1.49 5.30 1.94
5407DM 5407FM 5407DMQB	30 V hex buffer/ driver OC	2.18 8.00 2.85	1.84 6.40 2.41	1.49 5.30 1.94
5408DM 5408FM 5408DMQB	Quad 2-input AND gate	1.25 3.95 1.97	1.05 3.20 1.67	.85 2.65 1.35
5409DM 5409FM 5409DMQB	Quad 2-input AND gate OC	1.25 3.95 1.97	1.05 3.20 1.67	.85 2.65 1.35
5410DM 5410FM 5410DMQB	Triple 3-input NAND gate	1.25 3.05 1.97	1.05 2.45 1.67	.85 2.05 1.35
5411DM 5411FM 5411DMQB	Triple 3-input AND gate	1.60 3.95 2.30	1.36 3.20 1.91	1.09 2.65 1.55
5412DM 5412DMQB	Triple 3-input NAND gate OC	1.35 1.97	1.14 1.67	.92 1.35
5413DM 5413DMQB	Dual 4-input and Schmitt trigger	2.72 3.39	2.30 2.87	1.86 2.31
5414DM 5414DMQB	Hex Schmitt trigger	3.14 3.80	2.65 3.22	2.14 2.59
5416DM 5416FM 5416DMQB	Hex inverter buffer/ driver OC	1.95 6.40 2.62	1.65 5.10 2.21	1.33 4.25 1.80
5417DM 5417FM 5417DMQB	15 V hex buffer/ driver OC	1.95 6.40 2.62	1.65 5.10 2.20	1.33 4.25 1.79

STANDARD TTL/SSI (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
5420DM 5420FM 5420DMQB	Dual 4-input NAND gate	$1.25 3.05 1.97	$1.05 2.45 1.67	$0.85 2.05 1.35
5421DM 5421DMQB	Dual 4-input AND gate	1.25 1.97	1.05 1.67	.85 1.35
5423DM 5423DMQB	Dual 4-input NOR gate with strobe	2.02 2.68	1.71 2.27	1.38 1.83
5425DM 5425DMQB	Dual 4-input NOR gate with strobe	2.02 2.68	1.71 2.27	1.38 1.83
5426DM 5426DMQB	Quad 2-input NAND gate	1.65 2.32	1.41 1.97	1.14 1.59
5427DM 5427DMQB	Triple 3-input NOR gate	2.10 2.77	1.78 2.34	1.43 1.89
5430DM 5430FM 5430DMQB	8-input NAND gate	1.35 3.05 1.97	1.14 2.45 1.67	.92 2.05 1.35
5432DM 5432DMQB	Quad 2-input NOR gate	1.68 2.35	1.43 1.99	1.15 1.60
5437DM 5437FM 5337DMQB	Quad 2-input NAND buffer	1.95 5.05 2.62	1.65 3.80 2.22	1.33 3.15 1.79
5438DM 5438FM 5438DMQB	Quad 2-input NAND buffer OC	1.95 5.05 2.62	1.65 3.80 2.22	1.33 3.15 1.79
5439DM 5439DMQB	Quad 2-input NAND buffer OC	2.18 2.85	1.84 2.41	1.49 1.95
5440DM 5440FM 5440DMQB	Dual 4-input NAND buffer	1.25 3.50 1.97	1.05 2.80 1.67	.85 2.35 1.35
5450DM 5450FM 5450DMQB	Dual AND/OR gate inverter/expander	1.25 3.05 1.97	1.05 2.45 1.67	.85 2.05 1.35
5451DM 5451DM 5451DMQB	Dual 2-input AND/OR invert gate	1.25 3.05 1.97	1.05 2.45 1.67	.85 2.05 1.35
5453DM 5453FM 5453DMQB	Expandable 4-wide 2-input AND/OR invert gate	1.25 3.05 1.97	1.05 2.45 1.67	.85 2.05 1.35
5454DM 5454FM 5454DMQB	Expandable 4-wide 2-input AND/OR invert gate	1.25 3.05 1.97	1.05 2.45 1.67	.85 2.05 1.35
5460DM 5460FM 5460DMQB	Dual 4-input expander	1.25 2.75 1.97	1.05 2.20 1.67	.85 1.85 1.35
5470DM 5470FM 5470DMQB	J-K edge-triggered flip-flop	1.68 5.00 2.32	1.43 4.00 1.97	1.15 3.35 1.59
5472DM 5472FM 5472DMQB	J-K master-slave flip-flop	1.68 4.70 2.32	1.43 3.80 1.97	1.15 3.15 1.59
5473DM 5473FM 5473DMQB	Dual J-K master-slave flip-flop	2.03 7.80 2.75	1.72 6.25 2.30	1.39 5.20 1.85
5474DM 5474FM 5474DMQB	Dual D type flip-flop	2.03 6.30 2.75	1.72 5.05 2.30	1.39 4.20 1.85
5486DM 5486FM 5486DMQB	Quad Exclusive-OR gate	2.37 4.10 3.04	2.00 3.30 2.57	1.62 2.75 2.07
54125DM 54125DMQB	Quad 3-state buffer	1.87 2.81	1.58 2.38	1.28 1.92
54126DM 54126DMQB	Quad 3-state buffer	1.87 2.81	1.58 2.38	1.28 1.92
54132DM 54132DMQB	Quad 2-input Schmitt trigger	2.16 2.80	1.83 2.37	1.48 1.92
54279DM 54279DMQB	Quad S-R latch	2.10 3.02	1.78 2.55	1.43 2.06
7400DC 7400PC	Quad 2-input NAND gate	.75 .55	.60 .44	.50 .35
7401DC 7401PC	Quad 2-input NAND gate OC	.75 .55	.60 .44	.50 .35
7402DC 7402PC	Quad 2-input NOR gate	.75 .55	.60 .44	.50 .35
7403DC 7403PC	Quad 2-input NAND gate OC	.75 .55	.60 .44	.50 .35
7404DC 7404PC	Hex inverter	.93 .70	.74 .56	.62 .43
7405DC 7405PC	Hex inverter OC	.93 .70	.74 .56	.62 .43
7406DC 7406PC	30 V hex inverter/driver	4.00 1.50	3.20 1.20	2.65 .96
7407DC 7407PC	30 V hex buffer/driver	4.00 1.50	3.20 1.20	2.65 .96
7408DC 7408PC	Quad 2-input AND gate	.98 .60	.78 .48	.65 .37
7409DC 7409PC	Quad 2-input AND gate OC	.98 .60	.78 .48	.65 .37

STANDARD TTL/SSI CONTINUED ON NEXT PAGE

FAIRCHILD
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Digital Integrated Circuits

STANDARD TTL/SSI (CONTINUED)

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100-999
7410DC 7410PC	Triple 3-input NAND gate	$0.75 .55	$0.60 .44	$0.50 .35
7411DC 7411PC	Triple 3-input AND gate	.98 .60	.78 .48	.65 .37
7412DC 7412PC	Triple 3-input NAND gate OC	.83 .55	.66 .44	.55 .35
7413DC 7413PC	Dual 4-input Schmitt trigger	2.50 .60	2.00 .51	1.65 .42
7414DC 7414PC	Hex Schmitt trigger	3.61 1.14	3.06 .97	2.47 .78
7416DC 7416PC	15 V hex inverter/driver	3.20 2.70	2.60 2.15	2.15 1.80
7417DC 7417PC	15 V hex buffer/driver	3.20 2.70	2.60 2.15	2.15 1.80
7420DC 7420PC	Dual 4-input NAND gate	.75 .55	.60 .44	.50 .35
7421DC 7421PC	Dual 4-input AND gate	.75 .55	.60 .44	.50 .35
7423DC 7423PC	Dual 4-input NOR gate with strobe	1.30 .80	1.03 .64	.85 .50
7425DC 7425PC	Dual 4-input NOR gate with strobe	1.30 .80	1.03 .64	.85 .50
7426DC 7426PC	Quad 2-input NAND gate	.98 .78	.78 .63	.65 .52
7427DC 7427PC	Triple 3-input NOR gate	1.30 .80	1.03 .64	.85 .50
7430DC 7430PC	8-input NAND gate	.75 .55	.60 .44	.50 .35
7432DC 7432PC	Quad 2-input NOR gate	.97 .80	.78 .64	.65 .49
7437DC 7437PC	Quad 2-input buffer	1.30 1.15	1.03 .90	.86 .70
7438DC 7438PC	Quad 2-input buffer OC	1.30 1.15	1.03 .90	.86 .70
7439DC	Quad 2-input buffer OC 15 V	1.55	1.25	1.05
7440DC 7440PC	Dual 4-input buffer	.75 .55	.60 .44	.50 .35
7450DC 7450PC	Dual 2-wide 2-input AND/OR gate inverter/expander	.75 .55	.60 .44	.50 .35
7451DC 7451PC	Dual 2-wide 2-input AND/OR gate inverter/expander	.75 .55	.60 .44	.50 .35
7453DC 7453PC	4-wide 2-input AND/OR gate inverter/expander	.75 .55	.60 .44	.50 .35
7454DC 7454PC	4-wide 2-input AND/OR gate inverter/expander	.75 .55	.60 .44	.50 .35
7460DC 7460PC	Dual 4-input expander	.75 .55	.60 .44	.50 .35
7470DC 7470PC	J-K flip-flop	1.25 1.00	1.00 .80	.84 .67
7472DC 7472PC	J-K master-slave flip-flop (AND inputs)	1.15 .93	.92 .74	.77 .62
7473DC 7473PC	Dual J-K master-slave flip-flop	1.95 .88	1.55 .70	1.30 .54
7474DC 7474PC	Dual D type flip-flop	1.65 .88	1.30 .70	1.10 .54
7476DC 7476PC	Dual J-K master-slave flip-flop	2.05 1.05	1.62 .84	1.35 .64
7486DC 7486PC	Quad Exclusive-OR gate	1.10 .90	.86 .72	.72 .56
74107DC 74107PC	Dual J-K master-slave flip-flop	1.95 .88	1.55 .70	1.30 .54
74123DC 74123PC	Dual retriggerable one-shot multivibrator	2.00 1.66	1.69 1.41	1.36 1.14
74125DC 74125PC	Quad 3-state buffer	1.04 .83	.88 .70	.71 .57
74126DC 74126PC	Quad 3-state buffer	1.04 .83	.88 .70	.71 .57
74132DC 74132PC	Quad 2-input Schmitt trigger	2.68 2.24	2.27 1.90	1.83 1.53
74279DC 74279PC	Quad S-R latch	1.16 .94	.99 .79	.80 .64
9000DC 9000DM 9000FC 9000FM	J-K master-slave flip-flop	1.19 5.85 3.20 6.45	1.07 4.70 2.60 5.20	.91 3.90 2.15 4.30
9001DC 9001DM 9001FC 90001FM	J-K master-slave flip-flop	1.19 6.30 3.00 6.95	1.07 5.05 2.75 5.55	.91 4.20 2.30 4.60
9002DC 9002DM 9002FC 9002FM	Quad 2-input NAND gate	.66 3.80 2.10 4.20	.59 3.05 1.65 3.35	.50 2.55 1.40 2.80

STANDARD TTL/SSI (CONTINUED)

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100-999
9003DC 9003DM 9003FC 9003FM	Triple 3-input NAND gate	$ 0.66 3.80 2.10 4.20	$ 0.59 3.05 1.65 3.35	$ 0.50 2.55 1.40 2.80
9004DC 9004DM 9004FC 9004FM	Dual 4-input NAND gate	.66 3.80 2.10 4.20	.59 3.05 1.65 3.35	.50 2.55 1.40 2.80
9005DC 9005DM 9005FC 9005FM	Dual Exclusive-OR gate	.66 3.80 2.10 4.20	.59 3.05 1.65 3.35	.50 2.55 1.40 2.80
9006DC 9006DM 9006FC 9006FM	Dual 4-input extender	.66 3.80 2.10 4.20	.59 3.05 1.65 3.35	.50 2.55 1.40 2.80
9007DC 9007DM 9007FC 9007FM	8-input NAND gate	.66 3.80 2.10 4.20	.59 3.05 1.65 3.35	.50 2.55 1.40 2.80
9008DC 9008DM 9008FC 9008FM	AND/OR invert gate	.66 3.80 2.10 4.20	.59 3.05 1.65 3.35	.50 2.55 1.40 2.80
9009DC 9009DM 9009FC 9009FM	Dual buffer	.88 4.35 2.40 4.80	.78 3.50 1.90 3.80	.66 2.90 1.60 3.20
9012DC 9012DM 9012FC 9012FM	Quad 2-input NAND gate OC	.66 3.80 4.20 2.10	.59 3.05 3.35 1.65	.50 2.55 2.80 1.40
9014DC 9014DM 9014FC 9014FM	Quad Exclusive-OR gate	1.18 4.80 4.00 7.95	1.07 3.90 3.25 6.45	.91 3.20 2.70 5.30
9015DC 9015DM 9015FC 9015FM	Quad NOR gate	.88 4.35 2.39 4.78	.78 3.50 1.93 3.85	.66 2.90 1.60 3.20
9016DC 9016DM 9016FC 9016FM	Hex inverter	1.05 4.80 2.65 5.30	.94 3.85 2.10 4.25	.80 3.20 1.75 3.50
9017DC 9017DM 9017FC 9017FM	Hex inverter OC	1.05 4.80 2.65 5.30	.94 3.85 2.10 4.25	.80 3.20 1.75 3.50
9020DC 9020DM 9020FC 9020FM	Dual J-K flip-flop	1.73 9.60 5.25 10.55	1.56 7.70 4.25 8.50	1.33 6.45 3.55 7.10
9022DC 9022DM 9022FC 9022FM	Dual J-K master-slave flip-flop	1.98 10.20 5.60 11.20	1.78 8.15 4.50 8.95	1.51 6.85 3.75 7.55
9024DC 9024DM 9024FC 9024FM	Dual J-K flip-flop	1.26 8.40 4.60 9.25	1.14 6.70 3.65 7.35	.97 5.65 3.10 6.25

HIGH SPEED TTL/SSI

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100-999
54H00DM 54H00FM	Quad 2-input NAND gate	$ 3.05 3.05	$ 2.45 2.45	$ 2.05 2.05
54H01DM 54H01FM	Quad 2-input NAND gate OC	3.05 3.05	2.45 2.45	2.05 2.05
54H04DM 54H04FM	Hex inverter	3.80 3.80	3.05 3.05	2.55 2.55
54H05DM 54H05FM	Hex inverter	3.80 3.80	3.05 3.05	2.55 2.55
54H08DM 54H08FM	Quad 2-input AND gate	3.95 3.95	3.20 3.20	2.65 2.65
54H10DM 54H10FM	Triple 3-input NAND gate	3.05 3.05	2.45 2.45	2.05 2.05
54H11DM 54H11FM	Triple 3-input AND gate	3.95 3.95	3.20 3.20	2.65 2.65
54H20DM 54H20FM	Dual 4-input NAND gate	3.05 3.05	2.45 2.45	2.05 2.05
54H21DM 54H21FM	Dual 4-input AND gate	3.05 3.05	2.45 2.45	2.05 2.05
54H22DM 54H22FM	Dual 4-input NAND gate OC	3.05 3.05	2.45 2.45	2.05 2.05
54H30DM 54H30FM	8-input NAND gate	3.05 3.05	2.45 2.45	2.05 2.05
54H40DM 54H40FM	Dual 4-input buffer	3.50 3.50	2.80 2.80	2.35 2.35

HIGH SPEED TTL/SSI CONTINUED ON FOLLOWING PAGE

CURRENT PRICES WILL APPLY ON ALL LINES

FAIRCHILD SEMICONDUCTOR Digital Integrated Circuits

HIGH SPEED TTL/SSI (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
54H50DM	Dual 2-wide 2-input AND/OR invert gate expandable	$ 3.05	$ 2.45	$ 2.05
54H50FM		3.05	2.45	2.05
54H51DM	Dual 2-wide 2-input AND/OR invert gate	3.05	2.45	2.05
54H51FM		3.05	2.45	2.05
54H52DM	4-wide 2-2-2-3-input AND/OR invert gate	3.05	2.45	2.05
54H52FM		3.05	2.45	2.05
54H54DM	4-wide 2-input inverter	3.05	2.45	2.05
54H54FM		3.05	2.45	2.05
54H60DM	Dual 4-input expander	3.05	2.45	2.05
54H61DM	Triple 3-input expander	3.05	2.45	2.05
54H61FM		3.05	2.45	2.05
54H71DM	J-K master-slave flip-flop	5.55	4.45	3.70
54H71FM		5.55	4.45	3.70
54H72DM	J-K master-slave flip-flop	4.70	3.80	3.15
54H72FM		4.70	3.80	3.15
54H73DM	Dual J-K master-slave flip-flop	7.80	6.25	5.20
54H73FM		7.80	6.25	5.20
54H74DM	Dual D type flip-flop	6.30	5.05	4.20
54H74FM		6.30	5.05	4.20
54H76DM	Dual J-K master-slave flip-flop	8.25	6.60	5.50
54H76FM		8.25	6.60	5.50
54H78DM	Dual J-K master-slave flip-flop with common clock	8.25	6.60	5.50
54H78FM		8.25	6.60	5.50
54H101DM	J-K edge-triggered flip-flop 50 MHz	6.00	4.80	4.00
54H102DM		6.00	4.80	4.00
54H102FM		6.00	4.80	4.00
54H103DM	J-K edge-triggered flip-flop 50 MHz	7.45	5.95	4.95
54H103FM		7.45	5.95	4.95
54H106DM	Dual J-K edge-triggered flip-flop 50 MHz	7.20	5.75	4.80
54H106FM		7.20	5.75	4.80
54H183DM	Dual full adder	28.50	22.80	19.00
74H00DC	Quad 2-input NAND gate	.83	.67	.56
74H00PC		.63	.51	.41
74H01DC	Quad 2-input NAND gate OC	.83	.67	.56
74H01PC		.63	.51	.41
74H04DC	Hex inverter	.92	.73	.61
74H04PC		.73	.56	.48
74H05DC	Hex inverter OC	.92	.73	.61
74H05PC		.73	.56	.48
74H08DC	Quad 2-input AND gate	1.15	.92	.76
74H08PC		.73	.56	.48
74H10DC	Triple 3-input NAND gate	.69	.56	.46
74H10PC		.63	.51	.41
74H11DC	Triple 3-input AND gate	1.07	.85	.71
74H11PC		.73	.56	.48
74H20DC	Dual 4-input NAND gate	.75	.60	.50
74H20PC		.63	.51	.41
74H21DC	Dual 4-input AND gate	.82	.66	.55
74H21PC		.63	.51	.41
74H22DC	Dual 4-input NAND gate OC	.75	.60	.50
74H22PC		.63	.51	.41
74H30DC	8-input NAND gate	.75	.60	.50
74H30PC		.63	.51	.41
74H40DC	Dual 4-input buffer	.75	.60	.50
74H40PC		.63	.51	.41
74H50DC	Dual 2-wide 2-input AND/OR invert gate expandable	.83	.67	.56
74H50PC		.63	.51	.41
74H51DC	Dual 2-wide 2-input AND/OR invert gate	.83	.67	.56
74H51PC		.63	.51	.41
74H52DC	4-wide 2-2-2-3-input AND/OR invert gate	.83	.67	.56
74H52PC		.63	.51	.41
74H53DC	Expandable 4-wide 2-input inverter	.90	.71	.61
74H53PC		.63	.51	.41
74H54DC	2-2-2-3-input AND/OR invert gate	.90	.71	.61
74H54PC		.63	.51	.41
74H55DC	4-wide 2-input expander	.89	.71	.59
74H55PC		.63	.51	.41
74H60DC	Dual 4-input expander	.75	.60	.50
74H60PC		.63	.51	.41
74H61DC	Triple 3-input expander	.75	.60	.50
74H61PC		.63	.51	.41
74H62DC	4-wide 3-2-2-3-input expander	.89	.71	.59
74H62PC		.63	.51	.41
74H71DC	J-K master-slave flip-flop	1.37	1.22	.93
74H71PC		1.28	1.00	.84
74H72DC	J-K master-slave flip-flop with AND inputs	1.15	.93	.79
74H72PC		1.12	.86	.73
74H73DC	Dual J-K master-slave flip-flop	1.55	1.25	1.05
74H73PC		.96	.84	.68
74H74DC	Dual D type flip-flop	1.35	1.10	0.90
74H74PC		.96	.84	.68
74H76DC	Dual J-K master-slave flip-flop	1.75	1.40	1.15
74H76PC		1.50	1.20	1.00
74H78DC	Dual J-K master-slave flip-flop with common clock	1.75	1.40	1.15
74H78PC		1.50	1.20	1.00
74H87DC	4-bit true complement	12.15	9.70	8.10

HIGH SPEED TTL/SSI (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
74H101DC	J-K edge-triggered flip-flop 50 MHz	$ 1.25	$ 1.00	$ 0.84
74H102DC		1.20	.95	.78
74H103DC	Dual J-K edge-triggered flip-flop 50 MHz	1.65	1.20	1.10
74H103PC		1.40	1.10	.93
74H106DC		1.48	1.20	1.00
74H106PC		1.36	1.10	.92
74H108DC	Dual J-K edge-triggered flip-flop 50 MHz	1.58	1.26	1.05
74H108PC		1.34	1.07	.89
74H183DC	Carry save adder	5.70	4.55	3.80
93H00DC	4-bit shift register	6.10	5.60	4.85
93H00DM		12.20	11.20	9.70
93H00FM		15.86	14.55	12.12
93H72DC	4-bit shift register	6.10	5.60	4.85
93H72DM		12.20	11.20	9.70
93H87DC	4-bit true complement	12.15	9.70	8.10
93H183DC	Carry save adder	5.70	4.55	3.80
93H183DM		28.50	22.80	19.00

SUPER HIGH SPEED SCHOTTKY TTL/SSI

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
54S00DM	Quad 2-input NAND gate	$ 5.52	$ 4.66	$ 3.77
54S00FM		8.52	7.21	5.82
54S00DMQB		7.38	6.25	5.04
54S00FMQB		10.40	8.80	7.10
54S02DM	Quad 2-input NOR gate	5.52	4.66	3.77
54S02FM		8.52	7.21	5.82
54S02DMQB		7.39	6.25	5.04
54S02FMQB		10.40	8.80	7.10
54S03DM	Quad 2-input NAND gate OC	5.10	4.66	3.76
54S03FM		8.52	7.21	5.82
54S03DMQB		7.38	6.25	5.04
54S03FMQB		10.40	8.80	7.10
54S04DM	Hex inverter	6.97	5.89	4.75
54S04FM		10.44	8.83	7.13
54S04DMQB		8.84	7.48	6.03
54S04FMQB		12.31	10.42	8.40
54S05DM	Hex inverter OC	6.97	5.89	4.75
54S05FM		10.44	8.83	7.13
54S05DMQB		8.84	7.48	6.03
54S05FMQB		12.31	10.42	8.40
54S08DM	Quad 2-input AND gate	5.51	4.66	3.76
54S08FM		8.52	7.21	5.82
54S08DMQB		7.38	6.25	5.04
54S08FMQB		10.40	8.80	7.10
54S09FM	Quad 2-input AND gate OC	8.52	7.21	5.82
54S09DMQB		7.38	6.25	5.04
54S09FMQB		10.40	8.80	7.10
54S10DM	Triple 3-input NAND gate	5.51	4.66	3.76
54S10FM		8.52	7.21	5.82
54S10DMQB		7.38	6.25	5.04
54S10FMQB		10.40	8.80	7.10
54S11DM	Triple 3-input AND gate	5.51	4.66	3.76
54S11FM		8.52	7.21	5.82
54S11DMQB		7.38	6.25	5.04
54S11FMQB		10.40	8.80	7.10
54S15DM	Triple 3-input AND gate OC	5.51	4.66	3.76
54S15DMQB		7.38	6.25	5.04
54S20DM	Dual 4-input NAND gate	5.22	4.66	3.77
54S20DMQB		7.38	6.25	5.04
54S22DM	Dual 4-input NAND gate OC	5.51	4.66	3.76
54S22FM		8.52	7.21	5.82
54S22DMQB		7.38	6.25	5.04
54S22FMQB		10.40	8.80	7.10
54S30DM	8-input NAND gate	5.51	4.66	3.76
54S30FM		8.52	7.21	5.82
54S30DMQB		7.38	6.25	5.04
54S30FMQB		10.40	8.80	7.10
54S32DM	Quad 2-input NOR gate	7.63	6.45	5.21
54S32FM		10.23	8.66	6.99
54S32DMQB		9.50	8.04	6.49
54S32FMQB		12.10	10.24	8.26
54S40DM	Dual 4-input buffer	5.22	4.66	3.77
54S40FM		8.52	7.21	5.82
54S40DMQB		7.38	6.25	5.04
54S40FMQB		10.40	8.80	7.10
54S51DM	Dual 2-input AND/OR invert gate	5.51	4.66	3.76
54S51FM		8.52	7.21	5.82
54S51DMQB		7.38	6.25	5.04
54S51FMQB		10.40	8.80	7.10
54S64DM	4-2-2-3-input AND/OR invert gate	5.52	4.66	3.77
54S64FM		8.52	7.21	5.82
54S64DMQB		7.38	6.25	5.04
54S64FMQB		10.40	8.80	7.10
54S65DM	4-2-3-2-input AND/OR invert gate	5.51	4.66	3.76
54S65DMQB		7.38	6.25	5.04

SUPER HIGH SPEED SCHOTTKY CONTINUED ON NEXT PAGE

SUPER HIGH SPEED SCHOTTKY TTL/SSI (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
54S74DM	Dual D type flip-flop	$10.08	$ 8.53	$ 6.88
54S74FM		14.77	12.49	10.08
54S74DMQB		11.96	10.12	8.16
54S74FMQB		16.64	14.08	11.36
54S86DM	Quad 2-input Exclusive-OR gate	5.52	4.66	3.77
54S86FM		8.52	7.21	5.82
54S86DMQB		7.38	6.25	5.04
54S86FMQB		10.40	8.80	7.10
54S109DM	Dual J-K flip-flop	10.37	8.78	7.08
54S109FM		16.41	13.88	11.20
54S109DMQB		12.25	10.36	8.36
54S109FMQB		18.28	15.47	12.48
54S112DM	Dual J-K flip-flop	10.37	8.78	7.08
54S112FM		16.41	13.88	11.20
54S112DMQB		12.25	10.36	8.36
54S112FMQB		18.28	15.47	12.48
54S113DM	Dual J-K flip-flop	10.37	8.78	7.08
54S113FM		16.41	13.88	11.20
54S113DMQB		12.25	10.36	8.36
54S113FMQB		18.28	15.47	12.48
54S114DM	Dual J-K edge-triggered flip-flop	10.37	8.78	7.08
54S114FM		16.41	13.88	11.20
54S114DMQB		12.25	10.36	8.36
54S114FMQB		18.28	15.47	12.48
54S132DM	Quad 2-input Schmitt trigger	3.85	3.26	2.63
54S132FM		8.84	7.48	6.04
54S132DMQB		5.10	4.31	3.48
54S132FMQB		10.81	9.15	7.38
54S133DM	13-input NAND gate	5.51	4.66	3.76
54S133FM		8.52	7.21	5.82
54S133DMQB		7.38	6.25	5.04
54S133FMQB		10.40	8.80	7.10
54S134DM	12-input NAND gate	5.51	4.66	3.76
54S134FM		8.52	7.21	5.82
54S134DMQB		7.38	6.25	5.04
54S134FMQB		10.40	8.80	7.10
54S135DM	Quad Exclusive-OR/NOR gate	8.73	7.39	5.96
54S135FM		12.44	10.52	8.49
54S135DMQB		10.60	8.97	7.24
54S135FMQB		14.31	12.10	9.77
54S138DM	1-of-8 decoder/demultiplexer	16.26	13.76	11.10
54S138FM		25.83	21.85	17.63
54S138DMQB		18.13	15.34	12.38
54S138FMQB		27.70	23.44	18.91
54S139DM	1-of-4 decoder/demultiplexer	16.26	13.76	11.10
54S139FM		25.83	21.85	17.63
54S139DMQB		18.13	15.34	12.38
54S139FMQB		27.70	23.44	18.91
54S140DM	Dual 4-input NAND driver	5.51	4.66	3.76
54S140FM		8.52	7.21	5.82
54S140DMQB		7.38	6.25	5.04
54S140FMQB		10.40	8.80	7.10
54S151DM	8-input multiplexer	15.35	12.98	10.48
54S151FM		21.73	18.39	14.83
54S151DMQB		17.22	14.57	11.75
54S151FMQB		23.60	19.97	16.11
54S153DM	Dual 4-input multiplexer	15.35	12.98	10.48
54S153FM		21.73	18.39	14.83
54S153DMQB		17.22	14.57	11.75
54S153FMQB		23.60	19.97	16.11
54S157DM	Quad 2-input multiplexer	14.51	12.28	9.91
54S157FM		21.05	17.81	14.37
54S157DMQB		16.41	13.88	11.20
54S157FMQB		22.92	19.39	15.65
54S158DM	Quad 2-input multiplexer	14.51	12.28	9.91
54S158FM		21.05	17.81	14.37
54S158DMQB		16.41	13.88	11.20
54S158FMQB		22.92	19.39	15.65
54S174DM	Hex D type flip-flop	14.80	12.53	10.11
54S174FM		21.40	18.11	14.61
54S174DMQB		16.68	14.11	11.39
54S174FMQB		23.27	19.69	15.89
54S175DM	Quad D type flip-flop	14.80	12.53	10.11
54S175FM		21.40	18.11	14.61
54S175DMQB		16.68	14.11	11.39
54S175FMQB		23.27	19.69	15.89
54S194DM	4-bit shift register	16.81	14.25	11.50
54S194FM		26.52	22.44	18.11
54S194DMQB		18.72	15.84	12.78
54S194FMQB		28.39	24.02	19.38
54S251DM	8-input multiplexer OC	15.35	12.98	10.48
54S251FM		21.73	18.39	14.83
54S251DMQB		17.22	14.57	11.75
54S251FMQB		23.60	19.97	16.11
54S253DM	Dual 4-input multiplexer OC	12.87	10.89	8.78
54S253FM		20.63	17.46	14.08
54S253DMQB		16.20	13.71	11.06
54S253FMQB		22.50	19.04	15.36
54S257DM	Quad 4-input multiplexer OC	14.31	12.10	9.77
54S257FM		21.05	17.81	14.37
54S257DMQB		16.20	13.71	11.06
54S257FMQB		22.92	19.39	15.65

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
54S258DM	Quad 2-input multiplexer 3-state	$15.29	$12.93	$10.43
54S258FM		22.36	18.92	15.26
54S258DMQB		17.16	14.52	11.71
54S258FMQB		24.23	20.50	16.54
74S00DC	Quad 2-input NAND gate	.85	.72	.59
74S00PC		.71	.60	.49
74S02DC	Quad 2-input NOR gate	.85	.72	.59
74S02PC		.71	.60	.49
74S03DC	Quad 2-input NAND gate OC	.85	.72	.59
74S03PC		.71	.60	.49
74S04DC	Hex inverter	1.04	.88	.71
74S04PC		.87	.78	.60
74S05DC	Hex inverter OC	1.04	.88	.71
74S05PC		.87	.78	.60
74S08DC	Quad 2-input AND gate	.85	.72	.59
74S08PC		.71	.60	.49
74S09DC	Quad 2-input AND gate OC	.85	.72	.59
74S09PC		.75	.63	.57
74S10DC	Triple 3-input NAND gate	.85	.72	.59
74S10PC		.71	.60	.49
74S11DC	Triple 3-input AND gate	.85	.72	.59
74S11PC		.71	.60	.49
74S15DC	Triple 3-input AND gate OC	.85	.72	.59
74S15PC		.71	.60	.49
74S20DC	Dual 4-input NAND gate	.85	.72	.59
74S20PC		.71	.60	.49
74S22DC	Dual 4-input NAND gate OC	.85	.72	.59
74S22PC		.71	.60	.49
74S30DC	8-input NAND gate	.85	.72	.59
74S30PC		.71	.60	.49
74S32DC	Quad 2-input NOR gate	1.19	1.00	.81
74S32PC		.98	.83	.67
74S40DC	Dual 4-input buffer	.85	.72	.59
74S40PC		.71	.60	.49
74S51DC	Dual 2-input AND/OR invert gate	.85	.72	.59
74S51PC		.71	.60	.49
74S64DC	4-2-2-3-input AND/OR invert gate	.85	.72	.59
74S64PC		.71	.60	.49
74S65DC	4-2-3-2-input AND/OR invert gate OC	.85	.72	.59
74S65PC		.71	.60	.49
74S74DC	Dual D type flip-flop	1.95	1.65	1.34
74S74PC		1.41	1.20	.96
74S86DC	Quad 2-input Exclusive-OR gate	.85	.72	.59
74S86PC		.71	.60	.49
74S109DC	Dual J-K flip-flop	1.96	1.65	1.33
74S109PC		1.62	1.37	1.10
74S112DC	Dual J-K flip-flop	1.95	1.65	1.34
74S112PC		1.62	1.37	1.10
74S113DC	Dual J-K flip-flop	1.95	1.65	1.34
74S113PC		1.62	1.37	1.10
74S114DC	Dual J-K flip-flop	1.95	1.65	1.34
74S114PC		1.62	1.37	1.10
74S132DC	Quad 2-input Schmitt trigger	2.04	1.72	1.39
74S132PC		1.56	1.32	1.07
74S133DC	13-input NAND gate	.85	.72	.59
74S133PC		.71	.60	.49
74S134DC	12-input NAND gate	.85	.72	.59
74S134PC		.71	.60	.49
74S135DC	Quad Exclusive-OR/NOR gate	3.20	2.55	1.98
74S135PC		2.14	1.81	1.46
74S138DC	1-of-8 decoder/demultiplexer	6.31	5.04	3.90
74S138PC		4.01	3.39	2.74
74S139DC	1-of-4 decoder/demultiplexer	6.31	5.04	3.90
74S139PC		4.01	3.39	2.74
74S140DC	Dual 4-input NAND driver	.85	.72	.59
74S140PC		.71	.60	.49
74S151DC	8-input multiplexer	6.31	5.04	3.90
74S151PC		4.01	3.39	2.74
74S153DC	Dual 4-input multiplexer	5.93	5.02	4.05
74S153PC		4.01	3.39	2.74
74S157DC	Quad 2-input multiplexer	4.24	3.59	2.90
74S157PC		4.01	3.39	2.74
74S158DC	Quad 2-input multiplexer	4.24	3.59	2.90
74S158PC		3.33	2.81	2.27
74S174DC	Hex D type flip-flop	4.58	3.88	3.12
74S174PC		3.34	2.90	2.34
74S175DC	Quad D type flip-flop	4.58	3.88	3.12
74S175PC		3.34	2.90	2.34
74S194DC	4-bit shift register	7.80	6.60	5.33
74S194PC		4.20	3.55	2.87
74S251DC	8-input multiplexer OC	6.31	5.04	3.90
74S251PC		4.01	3.39	2.74
74S253DC	Dual 4-input multiplexer OC	5.52	4.40	3.42
74S253PC		3.34	2.90	2.34

SUPER HIGH SPEED SCHOTTKY CONTINUED ON NEXT PAGE

SUPER HIGH SPEED SCHOTTKY TTL/SSI (CONT.)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
74S257DC	Dual 2-input multiplexer OC	$ 5.64	$ 4.50	$ 3.48
74S257PC		3.59	3.04	2.45
74S258DC	Quad 2-input multiplexer 3-state	5.93	5.02	4.05
74S258PC		3.95	3.34	2.69
9S41DC	Quad 2-input AND gate	2.31	1.86	1.47
9S41DM		4.68	3.96	3.19
9S41FM		6.48	5.49	4.43
9S41PC		1.09	.99	.86
9S41DMQB		6.45	5.45	4.40
9S41FMQB		8.42	7.12	5.75
9S42DC	Dual AND/OR gate	2.31	1.86	1.47
9S42DM		4.68	3.96	3.19
9S42FM		6.48	5.49	4.43
9S42PC		1.09	.99	.86
9S42DMQB		6.45	5.45	4.40
9S42FMQB		8.42	7.12	5.75
93S00DC	4-bit universal register	4.89	4.14	3.34
93S00DM		15.60	13.20	10.65
93S00FM		19.24	16.28	13.13
93S00PC		3.54	2.99	2.41
93S00DMQB		17.47	14.78	11.92
93S00FMQB		21.10	17.86	14.41
93S05DC	Variable modulo counter	10.09	8.53	6.89
93S05DM		19.13	16.19	13.06
93S05FM		23.92	20.24	16.33
93S05PC		6.45	5.46	4.40
93S05DMQB		21.10	17.86	14.41
93S05FMQB		25.90	21.91	17.68
93S10DC	Decade counter	5.62	4.75	3.83
93S10DM		17.05	14.43	11.65
93S10FM		21.32	18.04	14.55
93S10PC		4.79	4.05	3.26
93S10DMQB		18.92	16.00	12.92
93S12DC	8-input multiplexer	5.51	4.66	3.76
93S12DM		16.18	13.70	11.05
93S12FM		20.00	16.93	13.66
93S12PC		4.20	3.55	2.67
93S12DMQB		17.99	15.22	12.28
93S12FMQB		21.95	18.57	14.98
93S16DC	4-bit binary counter	5.62	4.75	3.83
93S16DM		17.05	14.43	11.64
93S16FM		21.32	18.04	14.56
93S16PC		4.78	4.05	3.27
93S16DMQB		18.92	16.01	12.92
93S16FMQB		23.30	19.71	15.90
93S41DC	4-bit arithmetic logic unit	13.72	11.62	9.37
93S41DM		33.70	28.51	23.00
93S41FM		42.64	36.08	29.11
93S41PC		10.61	8.97	7.24
93S41DMQB		37.44	31.68	25.56
93S41FMQB		46.70	39.51	31.88
93S42DC	Carry lookahead	4.78	4.04	3.27
93S42DM		17.99	15.22	12.29
93S42FM		22.36	18.92	15.26
93S42PC		3.74	3.17	2.56
93S42DMQB		19.76	16.72	13.49
93S42FMQB		24.96	21.12	17.04
93S43DC	2's complement multiplier	16.85	14.25	11.50
93S43DM		25.43	21.52	17.37
93S43FM		28.60	24.20	19.52
93S43PC		14.04	11.88	9.59
93S43DMQB		28.39	24.02	19.38
93S43FMQB		31.20	26.40	21.30
93S46DC	6-bit comparator	6.76	5.72	4.61
93S46DM		19.17	16.22	13.09
93S46FM		23.12	19.57	15.79
93S46PC		5.51	4.66	3.76
93S46DMQB		21.46	18.16	14.65
93S46FMQB		25.48	21.56	17.39
93S47DC	6-bit comparator	6.66	5.63	4.54
93S47DM		18.09	15.31	12.35
93S47FM		22.15	18.74	15.12
93S47PC		5.30	4.49	3.62
93S47DMQB		20.07	16.98	13.70
93S47FMQB		24.44	20.68	16.68
93S62DC	9-input parity generator	6.66	5.63	4.54
93S62DM		17.05	14.43	11.64
93S62FM		22.15	18.74	15.12
93S62PC		5.30	4.49	3.62
93S62DMQB		20.07	16.98	13.70
93S62FMQB		24.44	20.68	16.68

TTL MEMORY

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
7489DC	64-bit read/write	$ 6.76	$ 5.72	$ 4.62
7489PC		5.20	4.40	3.55
93L412DC	256 x 4 RAM OC	24.95	21.11	17.03
93L412DM		49.88	42.23	34.06
93L415DC	1024 x 1 RAM OC	14.08	11.36	10.40
93L415DM		33.26	28.15	22.40
93L415FM		66.56	56.32	45.44
93L415PC		12.32	9.94	9.10
93L415DMQB		40.54	34.30	27.30

TTL MEMORY (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
93L420DC	256 x 1 RAM 3-state	$ 7.80	$ 6.60	$ 5.33
93L420DM		15.49	13.11	10.58
93L420PC		6.76	5.72	4.62
93L421DC	256 x 1 RAM 3-state	6.24	5.28	4.26
93L421DM		12.27	10.38	8.37
93L421FM		20.59	17.42	14.06
93L421PC		5.20	4.40	3.35
93L422DC	256 x 4 RAM 3-state	24.95	21.11	17.03
93L422DM		49.88	42.23	34.06
93L425DC	1024 x 1 RAM 3-state	14.08	11.36	10.40
93L425DM		33.26	28.15	22.40
93L425PC		12.32	9.94	9.10
93L425DMQB		40.54	34.30	27.30

TTL/INTERFACE

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
54121DM	One-shot multivibrator	$ 1.95	$ 1.65	$ 1.33
54121FM		9.00	7.20	6.00
54122DM	Retriggerable one-shot multivibrator	2.10	1.77	1.43
54122DMQB		2.77	2.34	1.89
74121DC	One-shot multivibrator	1.73	1.46	1.19
74121PC		.69	.58	.47
74122DC	Retriggerable one-shot multivibrator	3.07	2.43	1.87
74122PC		.64	.55	.44
9600DC	Retriggerable one-shot multivibrator	4.40	4.05	3.50
9600DM		8.45	7.75	6.75
9600FC		8.35	7.70	6.70
9600FM		11.25	10.35	9.00
9601DC	Retriggerable one-shot multivibrator	4.40	4.05	3.50
9601DM		8.45	7.75	6.75
9601FC		8.35	7.70	6.70
9601FM		11.25	10.35	9.00
9601PC		1.65	1.50	1.30
9602DC	Dual retriggerable one-shot multivibrator	7.20	6.60	5.75
9602DM		10.70	9.90	8.60
9602FC		8.55	7.70	6.80
9602FM		12.90	11.60	10.30
9602PC		3.00	2.40	2.00
96101DC	Quad 2-input NAND cable driver	1.66	1.40	1.14
96101PC		1.38	1.17	.95
96106DC	Quad 2-input NOR cable receiver	1.81	1.53	1.24
96106PC		1.39	1.18	.95
96L02DC	Dual retriggerable one-shot multivibrator	1.56	1.32	1.06
96L02DM		2.29	1.94	1.56
96L02PC		1.16	.99	.79
96S02DC	Dual retriggerable one-shot multivibrator	2.87	2.43	1.96
96S02PC		2.29	1.94	1.56

DIODE TRANSISTOR LOGIC DTL

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
930DC	Dual 4-input gate/expander	$ 0.93	$ 0.74	$ 0.62
930DM		3.70	2.95	2.50
930FC		3.20	2.55	2.15
930FM		4.05	3.20	2.70
930HC		3.65	2.90	2.50
930HM		6.50	5.20	4.40
930PC		.78	.62	.52
931DC	Clocked flip-flop	3.20	2.60	2.15
931DM		4.50	3.60	3.00
931FC		6.30	5.05	4.20
931FM		8.10	6.45	5.40
931HC		6.30	5.05	4.20
931HM		11.10	8.85	7.40
932DC	Dual 4-input buffer	1.04	.84	.70
932DM		4.05	3.20	2.75
932FC		2.50	2.00	1.70
932FM		4.45	3.15	2.95
932HC		3.50	2.80	2.35
932HM		7.15	5.70	4.85
932PC		.97	.78	.65
933HM	Dual 4-input extender	5.50	4.40	3.70
933PC		.78	.62	.52
935DC	Hex inverter/expander	1.09	.88	.73
935DM		4.05	3.20	2.70
935FC		3.50	2.80	2.35
935FM		4.45	3.55	2.95
935PC		1.04	.83	.69
936DC	Hex inverter	1.09	.88	.73
936DM		4.05	3.20	2.70
936FC		3.50	2.80	2.35
936FM		4.45	3.55	2.95
936PC		1.04	.83	.69

DIODE TRANSISTOR LOGIC CONTINUED ON NEXT PAGE

FAIRCHILD SEMICONDUCTOR Digital Integrated Circuits

DIODE TRANSISTOR LOGIC DTL (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
937DC	Hex inverter gate	$ 1.09	$ 0.88	$ 0.73
937DM		4.05	3.20	2.70
937FC		3.50	2.80	2.35
937FM		4.45	3.55	2.95
937PC		1.04	.83	.69
941DC	Monostable multivibrator	7.25	5.80	4.85
941DM		24.90	19.95	16.60
941FC		14.00	11.20	9.35
941FM		24.90	19.95	16.60
944DC	Dual buffer	1.09	.88	.73
944DM		4.05	3.20	2.70
944FC		3.50	2.80	2.35
944FM		4.45	3.55	2.95
944HC		4.05	3.25	2.75
944HM		7.15	5.70	4.85
944PC		.97	.78	.65
945DC	R-S clocked flip-flop	1.26	1.01	.84
945DM		4.95	3.95	3.30
945FC		4.30	3.45	2.90
945FM		5.45	4.35	3.65
945HC		5.25	4.20	3.50
945HM		9.05	7.25	6.15
945PC		1.21	.97	.81
946DC	Quad 2-input gate	1.03	.82	.69
946DM		3.70	2.95	2.50
946FC		3.20	2.55	2.15
946FM		4.05	3.20	2.70
946HC		3.65	2.90	2.50
946HM		6.50	5.20	4.40
946PC		.86	.70	.57
948DC	R-S clocked flip-flop	1.26	1.01	.84
948DM		4.95	3.95	3.30
948FC		4.30	3.45	2.90
948FM		5.45	4.35	3.65
948HC		5.25	4.20	3.50
948HM		9.05	7.25	6.15
948PC		1.12	.97	.81
949DC	Quad 2-input gate	1.03	.82	.69
949DM		3.70	2.95	2.50
949FC		3.20	2.55	2.15
949FM		4.05	3.20	2.70
949HC		3.65	2.90	2.50
949HM		6.50	5.20	4.40
949PC		.86	.70	.57
950DC	AC coupled R-S flip-flop	7.25	5.80	4.85
950DM		24.90	19.95	16.60
950FC		14.00	11.20	9.35
950FM		24.90	19.95	16.60
950HC		24.90	19.95	16.60
950PC		6.50	5.20	4.35
951DC	One-shot multivibrator	7.25	5.80	4.85
951DM		24.90	19.95	16.60
951FC		14.00	11.20	9.35
951FM		24.90	19.95	16.60
951HC		14.00	11.20	9.35
951HM		24.90	19.95	16.60
951PC		6.50	5.20	4.35
961DC	Dual 4-input gate expander	1.03	.82	.69
961DM		3.70	2.75	2.50
961FC		3.20	2.55	2.15
961FM		4.05	3.20	2.70
961HC		3.65	2.90	2.50
961HM		6.50	5.20	4.40
961PC		.86	.70	.57
962DC	Triple 3-input gate	1.03	.82	.69
962DM		3.70	2.95	2.50
962FC		3.20	2.55	2.15
962FM		4.05	3.20	2.70
962HC		3.65	2.90	2.50
962HM		6.50	5.20	4.40
962PC		.86	.70	.57
963DC	Triple 3-input gate	1.03	.82	.69
963DM		3.70	2.95	2.50
963FC		3.20	2.55	2.15
963FM		4.05	3.20	2.70
963HC		3.65	2.90	2.50
963HM		6.50	5.20	4.40
963PC		.86	.70	.57
9093DC	Dual J-K flip-flop	1.79	1.44	1.20
9093DM		7.05	5.65	4.75
9093FC		6.10	4.85	4.05
9093FM		7.75	6.20	5.20
9093PC		1.67	1.35	1.13
9094DC	Dual J-K flip-flop	1.79	1.44	1.20
9094DM		7.05	5.65	4.75
9094FC		6.10	4.85	4.05
9094FM		7.75	6.20	5.20
9094PC		1.67	1.35	1.13
9097DC	Dual J-K flip-flop	1.79	1.44	1.20
9097DM		7.05	5.65	4.75
9097FC		6.10	4.85	4.05
9097FM		7.75	6.20	5.20
9097PC		1.67	1.35	1.13

DIODE TRANSISTOR LOGIC DTL (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
9099DC	Dual J-K flip-flop	$ 1.79	$1.44	$1.20
9099DM		7.05	5.65	4.75
9099FC		6.10	4.85	4.05
9099FM		7.75	6.20	5.20
9099PC		1.67	1.35	1.13
9109DC	High level hex inverter	5.40	4.30	3.60
9109DM		10.80	8.60	7.20
9110DC	Hex inverter	5.40	4.30	3.60
9110DM		10.80	8.60	7.20
9111DC	Parallel gate flip-flop	4.10	3.30	2.75
9111DM		4.95	4.75	3.95
9111FC		6.80	5.45	4.55
9111FM		7.60	6.05	5.05
9112DC	High level hex inverter	5.40	4.30	3.60
9112DM		10.80	8.60	7.20
9135DC	Hex inverter	1.09	.88	.73
9135FM		4.45	3.15	2.95
9135PC		.97	.78	.65
9157DC	Quad buffer	1.09	.88	.73
9157FM		4.45	3.15	2.95
9157PC		.97	.78	.65
9158DC	Quad power gate	1.09	.88	.73
9158PC		.97	.78	.65

RESISTOR-TRANSISTOR LOGIC RTL

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
900FM	Buffer	$15.50	$12.40	$10.40
900HC		3.25	2.60	1.95
900HM		16.00	12.75	10.65
901FM	Counter adapter	81.00	65.00	54.50
901HM		62.50	50.00	41.80
902FM	Flip-flop	43.50	34.75	29.00
902HC		3.25	2.60	1.95
902HM		17.40	13.90	11.70
903FM	3-input NOR gate	33.80	27.00	22.60
903HC		4.55	3.65	3.00
903HM		19.50	15.60	13.05
904FM	Half adder	62.50	50.00	41.80
904HC		3.90	3.10	2.60
904HM		36.00	28.90	24.20
905FM	Half shift	90.00	72.00	60.50
905HC		6.45	5.15	3.85
905HM		27.75	22.20	18.50
906FM	Half shift without inverter	50.75	45.50	42.50
906HC		5.15	4.25	3.20
906HM		39.00	31.20	26.00
907FM	4-input gate	20.30	16.25	13.60
907HC		3.25	2.60	1.95
907HM		15.60	12.45	10.40
908FM	Adder	49.30	39.30	32.90
908HC		4.55	3.65	3.00
908HM		13.50	10.40	9.10
909FM	Buffer	31.80	29.50	24.70
909HC		4.25	3.25	2.80
909HM		13.30	10.65	8.95
910FM	Dual 2-input gate	31.60	26.00	21.20
910HC		3.25	2.60	1.95
910HM		12.65	10.15	8.40
911FM	4-input gate	31.00	24.80	20.80
911HM		12.65	10.15	8.40
912FM	Half adder	42.80	34.30	28.80
912HC		4.55	3.65	3.00
912HM		12.65	10.15	8.40
913FM	D type flip-flop	84.50	67.50	56.50
913HC		7.65	6.10	5.15
913HM		14.95	11.95	10.10
914FM	Dual 2-input gate	17.45	13.95	11.70
914HC		3.25	2.60	1.95
914HM		17.45	13.45	9.05
915FM	Dual 3-input gate	22.80	18.30	15.30
915HC		4.55	3.65	3.00
915HM		17.50	14.00	11.75
921FM	Expander	32.10	25.70	21.50
921HC		2.65	2.15	1.80
921HM		10.40	8.60	6.95
923HC	J-K flip-flop	5.70	4.60	3.85
926FM	J-K flip-flop	47.50	37.80	31.50
926HC		5.70	4.60	3.85
926HM		36.50	29.20	24.30
927FM	Quad inverter	22.80	18.30	15.30
927HC		4.55	3.65	3.00
927HM		23.40	18.70	15.60
974HC	J-K flip-flop	5.20	4.60	3.85
974HM		36.50	29.20	24.30

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Digital Integrated Circuits

CMOS

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
4001DC	Quad 2-input NOR gate	$ 0.64	$ 0.55	$ 0.44
4001DM		.94	.79	.64
4001FC		2.83	2.52	2.22
4001FM		3.99	3.63	3.30
4001PC		.53	.43	.35
4001DMQB		2.18	1.85	1.49
4001FMQB		9.00	7.82	6.72
4002DC	Dual 4-input NOR gate	.64	.55	.44
4002DM		.94	.79	.64
4002FC		2.83	2.52	2.22
4002FM		3.99	3.63	3.30
4002PC		.48	.39	.32
4002DMQB		2.18	1.85	1.49
4002FMQB		9.00	7.82	6.72
4006DC	18-stage shift register	2.50	2.11	1.70
4006DM		3.24	2.75	2.22
4006FC		7.60	6.90	6.28
4006FM		11.02	10.01	9.10
4006PC		1.87	1.58	1.28
4006DMQB		4.39	3.71	3.00
4006FMQB		20.20	16.67	12.63
4007DC	Dual comparator, 1 pair and inverter	.64	.55	.44
4007DM		.94	.79	.64
4007FC		2.83	2.52	2.22
4007FM		3.99	3.63	3.30
4007PC		.48	.39	.32
4007DMQB		2.18	1.85	1.49
4007FMQB		9.00	7.82	6.72
4008DC	4-bit full adder	2.39	2.02	1.63
4008DM		3.12	2.64	2.13
4008FC		8.70	7.40	6.34
4008FM		12.25	10.42	8.93
4008PC		1.77	1.50	1.21
4008DMQB		4.26	3.61	2.91
4008FMQB		21.90	18.07	13.69
4011DC	Quad 2-input NAND gate	.64	.55	.44
4011DM		.94	.79	.64
4011FC		2.83	2.52	2.22
4011FM		3.99	3.63	3.30
4011PC		.53	.43	.35
4011DMQB		2.18	1.85	1.49
4011FMQB		9.00	7.82	6.72
4012DC	Dual 4-input NAND gate	.64	.55	.44
4012DM		.94	.79	.64
4012FC		2.83	2.52	2.22
4012FM		3.99	3.63	3.30
4012PC		.48	.39	.32
4012DMQB		2.18	1.85	1.49
4012FMQB		9.00	7.82	6.72
4013DC	Dual D type flip-flop	1.56	1.32	1.07
4013DM		1.87	1.58	1.28
4013FC		4.07	3.66	3.26
4013FM		5.73	5.16	4.59
4013PC		1.13	.92	.76
4013DMQB		2.91	2.46	1.99
4013FMQB		11.90	9.82	7.45
4014DC	8-stage shift register	2.50	2.11	1.70
4014DM		3.24	2.75	2.22
4014FC		7.60	6.90	6.28
4014FM		11.02	10.01	9.10
4014PC		1.87	1.58	1.28
4014DMQB		4.39	3.71	3.00
4014FMQB		20.20	16.67	12.63
4015DC	Dual 4-stage shift register	2.50	2.11	1.70
4015DM		3.24	2.75	2.22
4015FC		7.60	6.90	6.28
4015FM		11.02	10.01	9.10
4015PC		1.87	1.58	1.28
4015DMQB		4.39	3.71	3.00
4015FMQB		20.20	16.67	12.63
4016DC	Quad bilateral switch	1.56	1.32	1.07
4016DM		1.87	1.58	1.28
4016FC		4.12	3.71	3.30
4016FM		6.24	5.62	5.00
4016PC		1.13	.92	.76
4016DMQB		2.91	2.46	1.99
4016FMQB		12.60	10.40	7.88
4017DC	Decade sequence	2.50	2.11	1.70
4017DM		3.24	2.75	2.22
4017FC		8.80	7.49	6.47
4017FM		12.76	10.85	9.38
4017PC		1.87	1.58	1.28
4017DMQB		4.39	3.71	3.00
4017FMQB		22.60	18.65	14.13
4018DC	Divide by n counter	2.50	2.11	1.70
4018DM		3.24	2.75	2.22
4018FC		8.80	7.49	6.47
4018FM		12.76	10.85	9.38
4018PC		1.87	1.58	1.28
4018DMQB		4.39	3.71	3.00
4018FMQB		22.60	18.65	14.13
4019DC	Quad 2-input multiplexer	1.77	1.50	1.21
4019DM		2.06	1.74	1.41
4019FC		4.87	4.38	3.94
4019FM		6.09	5.48	4.93
4019PC		1.04	.88	.71
4019DMQB		3.22	2.73	2.20
4019FMQB		12.40	10.23	8.75

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
4020DC	14-stage timer	$ 3.12	$ 2.64	$ 2.13
4020DM		3.74	3.17	2.56
4020FC		9.71	8.74	7.79
4020FM		14.50	13.05	11.63
4020PC		2.80	1.76	1.42
4020DMQB		4.68	3.96	3.20
4020FMQB		25.00	19.39	15.69
4021DC	8-stage shift register	2.50	2.11	1.70
4021DM		3.24	2.75	2.22
0021FC		7.60	6.90	6.28
4021FM		11.02	10.01	9.10
4021PC		1.87	1.58	1.28
4021DMQB		4.39	3.71	3.00
4021FMQB		20.30	16.67	12.63
4023DC	Triple 3-input NAND gate	.64	.55	.44
4023DM		.94	.79	.64
4023FC		2.83	2.52	2.22
4023FM		3.99	3.63	3.30
4023PC		.53	.43	.35
4023DMQB		2.18	1.85	1.49
4023FMQB		9.00	7.82	6.72
4024DC	7-stage binary counter	2.18	1.85	1.49
4024DM		2.62	2.22	1.79
4024FC		6.00	5.40	4.82
4024FM		8.70	7.83	6.98
4024PC		1.46	1.23	.99
4024DMQB		3.64	3.08	2.49
4024FMQB		16.00	13.20	10.00
4025DC	Triple 3-input NOR gate	.64	.55	.44
4025DM		.94	.79	.64
4025FC		2.83	2.52	2.22
4025FM		3.99	3.63	3.30
4025PC		.48	.39	.32
4025DMQB		2.18	1.85	1.49
4025FMQB		9.00	7.82	6.72
4027DC	Dual J-K flip-flop	1.56	1.32	1.07
4027DM		1.87	1.58	1.28
4027FC		4.12	3.71	3.30
4027FM		6.24	5.62	5.00
4027PC		1.13	.92	.76
4027DMQB		2.91	2.46	1.99
4027FMQB		12.60	10.40	7.88
4028DC	1-of-10 decoder	2.39	2.02	1.63
4028DM		3.00	2.53	2.05
4028FC		6.60	5.94	5.29
4028FM		9.56	8.61	7.67
4028PC		1.66	1.41	1.14
4028DMQB		4.14	3.50	2.83
4028FMQB		18.20	15.02	11.38
4029DC	4-bit binary/BCD up/down counter	3.12	2.64	2.13
4029DM		3.74	3.17	2.56
4029FC		9.27	8.37	7.45
4029FM		13.84	12.49	11.12
4029PC		2.08	1.76	1.42
4029DMQB		4.68	3.96	3.20
4029FMQB		24.12	19.90	15.08
4030DC	Quad Exclusive-OR gate	1.56	1.32	1.07
4030DM		1.87	1.58	1.28
4030FC		3.07	2.73	2.40
4030FM		4.58	4.08	3.58
4030PC		1.13	.92	.76
4030DMQB		2.91	2.46	1.99
4030FMQB		10.32	8.51	6.45
4034DC	8-bit universal register	4.72	3.98	3.21
4034DM		6.12	5.19	4.19
4034PC		3.53	2.98	2.42
4034DMQB		8.29	7.01	5.67
4035DC	4-bit parallel input/output shift register	3.33	2.82	2.27
4035DM		3.93	3.33	2.68
4035FC		5.67	4.48	3.99
4035FM		8.72	6.90	6.14
4035PC		2.18	1.85	1.49
4035DMQB		4.89	4.14	3.34
4035FMQB		14.56	12.01	9.10
4040DC	12-stage timer	3.02	2.55	2.06
4040DM		3.56	3.00	2.43
4040FC		8.27	7.21	6.62
4040FM		12.34	10.76	9.89
4040PC		1.98	1.67	1.35
4040DMQB		4.58	3.87	3.12
4040FMQB		22.02	18.17	13.76
4041DC	Quad true/complement buffer	3.54	2.99	2.41
4041DM		4.16	3.52	2.84
4041FC		5.00	4.70	4.45
4041FM		7.14	6.72	6.36
4041PC		2.29	1.94	1.56
4041DMQB		5.10	4.31	3.48
4041FMQB		13.84	11.42	8.65
4042DC	Quad D latch	2.26	1.92	1.55
4042DM		2.81	2.38	1.92
4042FC		5.00	4.70	4.45
4042FM		7.14	6.72	6.36
4042PC		1.89	1.60	1.29
4042DMQB		3.85	3.26	2.63
4042FMQB		13.84	11.42	8.65

CMOS CONTINUED ON NEXT PAGE

CMOS (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
4043DC	Quad 3-state R/S latch	$ 4.83	$ 4.10	$ 3.46
4043DM		6.76	5.74	4.84
4043FC		5.07	4.54	4.10
4043FM		7.14	6.40	5.77
4043PC		1.51	1.36	1.22
4043DMQB		3.85	3.26	2.63
4043FMQB		13.84	11.42	8.65
4044DC	Quad 3-state R/S latch	4.83	4.10	3.46
4044DM		6.76	5.74	4.84
4044FC		5.07	4.54	4.10
4044FM		7.14	6.40	5.77
4044PC		1.51	1.36	1.22
4044DMQB		3.85	3.26	2.63
4044FMQB		13.84	11.42	8.65
4046DC	Phase-locked loop	3.31	2.79	2.25
4046DM		4.28	3.64	2.94
4046FC		8.71	7.32	6.32
4046PC		2.47	2.09	1.69
4046DMQB		5.80	4.91	3.97
4046FMQB		17.84	14.98	12.96
4049DC	Hex inverting buffer	1.56	1.32	1.07
4049DM		1.87	1.58	1.28
4049FC		4.07	3.66	3.26
4049FM		5.73	5.16	4.59
4049PC		1.13	.92	.76
4049DMQB		2.91	2.46	1.99
4049FMQB		11.90	9.82	7.45
4050DC	Hex non-inverting buffer	1.56	1.32	1.07
4050DM		1.87	1.58	1.28
4050FC		4.07	3.66	3.26
4050FM		5.73	5.16	4.59
4050PC		1.13	.93	.76
4050DMQB		2.91	2.46	1.99
4050FMQB		11.90	9.82	7.45
4051DC	8-input analog multiplexer	2.39	2.02	1.63
4051DM		3.00	2.53	2.04
4051FC		6.86	6.18	5.50
4051FM		9.67	8.70	7.75
4051PC		1.66	1.41	1.14
4051DMQB		4.14	3.50	2.83
4051FMQB		18.34	15.13	11.46
4052DC	Differential 4-input analog multiplexer	2.39	2.02	1.63
4052DM		3.00	2.53	2.04
4052FC		6.86	6.18	5.50
4052FM		9.67	8.70	7.75
4052PC		1.66	1.41	1.14
4052DMQB		4.14	3.50	2.83
4052FMQB		18.34	15.13	11.46
4053DC	Triple 2-channel analog multiplexer	2.39	2.02	1.63
4053DM		3.00	2.53	2.04
4053FC		6.86	6.18	5.50
4053FM		9.67	8.70	7.75
4053PC		1.66	1.41	1.14
4053DMQB		4.14	3.50	2.83
4053FMQB		18.34	15.13	11.46
4066DC	Quad bilateral switch	1.56	1.32	1.07
4066DM		1.87	1.58	1.28
4066FC		4.12	3.71	3.30
4066FM		6.24	5.62	5.00
4066PC		1.13	.92	.76
4066DMQB		2.91	2.46	1.99
4066FMQB		12.60	10.40	7.88
4068DC	8-input NAND gate	.64	.55	.44
4068DM		.94	.79	.64
4068FC		2.83	2.52	2.22
4068FM		3.99	3.63	3.30
4068PC		.53	.43	.35
4068DMQB		2.18	1.85	1.49
4068FMQB		9.00	7.82	6.72
4069DC	Hex inverter	.64	.55	.44
4069DM		.94	.79	.64
4069FC		2.83	2.52	2.22
4069FM		3.99	3.63	3.30
4069PC		.53	.43	.35
4069DMQB		2.18	1.85	1.49
4069FMQB		9.00	7.82	6.72
4070DC	Quad Exclusive-OR gate	.64	.55	.44
4070DM		.94	.79	.64
4070FC		2.83	2.52	2.22
4070FM		3.99	3.63	3.30
4070PC		.53	.43	.35
4070DMQB		2.18	1.85	1.49
4070FMQB		9.00	7.82	6.72
4071DC	Quad 2-input OR gate	.64	.55	.44
4071DM		.94	.79	.64
4071FC		2.83	2.52	2.22
4071FM		3.99	3.63	3.30
4071PC		.53	.43	.35
4071DMQB		2.18	1.85	1.49
4071FMQB		9.00	7.82	6.72
4072DC	Dual 4-input OR gate	.64	.55	.44
4072DM		.94	.79	.64
4072FC		2.83	2.52	2.22
4072FM		3.99	3.63	3.30
4072PC		.48	.39	.32
4072DMQB		2.18	1.85	1.49
4072FMQB		9.00	7.82	6.72
4073DC	Triple 3-input AND gate	$ 0.64	$ 0.55	$ 0.44
4073DM		.94	.79	.64
4073FC		2.83	2.52	2.22
4073PC		.48	.39	.32
4073DMQB		2.18	1.85	1.49
4073FMQB		9.00	7.82	6.72
4075DC	Triple 3-input OR gate	.64	.55	.44
4075DM		.94	.79	.64
4075FC		2.83	2.52	2.22
4075FM		3.99	3.63	3.30
4075PC		.49	.39	.32
4075DMQB		2.18	1.85	1.49
4075FMQB		9.00	7.82	6.72
4076DC	Quad D type 3-state flip-flop	3.68	3.10	2.50
4076DM		5.14	4.34	3.50
4076FC		4.53	4.08	3.64
4076FM		6.77	6.09	5.43
4076PC		2.75	2.32	1.88
4076DMQB		6.45	5.45	4.41
4076FMQB		9.68	8.71	7.76
4077DC	Quad Exclusive-NOR gate	.64	.55	.44
4077DM		.94	.79	.64
4077FC		2.83	2.52	2.22
4077FM		3.99	3.63	3.30
4077PC		.53	.43	.35
4077DMQB		2.18	1.85	1.49
4077FMQB		9.00	7.82	6.72
4078DC	8-input NOR gate	.64	.55	.44
4078DM		.94	.79	.64
4078FC		2.83	2.52	2.22
4078FM		3.99	3.63	3.30
4078PC		.53	.43	.35
4078DMQB		2.18	1.85	1.49
4078FMQB		9.00	7.82	6.72
4081DC	Quad 2-input AND gate	.64	.55	.44
4081DM		.94	.79	.64
4081FC		2.83	2.52	2.22
4081FM		3.99	3.63	3.30
4081PC		.53	.43	.35
4081DMQB		2.18	1.85	1.49
4081FMQB		9.00	7.82	6.72
4082DC	Dual 4-input AND gate	.64	.55	.44
4082DM		.94	.79	.64
4082FC		2.83	2.52	2.22
4082FM		3.99	3.63	3.30
4082PC		.48	.39	.32
4082DMQB		2.18	1.85	1.49
4082FMQB		9.00	7.82	6.72
4085DC	Quad 2-wide 2-input AND/OR invert gate	1.56	1.32	1.07
4085DM		1.87	1.58	1.28
4085FC		5.24	4.74	4.04
4085FM		7.94	7.18	6.12
4085PC		1.13	.92	.76
4085DMQB		2.91	2.46	1.99
4085FMQB		11.91	10.77	9.18
4086DC	Expandable 4-wide 2-input AND/OR invert gate	1.56	1.32	1.07
4086DM		1.87	1.58	1.28
4086FC		5.24	4.74	4.04
4086FM		7.94	7.18	6.12
4086PC		1.13	.92	.76
4086DMQB		2.91	2.46	1.99
4086FMQB		11.91	10.77	9.18
4104DC	Level converter	5.76	4.88	3.93
4104DM		6.93	5.86	4.73
4104FC		8.74	7.88	7.02
4104FM		13.05	11.76	10.48
4104PC		3.85	3.26	2.63
4104DMQB		8.22	6.95	6.51
4104FMQB		18.27	16.46	14.67
4510DC	BCD up/down counter	3.12	2.64	2.13
4510DM		3.74	3.17	2.56
4510FC		8.70	7.84	6.98
4510FM		12.98	11.70	10.42
4510PC		2.08	1.76	1.42
4510DMQB		4.68	3.96	3.20
4510FMQB		21.02	18.57	14.10
4511DC	BCD-to-7-segment driver	2.52	2.13	1.87
4511DM		4.58	3.87	3.12
4511FC		10.22	9.22	8.21
4511FM		15.26	13.76	12.26
4511PC		2.03	1.83	1.64
4511DMQB		5.61	4.74	3.83
4511FMQB		21.36	19.26	17.16
4512DC	8-input multiplexer	2.39	2.02	1.63
4512DM		3.00	2.53	2.05
4512FC		5.48	4.94	4.40
4512FM		9.13	8.23	7.33
4512PC		1.66	1.41	1.14
4512DMQB		4.14	3.50	2.83
4512FMQB		12.78	11.52	10.26
4516DC	Binary up/down counter	3.12	2.64	2.13
4516DM		3.74	3.17	2.56
4516FC		8.70	7.84	6.98
4516FM		12.98	11.70	10.42
4516PC		2.08	1.76	1.42
4516DMQB		4.68	3.96	3.20
4516FMQB		21.02	18.57	14.10

CMOS CONTINUED ON NEXT PAGE

CMOS (CONTINUED)

Fairchild Type	Function	Net Each, Lots of		
		1-24	25-99	100-999
4518DC	Dual 4-bit decade counter	$ 3.12	$ 2.64	$ 2.13
4518DM		3.74	3.17	2.56
4518FC		8.70	7.84	6.98
4518FM		12.98	11.70	10.42
4518PC		2.80	1.76	1.42
4518DMQB		4.68	3.96	3.20
4518FMQB		21.02	18.57	14.10
4520DC	Dual 4-bit binary counter	3.12	2.64	2.13
4520DM		3.74	3.17	2.56
4520FC		8.70	7.84	6.98
4520FM		12.98	11.70	10.42
4520PC		2.80	1.76	1.42
4520DMQB		4.68	3.96	3.20
4520FMQB		21.02	18.57	14.10
4528DC	Daul one-shot multivibrator	2.50	2.11	1.70
4528DM		3.24	2.75	2.22
4528FC		9.17	8.74	7.79
4528FM		14.50	13.05	11.63
4528PC		1.87	1.58	1.28
4528DMQB		4.39	3.71	3.00
4528FMQB		25.00	19.39	15.69
4539DC	Dual 4-input multiplexer	2.39	2.02	1.63
4539DM		3.00	2.53	2.04
4539FC		5.48	4.94	4.40
4539FM		9.13	8.23	7.33
4539PC		1.66	1.41	1.14
4539DMQB		4.14	3.50	2.83
4539FMQB		12.78	11.52	10.26
4553DC	3-digit BCD counter	9.43	7.95	6.40
4553DM		13.20	11.15	8.98
4553FC		23.61	19.96	16.08
4553FM		34.20	28.91	23.29
4553PC		7.43	6.28	5.06
4553DMQB		17.88	15.09	12.16
4553FMQB		55.59	46.98	37.86
4555DC	Dual 1-of-4 decoder (high)	1.56	1.32	1.07
4555DM		1.87	1.58	1.28
4555FC		4.87	4.38	3.94
4555FM		6.09	5.48	4.93
4555PC		1.04	.88	.71
4555DMQB		2.91	2.46	1.99
4555FMQB		12.40	10.23	8.75
4556DC	Dual 1-of-4 decoder (low)	1.56	1.32	1.07
4556DM		1.87	1.58	1.28
4556FC		4.87	4.38	3.94
4556FM		6.09	5.48	4.93
4556PC		1.04	.88	.71
4556DMQB		2.91	2.46	1.99
4556FMQB		12.40	10.23	8.75
4582DC	Carry lookahead block	3.40	2.87	2.31
4582DM		5.01	4.23	3.43
4582FC		9.48	8.52	7.67
4582FM		14.11	12.69	11.41
4582PC		2.72	2.31	1.86
4582DMQB		6.38	5.39	4.36
4582FMQB		18.45	16.59	14.92
4702DC	Bit rate generator	16.60	13.60	11.60
4702DM		31.50	25.50	21.00
4702FC		57.65	48.78	39.34
4702FM		78.78	66.66	53.76
4702PC		13.88	11.36	9.60
4702DMQB		35.71	28.90	23.80
4702FMQB		89.28	75.54	60.92
4703DC	16 x 4 first-in/first-out	16.88	14.10	11.84
4703DM		32.01	25.91	21.34
4703PC		14.20	12.00	9.76
4703DMQB		36.30	29.38	24.19
4704DC	Data path switch	10.75	9.22	7.54
4704DM		20.46	16.56	13.64
4704PC		9.17	7.78	6.34
4704DMQB		23.19	18.77	15.46
4705DC	ALRS	26.54	21.84	18.58
4705DM		50.37	40.77	33.58
4705PC		23.04	19.44	15.31
4705DMQB		57.07	46.19	38.04
4706DC	Progressive stack	19.39	15.94	13.56
4706DM		36.80	29.78	24.53
4706PC		16.27	13.73	11.18
4706DMQB		41.72	33.77	27.80
4707DC	Data access register	14.36	12.25	10.05
4707DM		27.11	21.95	18.07
4707PC		12.24	10.42	8.40
4707DMQB		30.73	24.87	20.48
4710DC	Register stack	8.98	7.39	6.29
4710DM		17.03	13.79	11.35
4710PC		7.68	6.51	5.28
4710DMQB		19.33	15.64	12.88
4720DC	256-bit RAM	16.12	13.64	11.00
4720DM		20.18	16.34	13.45
4720FC		47.40	42.72	38.03
4720FM		57.26	51.60	45.94
4720PC		11.96	10.12	8.17
4720DMQB		22.68	18.36	15.12
4720FMQB		64.36	57.99	51.63
4721DC	256-by-4 RAM	63.48	53.71	43.32
4721DM		88.92	75.24	60.67
4721FC	(256-by-4 RAM)	$107.93	$ 91.32	$ 73.65
4721FM		152.78	129.27	104.25
4721PC		47.11	39.86	32.18
4721DMQB		91.24	80.25	72.78
4721FMQB		196.39	166.18	134.00
4723DC	Dual 4-bit address latch	3.54	2.99	2.41
4723DM		4.16	3.52	2.84
4723FC		8.70	7.84	6.98
4723FM		12.98	11.70	10.42
4723PC		2.29	1.94	1.56
4723DMQB		5.10	4.31	3.48
4723FMQB		21.02	18.57	14.10
4724DC	8-bit addressable latch	3.54	2.99	2.41
4724DM		4.16	3.52	2.84
4724FC		8.70	7.84	6.98
4724FM		12.98	11.70	10.42
4724PC		2.29	1.94	1.56
4724DMQB		5.10	4.31	3.48
4724FMQB		21.02	18.57	14.10
4725DC	16-by-4 RAM	8.42	7.13	5.78
4725DM		11.78	9.95	8.06
4725FC		20.11	18.12	16.14
4725FM		24.85	22.39	19.94
4725PC		6.99	5.91	4.77
4725DMQB		13.03	11.02	8.91
4725FMQB		41.12	37.05	32.99
4731DC	Quad 64-bit shift register	28.83	24.41	19.70
4731DM		34.86	29.49	23.80
4731FC		44.26	39.89	35.51
4731FM		137.07	123.53	109.97
4731PC		21.39	18.11	14.62
4731DMQB		30.93	25.05	20.62
4731FMQB		164.48	148.22	131.98
40014DC	Dual Schmitt trigger	1.56	1.32	1.07
40014DM		1.87	1.58	1.28
40014FC		5.24	4.74	4.04
40014FM		7.94	7.18	6.12
40014PC		1.13	.92	.76
40014DMQB		2.91	2.46	1.99
40014FMQB		11.91	10.77	9.18
40085DC	4-bit magnitude comparator	2.29	1.94	1.56
40085DM		2.81	2.38	1.92
40085FC		7.38	6.65	5.93
40085FM		11.02	9.93	8.85
40085PC		1.56	1.32	1.07
40085DMQB		3.85	3.26	2.63
40085FMQB		15.43	13.90	12.39
40097DC	Hex 3-state non-inverting buffer	1.77	1.50	1.21
40097DM		2.06	1.74	1.41
40097FC		4.91	4.42	3.94
40097FM		7.33	6.60	5.88
40097PC		1.24	1.00	.83
40097DMQB		3.22	2.73	2.20
40097FMQB		10.26	9.24	8.23
40098DC	Hex 3-state inverting buffer	1.77	1.50	1.21
40098DM		2.06	1.74	1.41
40098FC		4.91	4.42	3.94
40098FM		7.33	6.60	5.88
40098PC		1.24	1.00	.83
40098DMQB		3.22	2.73	2.20
40098FMQB		10.26	9.24	8.23
40160DC	4-bit decade asynchronous reset counter	3.12	2.64	2.13
40160DM		3.74	3.17	2.56
40160FC		8.70	7.84	6.98
40160FM		12.98	11.70	10.42
40160PC		2.80	1.76	1.42
40160DMQB		4.68	3.96	3.20
40160FMQB		21.02	18.57	14.10
40161DC	4-bit binary asynchronous reset counter	3.12	2.64	2.13
40161DM		3.74	3.17	2.56
40161FC		8.70	7.84	6.98
40161FM		12.98	11.70	10.42
40161PC		2.80	1.76	1.42
40161DMQB		4.68	3.96	3.20
40161FMQB		21.02	18.57	14.10
40162DC	4-bit decade synchronous reset counter	3.12	2.64	2.13
40162DM		3.74	3.17	2.56
40162FC		8.70	7.84	6.98
40162FM		12.98	11.70	10.42
40162PC		2.80	1.76	1.42
40162DMQB		4.68	3.96	3.20
40162FMQB		21.02	18.57	14.10
40163DC	4-bit binary synchronous reset counter	3.12	2.64	2.13
40163DM		3.74	3.17	2.56
40163FC		8.70	7.84	6.98
40163FM		12.98	11.70	10.42
40163PC		2.08	1.76	1.42
40163DMQB		4.68	3.96	3.20
40163FMQB		21.02	18.57	14.10
40174DC	Hex D type flip-flop	2.50	2.11	1.70
40174DM		3.24	2.75	2.22
40174FC		4.96	4.47	3.98
40174FM		7.40	6.67	5.94
40174PC		1.87	1.58	1.28
40174DMQB		4.39	3.71	3.00
40174FMQB		10.36	9.34	8.32

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Digital Integrated Circuits

CMOS (CONTINUED)

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100-999
40175DC	Quad flip-flop	$ 2.50	$ 2.11	$ 1.70
40175DM		3.24	2.75	2.22
40175FC		4.96	4.47	3.98
40175FM		7.40	6.67	5.94
40175PC		1.87	1.58	1.28
40175DMQB		4.39	3.71	3.00
40175FMQB		10.36	9.34	8.32
40192DC	4-bit up/down synchronous decade counter	3.12	2.64	2.13
40192DM		3.74	3.17	2.56
40192FC		6.99	6.30	5.61
40192FM		10.44	9.41	8.38
40192PC		2.80	1.76	1.42
40192DMQB		4.68	3.96	3.20
40192FMQB		17.50	14.11	11.47
40193DC	4-bit up/down synchronous binary counter	3.12	2.64	2.13
40193DM		3.74	3.17	2.56
40193FC		6.99	6.30	5.61
40193FM		10.44	9.41	8.38
40193PC		2.80	1.76	1.42
40193DMQB		4.68	3.96	3.20
40193FMQB		17.50	14.11	11.47
40194DC	4-bit right/left shift register	2.50	2.11	1.70
40194DM		3.24	2.75	2.22
40194FC		8.37	7.54	6.73
40194FM		12.50	11.26	10.04
40194PC		1.87	1.58	1.28
40194DMQB		4.39	3.71	3.00
40194FMQB		20.50	18.27	13.90
40195DC	4-bit right/left shift register	2.50	2.11	1.70
40195DM		3.24	2.75	2.22
40195FC		8.37	7.54	6.73
40195FM		12.50	11.26	10.04
40195PC		1.87	1.58	1.28
40195DMQB		4.39	3.71	3.00
40195FMQB		20.50	18.27	13.90

COMPLEMENTARY TRANSISTOR MICROLOGIC (CTμL)

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100-Up
952DC	Dual 2-input inverter	$1.90	$1.50	$1.25
953DC	Triple 2-2-3 gate	1.90	1.50	1.25
954DC	Dual 4-input gate	1.90	1.50	1.25
955DC	Single 8-input gate	1.90	1.50	1.25
956DC	Dual 2-input buffer	1.90	1.50	1.25
957DC	Binary	3.00	2.40	2.00
964DC	3-3-1 gate	1.90	1.50	1.25
965DC	Quad 1-input gate	1.90	1.50	1.25
966DC	Quad 2-input gate	1.90	1.50	1.25
967DC	J-K flip-flop	3.00	2.40	2.00
971DC	Quad 2-input AND gate	1.90	1.50	1.25
972DC	Quad 2-input gate	1.90	1.50	1.25

COUNTING MICROLOGIC® (CμL)

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100 Up
958DC	Decade counter	$11.20	$ 9.00	$ 7.50
958HC		11.20	9.00	7.50
959DC	Buffer decoder	10.05	8.00	6.75
960DC	Decoder/driver	15.70	12.55	10.50
989DC	Mod 16 counter	11.20	9.00	7.50
989HC	Mod 16 counter	11.20	9.00	7.50

Linear Integrated Circuits

MOS DRIVERS/SENSE AMPLIFIERS

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100-999
9643TC	Dual TTL-MOS and driver	$3.00	$2.50	$2.14
9644TC	Dual TTL-MOS NAND driver	3.00	2.50	2.14
75207PC	Hex sense amplifier	2.64	2.20	1.88
75208PC	Dual sense amplifier	2.64	2.20	1.88
7524PC	Dual core sense amplifier	1.80	1.50	1.29
7528PC	Dual core sense amplifier	1.80	1.50	1.29
7534PC	Dual core sense amplifier	1.80	1.50	1.29
7538PC	Dual core sense amplifier	1.83	1.53	1.29
75224PC	Dual core sense amplifier	1.83	1.53	1.31
75232PC	Dual core sense amplifier	1.80	1.50	1.29
75234PC	Dual core sense amplifier	1.80	1.50	1.29
75238PC	Dual core sense amplifier	1.97	1.64	1.40
75325PC	Quad memory driver	3.33	2.78	2.38
75326PC	Quad memory driver	3.66	3.06	2.62
75327PC	Quad memory driver	3.66	3.06	2.62

PERIPHERAL DRIVERS

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100-999
75431TC	Dual 15 V, high speed	$1.27	$1.06	$0.90
75432TC	Dual 15 V, high speed	1.27	1.06	.90
75433TC	Dual 15 V, high speed	1.27	1.06	.90
75434TC	Dual 15 V, high speed	1.27	1.06	.90
75450APC	Dual 30 V	1.40	1.17	1.00
75451ATC	Dual 30 V	.91	.76	.65
75452ATC	Dual 30 V	.91	.76	.65
75453ATC	Dual 30 V	.91	.76	.65
75454ATC	Dual 30 V	.91	.76	.65
75460PC	Dual 40 V	1.60	1.33	1.14
75461TC	Dual 40 V	1.00	.83	.71
75462TC	Dual 40 V	1.00	.83	.71
75463TC	Dual 40 V	1.00	.83	.71
75464TC	Dual 40 V	1.00	.83	.71
75471TC	Dual 80 V	1.13	.95	.81
75472TC	Dual 80 V	1.13	.95	.81

DISPLAY DRIVERS/TRANSLATORS

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100-999
9624PC	Dual TTL-MOS translator	$2.83	$2.36	$2.02
9625DC	Dual TTL-MOS translator	3.20	2.67	2.29
9664APC	Hex MOS LED digit driver, 20 V	1.17	.97	.83
9665PC	7-segment driver, 50 V	2.17	1.81	1.55
9666PC	7-segment driver, 50 V	2.50	2.09	1.79
9667PC	7-segment driver, 50 V	2.34	1.95	1.67
9668PC	7-segment driver, 50 V	2.34	1.95	1.67
75491PC	Quad MOS LED segment driver, 10 V	.83	.70	.60
75491APC	Quad MOS LED segment driver, 20 V	.93	.78	.67
75491BPC	Quad MOS LED segment driver, 30 V	1.07	.89	.76
75492PC	Hex MOS LED digit driver, 10 V	1.10	.92	.79
75492APC	Hex MOS LED digit driver, 20 V	1.27	1.06	.90
75492BPC	Hex MOS LED digit driver, 30 V	1.40	1.17	1.00

TRANSISTOR AND DIODE ARRAYS

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100-999
μA726HC	Temp. controlled diff. pair	$11.25	$9.00	$7.50
μA3018HM	Darlington pair	1.31	1.21	1.05
μA3019HM	Diode array	1.31	1.21	1.05
μA3026HM	Dual ind. diff. trans. array	1.83	1.68	1.46
μA3036HM	Dual Darlington array	1.25	1.15	.99
μA3039HM	Quad plus two diode array	1.83	1.31	1.21
μA3046PC	Differential pair	1.31	1.21	1.05
μA3054DC	Dual ind. differential array	1.31	1.21	1.05
μA3086DC	Differential pair	.74	.67	.64

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

FAIRCHILD SEMICONDUCTOR

Linear Integrated Circuits

VOLTAGE REGULATORS

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100-999
	FIXED POSITIVE			
μA109KM	5 V, 1 A, TO-3	$13.90	$12.80	$10.95
μA309KC	5 V, 1 A, TO-3	3.30	2.75	2.20
μA7805UC	5 V, 1 A, TO-220	1.90	1.50	1.26
μA7806UC	6 V, 1 A, TO-220	1.90	1.50	1.26
μA7808UC	8 V, 1 A, TO-220	1.90	1.50	1.26
μA7812UC	12 V, 1 A, TO-220	1.90	1.50	1.26
μA7815UC	15 V, 1 A, TO-220	1.90	1.50	1.26
μA7818UC	18 V, 1 A, TO-220	1.90	1.50	1.26
μA78M05UC	5 V, 0.5 A, TO-220	1.50	1.25	1.00
μA78M06UC	6 V, 0.5 A, TO-220	1.50	1.25	1.00
μA78M08UC	8 V, 0.5 A, TO-220	1.50	1.25	1.00
μA78M12UC	12 V, 0.5 A, TO-220	1.50	1.25	1.00
μA78M15UC	15 V, 0.5 A, TO-220	1.50	1.25	1.00
μA78M20UC	20 V, 0.5 A, TO-220	1.50	1.25	1.00
μA78M24UC	24 V, 0.5 A, TO-220	1.50	1.25	1.00
μA78L05AWC	5 V, 5%, TO-92	.57	.45	.40
μA78L12AWC	12 V, 5%, TO-92	.57	.45	.40
μA78L15AWC	15 V, 5%, TO-92	.57	.45	.40
μA78L18AWC	18 V, 5%, TO-92	.57	.45	.40
μA78L24AWC	24 V, 5%, TO-92	.57	.45	.40
μA78L26AWC	26 V, 5%, TO-92	.57	.45	.40
μA78L62AWC	6.2 V, 5%, TO-92	.57	.45	.40
μA78L82AWC	8.2 V, 5%, TO-92	.57	.45	.40
μA78C05U1C	5 V, 0.5 A	1.05	.90	.75
μA78C06U1C	6 V, 0.5 A	1.05	.90	.75
μA78C12U1C	12 V, 0.5 A	1.05	.90	.75
μA78C15U1C	15 V, 0.5 A	1.05	.90	.75
μA78C17U1C	17 V, 0.5 A	1.05	.90	.75
μA78C18U1C	18 V, 0.5 A	1.05	.90	.75
μA78C20U1C	20 V, 0.5 A	1.05	.90	.75
μA78C22U1C	22 V, 0.5 A	1.05	.90	.75
μA78C24U1C	24 V, 0.5 A	1.05	.90	.75
μA78C82U1C	8.2 V, 0.5 A	1.05	.90	.75
	FIXED NEGATIVE			
μA7905UC	5 V, 1 A, TO-220	$2.00	$1.70	$1.50
μA7906UC	6 V, 1 A, TO-220	2.00	1.70	1.50
μA7908UC	8 V, 1 A, TO-220	2.00	1.70	1.50
μA7912UC	12 V, 1 A, TO-220	2.00	1.70	1.50
μA7915UC	15 V, 1 A, TO-220	2.00	1.70	1.50
μA7918UC	18 V, 1 A, TO-220	2.00	1.70	1.50
μA7924UC	24 V, 1 A, TO-220	2.00	1.70	1.50
μA79M05AUC	5 V, 3-terminal	1.90	1.50	1.26
μA79M06AUC	6 V, 3-terminal	1.90	1.50	1.26
μA79M08AUC	8 V, 3-terminal	1.90	1.50	1.26
μA79M12AUC	12 V, 3-terminal	1.90	1.50	1.26
μA79M15AUC	15 V, 3-terminal	1.90	1.50	1.26
μA79M20AUC	20 V, 3-terminal	1.90	1.50	1.26
μA79M24AUC	24 V, 3-terminal	1.90	1.50	1.26
	ADJUSTABLE POSITIVE			
μA78GKC	1 A	$2.50	$2.25	$1.75
μA78MGUIC	0.5 A	1.85	1.53	1.21
	ADJUSTABLE NEGATIVE			
μA79MGU1C	0.5 A	$2.50	$2.25	$1.75
μA79GKC	1 A	3.15	2.40	2.00

OPERATIONAL AMPLIFIERS

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100-999
	GENERAL PURPOSE			
μA702HC	Wideband DC amplifier	$3.38	$2.70	$2.25
μA709HC	High performance	1.10	1.05	.90
μA730HC	Differential amplifier	5.93	4.74	3.95
μA741TC	Frequency compensated	.75	.60	.50
μA748AC	High performance	.97	.78	.65
μA776HC	Multipurpose programmable	3.50	3.00	2.50
μA777HC	Precision	3.55	2.85	2.35
μA101HM	General purpose	4.00	3.35	2.86
μA101AHM	General purpose	4.10	3.80	3.25
μA102HM	Voltage follower	14.25	11.40	9.50
μA107HM	General purpose	6.35	5.10	4.25
μA110HM	Voltage follower	7.50	6.00	5.00
μA310HC	Voltage follower	4.65	3.75	3.10
μA739PC	Dual low noise preamplifier	2.49	1.95	1.65
μA747PC	Dual frequency compensated	1.85	1.50	1.25
μA749PC	Dual general purpose	2.45	1.95	1.65
μA1458TC	Dual monolithic	1.65	1.45	1.15
	FET INPUT			
μA111HM	Comparator	$28.50	$22.80	$19.00
μA155HM	General purpose	5.05	4.20	3.50
μA156HM	General purpose	5.05	4.20	3.50
μA311HC	Comparator	4.15	3.70	2.95
μA355TC	General purpose	1.10	.90	.75
μA356TC	General purpose	1.10	.90	.75
μA740EHC	Precision	14.93	11.94	9.95
	PRECISION			
μA725HM	Instrumentation	$21.45	$17.15	$14.30
μA727HM	Temp/controlled differential	71.25	57.00	47.50
μA108AHM	Super beta	22.40	18.72	16.00
μA108HM	Super beta	11.00	9.20	7.86
μA308TC	Super beta	1.10	.92	.79
μA348PC	Quad	1.80	1.50	1.25
μA798TC	Quad single-supply	1.75	1.38	1.15

OPERATIONAL AMPLIFIERS (CONTINUED)

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100-999
	HIGH SPEED AND POWER			
μA715HC	High speed	$4.00	$3.30	$2.90
μA318HC	High speed	4.05	3.25	2.70
μA759HC	Power	3.50	2.90	2.50
μA791KC	Power	23.10	14.95	12.50
μAF357HC	High speed FET input	1.50	1.25	1.05

COMMUNICATIONS CIRCUITS

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100-999
μA703HC	RF/IF amplifier	$1.50	$1.20	$1.00
μA753TC	FM gain block	1.90	1.52	1.27
μA757DC	AGC IF amplifier	3.40	2.90	2.40
μA796PC	Double bal. mod/demod	1.40	1.10	.95
μA2136PC	FM/IF limiter/detector	1.97	1.57	1.30
μA3075PC	FM/IF lim/det/preamp	1.72	1.37	1.13
μA3089PC	FM/IF subsystem	3.25	2.70	2.20

COMPARATORS AND TIMERS

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100-999
μA710HC	High speed comparator	$1.10	$1.05	$0.90
μA311TC	Voltage comparator	2.70	2.35	1.80
μA711HM	Dual comparator	1.60	1.30	1.15
μA3302PC	Quad voltage comparator	2.10	1.80	1.40
μA339PC	Quad voltage comparator	3.40	2.70	2.25
μA760HC	High speed comparator	4.10	3.77	3.28
μA2204PC	Programmable timer/counter	3.61	3.02	2.58
μA555TC	Single timer	1.21	.95	.79
μA556PC	Dual timer	1.75	1.40	1.25

INTERFACE CIRCUITS

Fairchild Type	Function	Net Each, Lots of 1-24	25-99	100-999
9612TC	Dual differential driver	$1.67	$1.40	$1.19
9613TC	Dual differential receiver	2.00	1.67	1.43
9614PC	Dual differential driver	2.17	1.81	1.55
9615PC	Dual differential receiver	2.17	1.81	1.55
9616PC	Triple driver/RS-232C/MIL-188C	3.16	2.64	2.26
9617PC	Triple receiver/RS-232C	2.60	2.17	1.86
9620PC	Dual differential receiver	3.00	2.50	2.14
9621PC	Dual driver	3.00	2.50	2.14
9622PC	Dual receiver	3.00	2.50	2.14
9627PC	Dual receiver/RS-232C/MIL-188C	3.66	3.06	2.62
9636TC	Dual single-ended driver/RS-422	2.50	2.09	1.79
9637TC	Dual diff. receiver/RS-422/423	2.83	2.36	2.02
9638TC	Dual high speed differential driver/RS-422	2.83	2.36	2.02
9640PC	Quad bus transceiver	3.00	2.50	2.38
9641PC	Quad bus transceiver	3.00	2.50	2.38
9642PC	Quad bus transceiver/hysteresis	3.00	2.50	2.38
μA8T13PC	Dual single-ended driver	2.03	1.70	1.46
μA8T14PC	Triple receiver	2.03	1.70	1.46
μA8T23PC	Dual single-ended driver/IBM-360	2.20	1.83	1.57
μA8T24PC	Triple receiver/IBM-360	2.20	1.83	1.57
75107APC	Dual receiver	2.20	1.83	1.57
75108APC	Dual receiver	2.20	1.83	1.57
75109PC	Dual receiver	2.30	1.92	1.64
75110PC	Dual receiver	2.46	2.06	1.76
75112PC	Dual driver (6 mA)	2.63	2.20	1.88
75121PC	Dual driver (12 mA)	2.03	1.70	1.46
75122PC	Dual driver (24 mA)	2.03	1.70	1.46
75123PC	Dual single-ended driver/IBM-360	2.20	1.83	1.57
75124PC	Triple receiver/IBM-360	2.20	1.83	1.57
75150PC	Dual receiver/RS-232C	2.40	2.01	1.72
75154PC	Quad receiver/RS-232C	3.46	2.90	2.48
μA1488PC	Quad line driver/RS-232C	1.50	1.25	1.00
μA1489APC	Quad line driver/RS-232C	1.50	1.25	1.00

F8 MICROPROCESSOR DEVELOPMENT SYSTEM

The Formulator family of development equipment is a group of products designed to help users develop F8 microprocessor-based equipment. They range in ability and cost from the low end—the Formulator Mark I—to the most powerful unit—the Formulator Mark III. The Formulator products are upward compatible. Thus, users who obtain a Mark I can add functions to the system to make it a Mark II. Likewise, the owner of a Mark II can update it to a Mark III. Two Growth packages are available for this. Supporting the Formulator family of products is a complete line of functional modules including Memory, I/O and DMA. These cards plug directly into the Formulator cardframe.

FORMULATOR MARK I

The Formulator Mark I is a low cost hardware development system. The processor board contains a CPU, PSU (with Fairbug program), a DMI, RAM memory (1000 bytes), teletype interface circuit and the circuitry to drive the Formulator bus.

HARDWARE	SOFTWARE
Processor board	Formulator user's guide
Card cage and motherboard	Hardware reference manual
Cable to teletype or TI silent 733	
Cable kit	

Fairchild Formulator Mark I—Net Each............**$595.00**

FORMULATOR MARK II

The Formulator Mark II is a complete software-hardware development system. In addition to the processor board and main-frame, the Mark II includes a 16K byte RAM board and Formulator software.

HARDWARE	SOFTWARE
Processor board	Assembler program
16K byte RAM module	Editor program
Card cage and motherboard	Monitor program
Cable to teletype or TI silent 733	Debug program
	Diagnostic package
Cable kit	User's guide
	Hardware reference manual

Fairchild Formulator Mark II—Net Each........**$1695.00**

FORMULATOR MARK III

The Formulator Mark III is a complete tabletop 8-bit microcomputer used for hardware and software development of an F8 microprocessor system. It is designed to operate with either a Model 33 teletype, a TI silent 733 or an HP terminal (Model 2645A) and line printer (Model 9866A). The HP terminal and printer are available from Fairchild.

HARDWARE	SOFTWARE
Mainframe	Assembler program
Console with firmware	Editor program
Processor module	Monitor program
16K bytes of memory	Debug program
Communications module	Diagnostic package
Quad I/O port module	User's guide
Cable kit	Hardware reference manual
Power supply	
Peripheral interconnect cable	
Extender board	
Universal breadboard	

Fairchild Formulator Mark III—Net Each........**$4995.00**

ORDERING INFORMATION

F 9 5 0 8 0 1 X X X

Formulator Systems
0—Mark I
1—Mark II
2—Mark III

Power Supplies
0—100 volts 50/60 Hz (Mark III only)
1—115 volts 50/60 Hz (Mark III only)
2—220 volts 50/60 Hz (Mark III only)
3—Mark I or Mark II

Software Options
1—HP Compatible configuration (Mark III only) Software loads into low memory. See Note 1. Includes cable to HP terminal. Operating system on tape cartridge.
2—TTY compatible configuration (Mark II or Mark III) Software loads into low memory. See Note 1. Includes cable to teletype. Operating system on paper tape.
3—Silent 733 compatible configuration (Mark II or Mark III) Software loads into low memory. See Note 1. Includes cable to silent 733. Operating system on tape cassette.
4—HP compatible configuration (Mark III only) Software loads into high memory. See Note 2. Includes cable to HP terminal. Operating system on tape cartridge.
5—TTY compatible configuration (Mark III only) Software loads into high memory. See Note 2. Includes cable to teletype. Operating system on paper tape.
6—Silent 733 compatible configuration (Mark III only) Software loads into high memory. See Note 2. Includes cable to silent 733. Operating system on tape cassette.

Note 1: The Low Memory version of the Formulator operating system uses memory locations 0FFF to 3FFF to hold the operating system. Locations 0000 to 0FFF and 4000 to FFFF are available for user programs while the operating system is loaded. Thus, in a 16K byte system, the user area extends from location 0000 to 0FFF.

Note 2: The High Memory version of the Formulator operating system uses memory locations D000 to FFFF to hold the operating system. Locations C000 to CFFF are used as a workspace for the operating system. Thus, the operating system must have 16K bytes present to operate properly. Users wishing to run programs beginning at location 0 will have to add memory at the lower order addresses. When a Formulator is ordered with the high memory version of the operating system, at least an additional 4K bytes of RAM should be purchased for the operating system to function properly.

GROWTH PACKAGE I

Contains the material to convert the Formulator Mark I to the Formulator Mark II. Contains 16K byte RAM module and Formulator Mark II operating system.

Fairchild No. F895080132 Growth Package I, Teletype Compatible—Net Each..............**$1300.00**
Fairchild No. F895080133 Growth Package I, Silent 733 Compatible—Net Each..............**$1300.00**

GROWTH PACKAGE II

Contains the material to convert the Formulator Mark II to the Formulator Mark III. Contains quad I/O module, communications module, power supply, fan, console control modules, internal cable wiring, breadboard, extender board, I/O cable, peripheral cable, Mark III operating system and cabinet.

Fairchild No. F895080141 Growth Package II, HP Compatible—Net Each..............**$3500.00**
Fairchild No. F895080142 Growth Package II, Teletype Compatible—Net Each..............**$3500.00**
Fairchild No. F895080143 Growth Package II, Silent 733 Compatible—Net Each..............**$3500.00**

PCB MODULE OPTIONS

Note: The F8 Formulator has 9 free slots. Each PCB option requires one Formulator slot.

PROCESSOR MODULE (SBS/05)

This module is the central processing unit for F8 development system (Mark I, Mark II and Mark III) and contains 3850 CPU, Fairbug PSU, communication I/O to TTY or RS232C terminal, full Formulator baseboard compatibility and 1K static RAM.

Fairchild No. F895080303 Processor Module—Net Each..............**$495.00**

BYTE PARALLEL INTERFACE MODULE

Contains 8-bit data field control; high power buffered lines; 8- or 16-bit bidirectional word parallel operation; switch settable I/O port address, peripheral identification code and interrupt vector address; interface to line printer, high speed paper tape punchers and readers and a wide variety of programmable instruments.

Fairchild No. F895085007 Byte Parallel Interface Module—Net Each..............**$390.00**

ROM SIMULATION MODULE

Contains sockets for two 3851, 3856 or 3857 PS devices and allows PSU devices to operate in the Formulator system.

Fairchild No. F895085003 ROM Simulation Module—Net Each..............**$140.00**

I/O LIGHT DISPLAY BOARD

32 red LED's indicate status of 32 I/O lines of quad I/O Module or 16 lines of Processor Module.

Fairchild No. F895089003 I/O Light Display Board—Net Each..............**$220.00**

COMMUNICATIONS MODULE

Contains 13 switch selectable BAUD rates; switch selectable I/O port address, interrupt vector, peripheral device identification code; selectable interface to 20 milliamp current loop, RS232C or differential TTL drive receive; reader/run control for Auto-Reader TTY.

Fairchild No. F895085001 Communications Module—Net Each..............**$390.00**

QUAD I/O PORT MODULE

Contains four 8-bit I/O ports (32 lines), switch selectable interrupt vector addresses, switch selectable I/O port address and peripheral device identification code, two external interrupts and selectable interrupt priority.

Fairchild No. F895085002 Quad I/O Port Module—Net Each..............**$390.00**

MEMORY OPTIONS

Note: The F8 Formulator has 9 free slots. Each Memory Option requires one Formulator slot.

4K BYTE STATIC RAM MODULE

Switch selectable board address. Low power—80 microamps/bit. Write protect switch allows ROM simulation.

Fairchild No. F895082004 Static RAM Module—Net Each..............**$445.00**

16K BYTE DYNAMIC RAM MODULE

No additional refresh logic required. 16K x 8 or 32K x 4 configuration switch or program selectable.

Fairchild No. F895083016 Dynamic RAM Module—Net Each..............**$1200.00**

4K BYTE PROM MODULE

16 sockets for 93446 PROM's. Switch selectable memory page.

Fairchild No. F895084001 PROM Module—Net Each. **$140.00**

F8 MICROPROCESSOR DEVELOPMENT SYSTEM (Cont'd)

PROM PROGRAMMER OPTIONS

PROM PROGRAMMER

Software lookup table accommodates device programming parameters—number of words, word length, burn time, wait time, retry conditions, etc. Burn pulse amplitude and fuse time are manually adjustable. Can program 93436, 93446, 93438, 93448, 2704 or 2708. Handles fusible link or ultraviolet erasable. Supplied with socket boards for 93436 and 93438.

Fairchild No. F895086001 PROM Programmer—Net Each.......... **$690.00**

Fairchild No. F895086005 Programmer Interface Board with socket for 93436 or 93446—Net Each.......... **$19.00**

Fairchild No. F895086006 Programmer Interface Board with socket for 93438 or 93448—Net Each.......... **$19.00**

Fairchild No. F895086004 Programmer Interface Board with socket for 2704—Net Each.......... **$19.00**

Fairchild No. F895086003 Programmer Interface Board with socket for 2708—Net Each.......... **$19.00**

APPLICATION OPTIONS

FORMULATOR BASE BOARD AND CARD CAGE

Contains 13 slots including 9 general purpose and 4 for CPU and console.

Fairchild No. F895080500 Base Board and Card Cage—Net Each.......... **$500.00**

UNIVERSAL BREADBOARD

Accepts 14, 16, 18, 22, 24 and 40 pin packages. Will accommodate 44 16-pin packages.

Fairchild No. F895089001 Universal Breadboard—Net Each.......... **$90.00**

EXTENDER BOARD

Fairchild No. F895089002 Extender Board—Net Each. **$110.00**

PERIPHERAL OPTIONS

MINI DATA STATIONS

The Hewlett-Packard Model 2645A Mini Data Station. An interactive CRT terminal capable of storing up to 220 kilobytes of formatted data via dual magnetic tape cartridges.

Fairchild No. F895083006 for 60 Hz operation—Net Each.......... **$6095.00**

Fairchild No. F895083007 for 50 Hz operation—Net Each.......... **$6095.00**

Fairchild No. F877911002 Mini Cartridge for H-P 2645A—Net Each, Lots of: 1-9. **$28.00**; 10-99 **$22.00**; 100 up. **$18.00**

Fairchild No. F895087101 Hewlett-Packard Model 9866A Line Printer, Sub-system including interface and cable interconnection to H-P Model 2645A Mini Data Station. Net Each. **$3750.00**

Fairchild No. F868903001 Thermal paper rolls for H-P 9866A—Net Ea., Lots: 2-14. **$10.00**; 16-144. **$9.00**; 146-190. **$8.00**

CABLE OPTIONS

Fairchild No. F895089913 Cable from communications module to H-P. 8 feet—Net Each.......... **$90.00**

Fairchild No. F895089914 Cable from quad I/O module to breadboard. 6 feet—Net Each.......... **$90.00**

Fairchild No. F895089915 Cable from communications module to teletype module 33 (20 mA loop, full duplex). 8 feet. Net Each.......... **$90.00**

Fairchild No. F895080030 Cable connector and hood assembly—Net Each.......... **$15.00**

Fairchild No. F895089917 Cable from parallel interface board to high speed paper tape reader—Net Each.......... **$90.00**

Fairchild No. F895089921 Cable from communications module to silent 733. 8 feet—Net Each.......... **$90.00**

Fairchild No. F895089916 Cable from processor board to teletype—Net Each.......... **$90.00**

Fairchild No. F895089923 Cable from 0CM1 to teletype.—Net Each.......... **$90.00**

Fairchild No. F895089924 Cable from processor board to silent 733—Net Each.......... **$90.00**

Fairchild No. F895089925 Cable from processor board to parallel paper tape reader—Net Each.......... **$90.00**

F8 SUPPORT PRODUCTS

F8 DESIGN KIT

A fully assembled and tested F8 Microcomputer System. The board includes an F8 CPU (3850), SMI (3853) with the Fairbug development programs and eight 2102 RAM's (1K bytes). The kit is supplied with F8 literature and a programming manual.

Fairchild No. F8KIT1A Design Kit—Net Each.......... **$185.00**

ONE-CARD MICROCOMPUTER (080CM1)

A fully assembled and tested microcomputer board for use in OEM applications. The board includes an F8 CPU, F8 SMI, F8 PSU (with Fairbug), a 1K byte RAM and sockets for 2K PROM and 2K EROM.

Fairchild No. F895089005 One-Card Microcomputer—Net Each.......... **$295.00**

F8 SOFTWARE

Fairchild No. F895081507 Cross Assembler for minicomputer (card deck)—Net Each.......... **$100.00**

Fairchild No. F895081512 Mark III to H-P Interface, high memory Net Each.......... **$100.00**

Fairchild No. F895081513 Mark III to Teletype Interface, high memory—Net Each.......... **$100.00**

Fairchild No. F895081514 Mark III to Silent 733 Interface, high memory—Net Each.......... **$100.00**

Fairchild No. F895081515 Mark II to Teletype Interface—Net Each.......... **$100.00**

Fairchild No. F895081516 Mark II to Silent 733 Interface—Net Each.......... **$100.00**

Fairchild No. F895081517 Mark III to Teletype Interface, low memory—Net Each.......... **$100.00**

Fairchild No. F895081518 Mark III to Silent 733 Interface, low memory—Net Each.......... **$100.00**

Fairchild No. F895081519 Mark III to H-P Interface, low memory—Net Each.......... **$100.00**

F8 LITERATURE

Fairchild No. F867095665 F8 User's Guide. An in-depth description of the F8 components. It includes a detailed specification of each device including signal timing and system configuration. Net Each.......... **$10.00**

Fairchild No. F867095664 F8 Guide to Programming. An introduction to machine language and assembly language programming for the F8 microprocessor system. Net Each.......... **$10.00**

Fairchild No. F867095649 Formulator User's Guide. An explanation of how to use the Formulator system to convert source programs, written in F8 assembly language, into object programs which can be debugged under software control. Net Each.......... **$10.00**

Fairchild No. F867095648 Formulator Hardware Reference Manual. An in-depth technical description of the F8 Formulator system, its component sub-systems and optional capabilities available through characteristics, theory of operation and detailed description of interface signals. Net Each.......... **$12.50**

MICROCOMPUTER TRAINING COURSES

Fairchild No. F8TC-4 Four Day F8 Course—Net Each.......... **$375.00**

Fairchild No. F8TC-5 Five Day F8 Course—Net Each.......... **$450.00**

Fairchild No. F68TC-4 Four Day F6800 Course—Net Each.......... **$375.00**

Fairchild No. F68TC-5 Five Day F6800 Course—Net Each.......... **$450.00**

F6800 MICROCOMPUTER PRODUCTS

Fairchild Number	Description	Net Each, Lots of 1-24	25-99	100-999
F6800P	1.0 MHz MPU	$20.00	$18.00	....
F6800AL	1.5 MHz MPU, ceramic	36.00	33.00	....
F6810-1P	1.0 MHz 128 x 8 RAM	6.00	5.25	$4.75
F6820P	1.0 MHz PIA	10.00	8.50	7.00
F6821P	1.0 MHz Static PIA	10.00	8.50	7.00
F6850P	1.0 MHz ACIA	10.00	9.00	8.25

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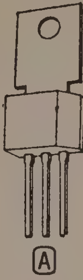
Triacs and Triac Triggers

PLASTIC AND METAL CAN TRIACS

Triac is a silicon AC switch which may be gate triggered from an OFF-state to an ON-state for either polarity of applied voltage. Triac is also an AC phase controller, that performs in a single device the function of two SCR's connected back to back to control heat, light and motor speed. Plastic triacs feature low cost and reliability. **Power Glas**™ passivated junctions, rugged and industry proven packaging and are available in various types of (TO-5, TO-66, etc.) formed leads. Metal can triacs feature **Power Glas** passivated junctions, glass to metal seal, high performance and reliability, transient voltage immunity and comprehensive specifications. Triacs are used in control circuitry in various electrical and mechanical equipments.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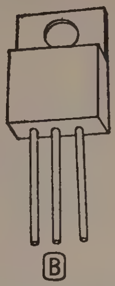
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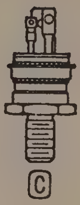
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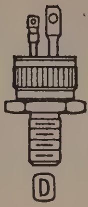
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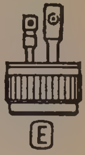
E

TRIACS IN PLASTIC POWER TAB CASE (FIG. A)

GE Type*	rms On-State Current† Amps	V_{DRM} Off-State† Volts	I_{gt} DC Trigger Current† mA§	V_{gt} DC Trigger Volts	I_{TSM}‡ Amps
SC136B	3	200	25	2	30
SC136D	3	400	25	2	30
SC116B	8	200	50	2.5	90
SC116D	8	400	50	2.5	90
SC116E	8	500	50	2.5	90
SC116M	8	600	50	2.5	90

TRIACS IN PLASTIC POWER PAC CASE (FIG. B)

GE Type*	rms On-State Current† Amps	V_{DRM} Off-State† Volts	I_{gt} DC Trigger Current† mA§	V_{gt} DC Trigger Volts	I_{TSM}‡ Amps
SC141B	6	200	50	2.5	80
SC141D	6	400	50	2.5	80
SC141E	6	500	50	2.5	80
SC141M	6	600	50	2.5	80
SC143B	8	200	50	2.5	110
SC143D	8	400	50	2.5	110
SC143E	8	500	50	2.5	110
SC143M	8	600	50	2.5	110
SC146B	10	200	50	2.5	110
SC146D	10	400	50	2.5	110
SC146E	10	500	50	2.5	110
SC146M	10	600	50	2.5	110
SC149B	12	200	50	2.5	110
SC149D	12	400	50	2.5	110
SC149E	12	500	50	2.5	110
SC149M	12	600	50	2.5	110
SC151B	15	200	50	2.5	120
SC151D	15	400	50	2.5	120
SC151E	15	500	50	2.5	120
SC151M	15	600	50	2.5	120

TRIACS IN ISOLATED POWER PAC CASE (FIG. B)

GE Type*	rms On-State Current† Amps	V_{DRM} Off-State† Volts	I_{gt} DC Trigger Current† mA	V_{gt} DC Trigger Volts	I_{TSM}‡ Amps
SC140B	6.5	200	50	2.5	74
SC140D	6.5	400	50	2.5	74
SC140E	6.5	500	50	2.5	74
SC140M	6.5	600	50	2.5	74
SC142B	8	200	50	2.5	80
SC142D	8	400	50	2.5	80
SC142E	8	500	50	2.5	80
SC142M	8	600	50	2 5	80
SC147B	10	200	50	2.5	104
SC147D	10	400	50	2.5	104
SC147E	10	500	50	2.5	104
SC147M	10	600	50	2.5	104

TRIACS IN ISOLATED STUD CASE (FIG. C)

GE Type#	rms On-State Current† Amps	V_{DRM} Off-State† Volts	I_{gt} DC Trigger Current† mA§	V_{gt} DC Trigger Volts	I_{TSM}‡ Amps
SC240B2, 3	6	200	50	2.5	80
SC240D2, 3	6	400	50	2.5	80
SC240E2, 3	6	500	50	2.5	80
SC240M2, 3	6	600	50	2.5	80
SC245B2, 3	10	200	50	2.5	100
SC245D2, 3	10	400	50	2.5	100
SC245E2, 3	10	500	50	2.5	100
SC245M2, 3	10	600	50	2.5	100
SC250B2, 3	15	200	50	2.5	100
SC250D2, 3	15	400	50	2.5	100
SC250E2, 3	15	500	50	2.5	100
SC250M2, 3	15	600	50	2.5	100
SC260B2, 3	25	200	50	2.5	250
SC260D2, 3	25	400	50	2.5	250
SC260E2, 3	25	500	50	2.5	250
SC260M2, 3	25	600	50	2.5	250

#Types shown are standard types; for zero voltage switch types, add suffix -2 to GE No.; for selected four quadrant types, add suffix -3; for 400 Hz types, add suffix -4. †At 12 volts, 25° C. ‡Surge current at 60 Hz, one cycle non-negative. §MT2+G+, MT2−G−, MT2+G−.

TRIACS IN STUD CASE (FIG. D)

GE Type*	rms On-State Current† Amps	V_{DRM} Off-State† Volts	I_{gt} DC Trigger Current† mA	V_{gt} DC Trigger Volts	I_{TSM}‡ Amps
SC240B	6	200	50	2.5	80
SC240D	6	400	50	2.5	80
SC240E	6	500	50	2.5	80
SC240M	6	600	50	2.5	80
SC245B	10	200	50	2.5	100
SC245D	10	400	50	2.5	100
SC245E	10	500	50	2.5	100
SC245M	10	600	50	2.5	100
SC250B	15	200	50	2.5	100
SC250D	15	400	50	2.5	100
SC250E	15	500	50	2.5	100
SC250M	15	600	50	2.5	100
SC260B	25	200	50	2.5	250
SC260D	25	400	50	2.5	250
SC260E	25	500	50	2.5	250
SC260M	25	600	50	2.5	250
SC265B	40	200	80	2.5	300
SC265D	40	400	80	2.5	300
SC265E	40	500	80	2.5	300
SC265M	40	600	80	2.5	300

TRIACS IN PRESS FIT CASE (FIG. E)

GE Type*	rms On-State Current† Amps	V_{DRM} Off-State† Volts	I_{gt} DC Trigger Current† mA§	V_{gt} DC Trigger Volts	I_{TSM}‡ Amps
SC241B	6	200	50	2.5	80
SC241D	6	400	50	2.5	80
SC241E	6	500	50	2.5	80
SC241M	6	600	50	2.5	80
SC246B	10	200	50	2.5	100
SC246D	10	400	50	2.5	100
SC246E	10	500	50	2.5	100
SC246M	10	600	50	2.5	100
SC251B	15	200	50	2.5	100
SC251D	15	400	50	2.5	100
SC251E	15	500	50	2.5	100
SC251M	15	600	50	2.5	100
SC261B	25	200	50	2.5	250
SC261D	25	400	50	2.5	250
SC261E	25	500	50	2.5	250
SC261M	25	600	50	2.5	250
SC266B	40	200	80	2.5	300
SC266D	40	400	80	2.5	300
SC266E	40	500	80	2.5	300
SC266M	40	600	80	2.5	300

*Types shown are standard types; for zero voltage switch types, add suffix -12 to GE Number; for selected four quadrant types, add suffix -13 to GE Number; for 400 Hz types, add suffix -14 to GE Number. †At 12 volts, 25° C. ‡Surge current at 60 Hz, one cycle non-negative. §MT2+G+, MT2−G−, MT2+G−.

TRIAC TRIGGERS

ST2

ST4

ST2 (diac) is a silicon bi-directional diode which may be used for triggering triacs or SCR's. It has three layer structure with negative resistance switching characteristics in both directions. ST4 is an asymmetrical AC trigger integrated circuit for use in triac phase control applications. This device reduces the snap-on effects that are present in conventional trigger circuits by eliminating control circuit hysteresis. This performance is possible with a single RC time constant where as a symmetrical circuit of comparable performance would require at least three more passive components.

GE Type	V_{S2} Switching Volts		V_{S1} Switching Volts		Max. Switching Current µA	Min. Pulse Output Volts
	Min.	Max.	Min.	Max.		
ST2	28*	36*	28*	36*	200	3.0
ST4	7	9	14	18	80	3.5

*For ST2, $V_{S2} = V_{S1} \pm 10\%$.

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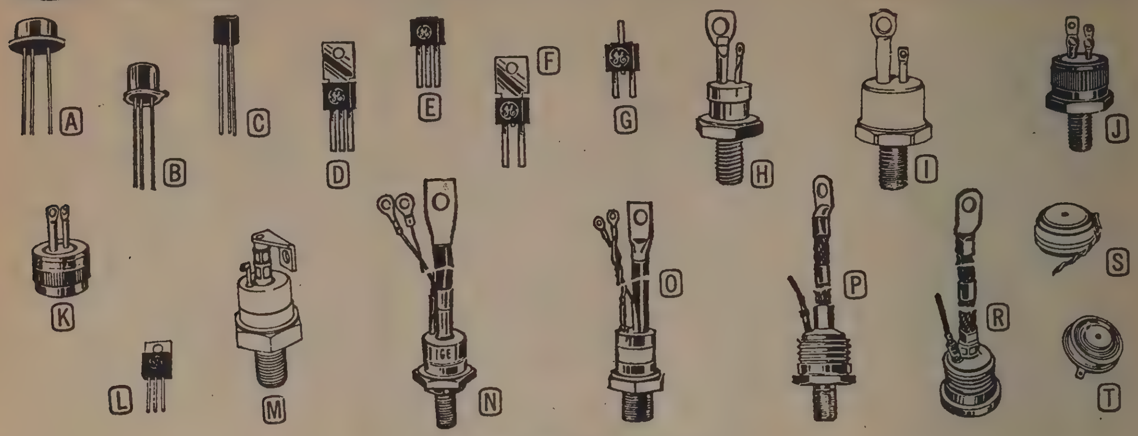
Silicon Controlled Rectifiers



SCR's FOR PHASE CONTROL

"Phase Control" is a term used to describe silicon controlled rectifiers having slow turn-off time. Primary application for a device with relatively slow turn-off time is AC phase control—hence the name "phase control". This type of device is also used for zero voltage switching and selected pulse applications.

15 VOLTS TO 500 VOLTS

rms Current Amps	Fig.	GE Type										
		For Repetitive Peak Forward and Blocking Voltage of (Volts)										
		15	25	30	50	100	150	200	250	300	400	500
0.5	B			2N877	2N878*	2N879	2N880	2N881				
0.8	C			C103Y	C103YY*	C103A		C103B				
1.6	A		2N2344		2N2345	2N2346	2N2347	2N2348				
1.6	A		2N2322		2N2323	2N2324	2N2325	2N2326	2N2327	2N2328	2N2329	
1.6	A				2N1595	2N1596		2N1597		2N1598	2N1599	
4.0	D,E,F,G	C106Q		C106Y	C106F	C106A		C106B		C106C	C106D	C106E
4.0	D,E,F,G	C107Q		C107Y	C107F	C107A		C107B		C107C	C107D	C107E
5	D,E,F,G,	C108Q		C108Y	C108F	C108A		C108B		C108C	C108D	C108E
7.4	H		C10U		C10F	C10A	C10G	C10B	C10H	C10C	C10D	
7.4	H		2N1770A		2N1771A	2N1772A	2N1773A	2N1774A	2N1775A	2N1776A	2N1777A	
7.4	H		C11U		C11F	C11A	C11G	C11B	C11H	C11C	C11D	C11E
7.4	H		2N1770		2N1771	2N1772	2N1773	2N1774	2N1775	2N1776	2N1777	2N1778
7.4	J		C220U		C220F	C220A		C220B		C220C	C220D	C220E
7.4	K		C222U		C222F	C222A		C222B		C222C	C222D	C222E
8.0	H		C15U		C15F	C15A	C15G	C15B		C15C	C15D	C15E
8.0	D,E,F,G,				C116F	C116A		C116B		C116C	C116D	C116E
8.0	L				C122F	C122A		C122B		C122C	C122D	C122E
12.0	K				C126F	C126A		C126B		C126C	C126D	C126E
16.0	H		2N1842		2N1843	2N1844	2N1845	2N1846	2N1847	2N1848	2N1849	2N1850
16.0	H		C36U		C36F	C36A	C36G	C36B	C36H	C36C	C36D	C36E
25.0	J		C230U		C230F	C230A		C230B		C230C	C230D	C230E
25.0	J		C231U		C231F	C231A		C231B		C231C	C231D	C231E
25.0	K		C232U		C232F	C232A		C232B		C232C	C232D	C232E
25.0	K		C233U		C233F	C233A		C233B		C233C	C233D	C233E
25.0	H		C37U		C37F	C37A		C37B		C37C	C37D	C37E
25.0	H		2N681		2N682	2N683	2N684	2N685	2N686	2N687	2N688	2N689
35.0	H		C35U		C35F	C35A	C35G	C35B	C35H	C35C	C35D	C35E
35.0	H		C38U		C38F	C38A	C38G	C38B	C38H	C38C	C38D	C38E
35.0	H											C137E
35.0	J		C228U		C228F	C228A		C228B		C228C	C228D	C228E
35.0	K		C229U		C229F	C229A		C229B		C229C	C229D	C229E
63.0	M					C147A		C147B		C147C	C147D	C147E
80.0	M		C45U		C45F		C45G	C45B	C45H	C45C	C45D	C45E
80.0	N		C46U		C46F		C46G	C46B	C46H	C46C	C46D	C46E
110.0	N		2N1909		2N1910	2N1911	2N1912	2N1913	2N1914	2N1915	2N1916	C50E
110.0	M		C52U		2N1792	2N1793	2N1794	2N1795	2N1796	2N1797	2N1798	C52E
110.0	N											C150E
110.0	M											C152E
110.0	N		2N2023		2N2024	2N2025	2N2026	2N2027	2N2028	2N2029	2N2030	C60E
110.0	M		C62U		C62F	C62A	C62G	C62B	C62H	C62C	C62D	C62E

*60 volts.

600 VOLTS TO 1300 VOLTS

rms Current Amps	Fig.	GE Type							
		For Repetitive Peak Forward and Blocking Voltage of (Volts)							
		600	700	800	900	1000	1100	1200	1300
25.0	H	C37M*	C37S						
25.0	H	2N690	2N691	2N692					
25.0	J	C230M							
35.0	H	C35M	C35S						
35.0	H	C137M	C137S	C137N	C137T	C137P		C137PB	
35.0	H	2N5204		2N5205		2N5206		2N5207	
35.0	J	C228M							
35.0	K	C229M							
55.0	M	C45M	C45S	C45N	C45T	C45P	C45PA	C45PB	
55.0	N	C46M	C46S	C46N	C46T	C46P	C46PA	C46PB	
63.0	I	C147M	C147S	C147N	C147T	C147P	C147PA	C147PB	
110.0	N	C50M	C50S	C50N	C50T	C50P	C50PA	C50PB	
110.0	M	C52M	C52S	C52N	C52T	C52P	C52PA	C52PB	
110.0	N	C150M	C150S	C150N	C150T	C150P	C150PA	C150PB	C150PC
110.0	M	C152M	C152S	C152N	C152T	C152P	C152PA	C152PB	C152PC

*Also available at 7.4 amps (600 volts); order by GE Type 2N2619 (Fig. H).

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HIGH CURRENT SCR's FOR PHASE CONTROL

See previous page for illustrations.

GE Type	Fig.	Volts*	rms Amps	GE Type	Fig.	Volts*	rms Amps
C350A	T	100	190	C150PN	S	1600	850
C350B	T	200	190	C501PS	S	1700	850
C350C	T	300	190	C502PT	S	1900	850
C350D	T	400	190	C502L	S	2000	850
C350E	T	500	190	C502LA	S	2100	850
C350M	T	600	190	C602PS	T	1700	940
C350S	T	700	190	C602PN	T	1800	940
C350N	T	800	190	C602PT	T	1900	940
C350T	T	900	190	C602L	T	2000	940
C350P	T	1000	190	C602LA	T	2100	940
C350PA	T	1100	190	C602LB	T	2200	940
C350PB	T	1200	190	C602LC	T	2300	940
C350PC	T	1300	190	C602LD	T	2400	940
C180A	O	100	235	C602LE	T	2500	940
C180B	O	200	235	C602LM	T	2600	940
C180C	O	300	235	C441PA	T	1100	1100
C180D	O	400	235	C441PB	T	1200	1100
C180E	O	500	235	C441PC	T	1300	1100
C180M	O	600	235	C441PD	T	1400	1100
C180S	O	700	235	C441PE	T	1500	1100
C180N	O	800	235	C441PM	T	1600	1100
C180T	O	900	235	C441PS	T	1700	1100
C180P	O	1000	235	C441PN	T	1800	1100
C180PA	O	1100	235	C440M	T	600	1400
C180PB	O	1200	235	C440S	T	700	1400
C180PC	O	1300	235	C440N	T	800	1400
C380A	T	100	380	C440T	T	900	1400
C380B	T	200	380	C440P	T	1000	1400
C380C	T	300	380	C440PA	T	1100	1400
C380D	T	400	380	C440PB	T	1200	1400
C380E	T	500	380	C600S	T	700	1400
C380M	T	600	380	C600N	T	800	1400
C380S	T	700	380	C600T	T	900	1400
C380N	T	800	380	C600P	T	1000	1400
C380T	T	900	380	C600PA	T	1100	1400
C380P	T	1000	380	C600PB	T	1200	1400
C380PA	T	1100	380	C601PA	T	1100	1100
C380PB	T	1200	380	C601PB	T	1200	1100
C380PC	T	1300	380	C601PC	T	1300	1100
C390M	T	600	850	C601PD	T	1400	1100
C390S	T	700	850	C601PE	T	1500	1100
C390N	T	800	850	C601PM	T	1600	1100
C390T	T	900	850	C601PS	T	1700	1100
C390P	T	1000	850	C701PB	T	1200	1950
C390PA	T	1100	850	C701PD	T	1400	1950
C390PB	T	1200	850	C701PE	T	1500	1950
C391PC	T	1300	850	C701PM	T	1600	1950
C391PD	T	1400	850	C701PS	T	1700	1950
C391PE	T	1500	850	C701PN	T	1800	1950
C391PM	T	1600	850	C701PT	T	1900	1950
C391PS	T	1700	850	C702L	T	2000	1950
C391PN	T	1800	850	C702LA	T	2100	1950
C501PC	S	1300	850	C702LB	T	2200	1950
C501PD	S	1400	850	C702LC	T	2300	1950
C501PE	S	1500	850	C702LD	T	2400	1950

*Repetitive peak forward and reverse voltage.

SCR's FOR INVERTERS

These SCR's are optimized for turn-off time (commutation speed), capability and other dynamic characteristics. Ideal for AC/DC inverters, choppers and other pulse applications requiring high speed capability.

See previous page for illustrations.

GE Type	Fig.	Volts‡	rms Amps	GE Type	Fig.	Volts‡	rms Amps
C234F	J	50	25	C144N	H	800	35
C234A	J	100	25	C149A	I	100	63
C234B	J	200	25	C149B	I	200	63
C234C	J	300	25	C149C	I	300	63
C234D	J	400	25	C149D	I	400	63
C234E	J	500	25	C149E	I	500	63
C234M	J	600	25	C149M	I	600	63
C235F	K	50	25	C151E	N	500	110
C235A	K	100	25	C151M	N	600	110
C235B	K	200	25	C151S	N	700	110
C235C	K	300	25	C151N	N	800	110
C235D	K	400	25	C151T	N	900	110
C235E	K	500	25	C151P	N	1000	110
C235M	K	600	25	C154A	N	100	110
C140F*	H	50	35	C154B	N	200	110
C140A*	H	100	35	C154C	N	300	110
C140B*	H	200	35	C154D	N	400	110
C140C*	H	300	35	C154E	N	500	110
C140D*	H	400	35	C156A	M	100	110
C141F†	H	50	35	C156B	M	200	110
C141A†	H	100	35	C156C	M	300	110
C141B†	H	200	35	C156D	M	400	110
C141C†	H	300	35	C156E	M	500	110
C141D†	H	400	35	C155A	N	100	110
C138E	H	500	35	C155B	N	200	110
C138M	H	600	35	C155C	N	300	110
C138S	H	700	35	C155D	N	400	110
C138N	H	800	35	C155E	N	500	110
C139E	H	500	35	C155M	N	600	110
C139M	H	600	35	C157A	M	100	110
C139S	H	700	35	C157B	M	200	110
C139N	H	800	35	C157C	M	300	110
C144E	H	500	35	C157D	M	400	110
C144M	H	600	35	C157E	M	500	110
C144S	H	700	35	C157M	M	600	110

SCR's FOR INVERTERS (CONTINUED)

GE Type	Fig.	Volts‡	rms Amps	GE Type	Fig.	Volts‡	rms Amps
C158E	N	500	110	C387M	T	600	550
C158M	N	600	110	C387S	T	700	550
C158S	N	700	110	C387N	T	800	550
C158N	N	800	110	C387T	T	900	550
C158T	N	900	110	C387P	T	1000	550
C158P	N	1000	110	C387PA	T	1100	550
C158PA	N	1100	110	C387PB	T	1200	550
C158PB	N	1200	110	C388E	T	500	550
C159E	M	500	110	C388M	T	600	550
C159M	M	600	110	C388S	T	700	550
C159S	M	700	110	C388N	T	800	550
C159N	M	800	110	C388T	T	900	550
C159T	M	900	110	C388P	T	1000	550
C159P	M	1000	110	C388PA	T	1100	550
C159PA	M	1100	110	C388PB	T	1200	550
C159PB	M	1200	110	C397E	T	500	700
C164A	N	100	110	C397M	T	600	700
C164B	N	200	110	C397S	T	700	700
C164C	N	300	110	C397N	T	800	700
C164D	N	400	110	C397T	T	900	700
C164E	N	500	110	C397P	T	1000	700
C164M	N	600	110	C397PA	T	1100	700
C165A	N	100	110	C397PB	T	1200	700
C165B	N	200	110	C398E	T	500	700
C165C	N	300	110	C398M	T	600	700
C165D	N	400	110	C392A	T	100	500
C165E	N	500	110	C392B	T	200	500
C165M	N	600	110	C392C	T	300	500
C358E	T	500	225	C392D	T	400	500
C358M	T	600	225	C392E	T	500	500
C358S	T	700	225	C392M	T	600	500
C358N	T	800	225	C393A	T	100	500
C358T	T	900	225	C393B	T	200	500
C358P	T	1000	225	C393C	T	300	500
C358PA	T	1100	225	C393D	T	400	500
C358PB	T	1200	225	C393E	T	500	500
C186S	O	700	235	C393M	T	600	500
C186N	O	800	235	C398S	T	700	700
C186T	O	900	235	C398N	T	800	700
C186P	O	1000	235	C398T	T	900	700
C186PA	O	1100	235	C398P	T	1000	700
C186PB	O	1200	235	C398PA	T	1100	700
C354A	T	100	270	C398PB	T	1200	700
C354B	T	200	270	C394A	T	100	700
C354C	T	300	270	C394B	T	200	700
C345D	T	400	270	C394C	T	300	700
C354E	T	500	270	C394D	T	400	700
C354M	T	600	270	C394E	T	500	700
C355A	T	100	270	C394M	T	600	700
C355B	T	200	270	C395A	T	100	700
C355C	T	300	270	C395B	T	200	700
C355D	T	400	270	C395C	T	300	700
C355E	T	500	270	C395D	T	400	700
C355M	T	600	270	C395E	T	500	700
C364A	S	100	275	C395M	T	600	700
C364B	S	200	275	C612PE	T	1500	700
C364C	S	300	275	C612PM	T	1600	700
C364D	S	400	275	C612PS	T	1700	700
C364E	S	500	275	C612PN	T	1800	700
C364M	S	600	275	C609S	T	700	1000
C365A	S	100	275	C609N	T	800	1000
C365B	S	200	275	C609T	T	900	1000
C365C	S	300	275	C609P	T	1000	1000
C365D	S	400	275	C609PA	T	1100	1000
C365E	S	500	275	C609PB	T	1200	1000
C365M	S	600	275	C447S	T	700	1000
C185A	O	100	300	C447N	T	800	1000
C185B	O	200	300	C447T	T	900	1000
C185C	O	300	300	C447P	T	1000	1000
C185D	O	400	300	C447PA	T	1100	1000
C185E	O	500	300	C447PB	T	1200	1000
C185M	O	600	300	C448E	T	500	1000
C385A	S	100	400	C448M	T	600	1000
C385B	S	200	400	C448S	T	700	1000
C385C	S	300	400	C448N	T	800	1000
C385D	S	400	400	C448T	T	900	1000
C385E	S	500	400	C448P	T	1000	1000
C385M	S	600	400	C448PA	T	1100	1000
C386S	T	700	400	C448PB	T	1200	1000
C386N	T	800	400	C444A	T	100	1200
C386T	T	900	400	C444B	T	200	1200
C386P	T	1000	400	C444C	T	300	1200
C386PA	T	1100	400	C444D	T	400	1200
C386PB	T	1200	400	C444E	T	500	1200
C184A	O	100	300	C444M	T	600	1200
C184B	O	200	300	C445A	T	100	1200
C184C	O	300	300	C445B	T	200	1200
C184D	O	400	300	C445C	T	300	1200
C184E	O	500	300	C445D	T	400	1200
C184M	O	600	300	C445E	T	500	1200
C384A	S	100	400	C445M	T	600	1200
C384B	S	200	400	C712PE	T	1500	1500
C384C	S	300	400	C712PM	T	1600	1500
C384D	S	400	400	C712PS	T	1700	1500
C384E	S	500	400	C712PN	T	1800	1500
C384M	S	600	400	C712PT	T	1900	1500
C387E	T	500	550	C712L	T	2000	1500

*Also available as 2N3649, 50, 51, 52 and 53. †Also available as 2N3654, 55, 56, 57 and 58. ‡Repetitive peak forward and reverse voltage.

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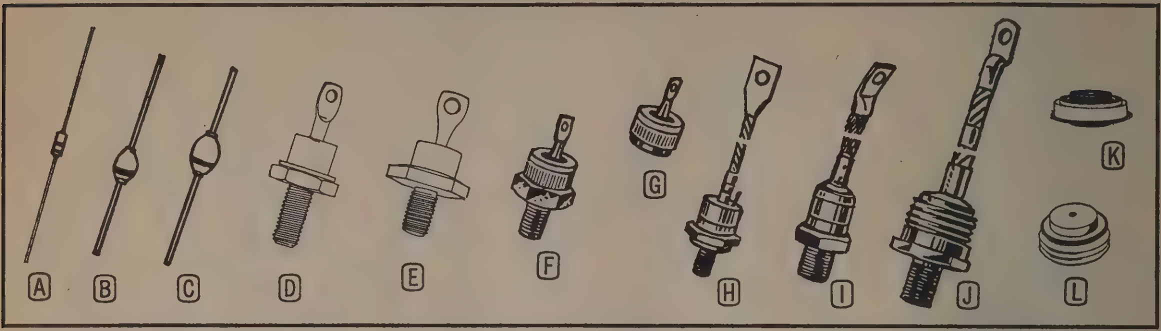
Silicon Rectifiers

SILICON RECTIFIERS—0.25 TO 150 AMPS, 50 TO 1500 VOLTS



GE Type	Fig.	I_F* Amps	I_{Fm}† Amps	Volts‡
DT230F	A	.25	5	50
DT230G	A	.25	5	150
DT230A	A	.25	5	100
DT230B	A	.25	5	200
DT230H	A	.25	5	250
DT230H1	A	.25	5	250
A14F	B	1	50	50
A14A	B	1	50	100
1N5059	B	1	50	200
A14C	B	1	50	300
1N5060	B	1	50	400
A14E	B	1	50	500
1N5061	B	1	50	600
1N5062	B	1	50	800
A14P	B	1	50	1000
1N4245	B	1	25	200
1N4246	B	1	25	400
1N4247	B	1	25	600
1N4248	B	1	25	800
1N4249	B	1	25	1000
A114F§	B	1	40	50
A114A§	B	1	40	100
A114B§	B	1	40	200
A114C§	B	1	40	300
A114D§	B	1	40	400
A114E§	B	1	40	500
A114M§	B	1	40	600
A15F	C	3	125	50
A15A	C	3	125	100
1N5624	C	3	125	200
A15C	C	3	125	300
1N5625	C	3	125	400
1N5626	C	3	125	600
1N5627	C	3	125	800
A115F§	C	3	110	50
A115A§	C	3	110	100
A115B§	C	3	110	200
A115C§	C	3	110	300
A115D§	C	3	110	400
A115E§	C	3	110	500
A115M§	C	3	110	600
1N1612	D	5	150	50
1N1613	D	5	150	100
1N1614	D	5	150	200
1N1615	D	5	150	400
1N1616	D	5	150	600
1N1341A	D	6	150	50
1N1342A	D	6	150	100
1N1343A	D	6	150	150
1N1344A	D	6	150	200
1N1345A	D	6	150	300
1N1346A	D	6	150	400
1N1347A	D	6	150	500
1N1348A	D	6	150	600
1N3988	D	6	150	800
1N3990	D	6	150	1000
1N3879§	D	6	75	50
1N3880§	D	6	75	100
1N3881§	D	6	75	200
1N3882§	D	6	75	300
1N3883§	D	6	75	400
1N248	E	10	200	50
1N249	E	10	200	100
1N250	E	10	200	200
1N1199A	D	12	240	50
1N1200A	D	12	240	100
1N1201A	D	12	240	150
1N1202A	D	12	240	200
1N1203A	D	12	240	300
1N1204A	D	12	240	400
1N1205A	D	12	240	500
1N1206A	D	12	240	600
1N3670A	D	12	240	700
1N3671A	D	12	240	800
1N3672A	D	12	240	900
1N3673A	D	12	240	1000
1N5331	D	12	240	1200
1N3889§	D	12	150	50
1N3890§	D	12	150	100
1N3891§	D	12	150	200
1N3892§	D	12	150	300
1N3893§	D	12	150	400
1N4510	D	12	240	1000
1N4511	D	12	240	1200
A28F§	D	12	240	50
A28A§	D	12	240	100
A28B§	D	12	240	200
A28C§	D	12	240	300
A28D§	D	12	240	400
1N248A	E	20	350	50
1N249A	E	20	350	100
1N250A	E	20	350	200
1N248B	E	20	350	50
1N249B	E	20	350	100
1N250B	E	20	350	200
1N248C	E	20	350	50
1N249C	E	20	350	100
1N250C	E	20	350	200
1N1195A	E	20	350	300
1N1196A	E	20	350	400
1N1197A	E	20	350	500
1N1198A	E	20	350	600
1N3899§	E	20	225	50
1N3900§	E	20	225	100
1N3901§	E	20	225	200
1N3902§	E	20	225	300
1N3903§	E	20	225	400
1N3208	F	20	300	50
1N3209	F	20	300	100
1N3210	F	20	300	200
1N3211	F	20	300	300
1N3212	F	20	300	400
1N3213	F	20	300	500
1N3214	F	20	300	600
A40F	F	20	300	50
A40A	F	20	300	100
A40B	F	20	300	200
A40C	F	20	300	300
A40D	F	20	300	400
A40E	F	20	300	500
A40M	F	20	300	600
A44F	G	20	300	50
A44A	G	20	300	100
A44B	G	20	300	200
A44C	G	20	300	300
A44D	G	20	300	400
A44E	G	20	300	500
A44M	G	20	300	600
A139E§	E	25	400	500
A139M§	E	25	400	600
A139N§	E	25	400	800
A139P§	E	25	400	1000
1N2154	E	25	400	50
1N2155	E	25	400	100
1N2156	E	25	400	200
1N2157	E	25	400	300
1N2158	E	25	400	400
1N2159	E	25	400	500
1N2160	E	25	400	600
1N3909§	E	30	300	50
1N3910§	E	30	300	100
1N3911§	E	30	300	200
1N3912§	E	30	300	300
1N3913§	E	30	300	400
1N1183	E	35	500	50
1N1184	E	35	500	100
1N1185	E	35	500	150
1N1186	E	35	500	200
1N1187	E	35	500	300
1N1188	E	35	500	400
1N1189	E	35	500	500
1N1190	E	35	500	600
1N3765	E	35	400	700
1N3766	E	35	400	800
1N3767	E	35	400	900
1N3768	E	35	400	1000
1N5332	E	35	500	1200
1N4529	E	35	500	1000
1N4530	E	35	500	1200
A70B	H	100	1600	200
1N3289				
A70C	H	100	1600	300
1N3290				
A70D	H	100	1600	400
1N3291				
A70E	H	100	1600	500
1N3292				
A70M	H	100	1600	600
1N3293				
A70S	H	100	1600	700
A70N	H	100	1600	800
1N3294				
A70T	H	100	1600	900
A70P	H	100	1600	1000
1N3295				
A70PB	H	100	1600	1200
1N3296				
A177A§	H	100	2500	100
A177B§	H	100	2500	200
A177C§	H	100	2500	300
A177D§	H	100	2500	400
A177E§	H	100	2500	500
A177M§	H	100	2500	600
A177S§	H	100	2500	700
A177N§	H	100	2500	800
A177T§	H	100	2500	900
A177P§	H	100	2500	1000
A177PA§	H	100	2500	1100
A177PB§	H	100	2500	1200
A177PC§	H	100	2500	1300
A177PD§	H	100	2500	1400
A177PE§	H	100	2500	1500
A170A	H	100	2500	100
A170B	H	100	2500	200
A170C	H	100	2500	300
A170D	H	100	2500	400
A170E	H	100	2500	500
A170M	H	100	2500	600
A170S	H	100	2500	700
A170N	H	100	2500	800
A170T	H	100	2500	900
A170P	H	100	2500	1000
A170PA	H	100	2500	1100
A170PB	H	100	2500	1200
A170PC	H	100	2500	1300
A170PD	H	100	2500	1400
A170PE	H	100	2500	1500
A180A	I	150	3400	100
A180B	I	150	3400	200
A180C	I	150	3400	300
A180D	I	150	3400	400
A180E	I	150	3400	500
A180M	I	150	3400	600
A180S	I	150	3400	700
A180N	I	150	3400	800
A180T	I	150	3400	900
A180P	I	150	3400	1000
A180PA	I	150	3400	1100
A180PB	I	150	3400	1200
A180PC	I	150	3400	1300
A180PD	I	150	3400	1400
A180PE	I	150	3400	1500
A187A§	I	150	2800	100
A187B§	I	150	2800	200
A187C§	I	150	2800	300
A187D§	I	150	2800	400
A187E§	I	150	2800	500
A187M§	I	150	2800	600
A187S§	I	150	2800	700
A187N§	I	150	2800	800
A187T§	I	150	2800	900
A187P§	I	150	2800	1000
A187PA§	I	150	2800	1100
A187PB§	I	150	2800	1200
A187PC§	I	150	2800	1300
A187PD§	I	150	2800	1400
A187PE§	I	150	2800	1500
1N3266	I	160	2000	350

LISTING CONTINUED ON NEXT PAGE

*Avg. forward current. †Surge current. ‡Maximum repetitive reverse voltage. §Fast recovery types.

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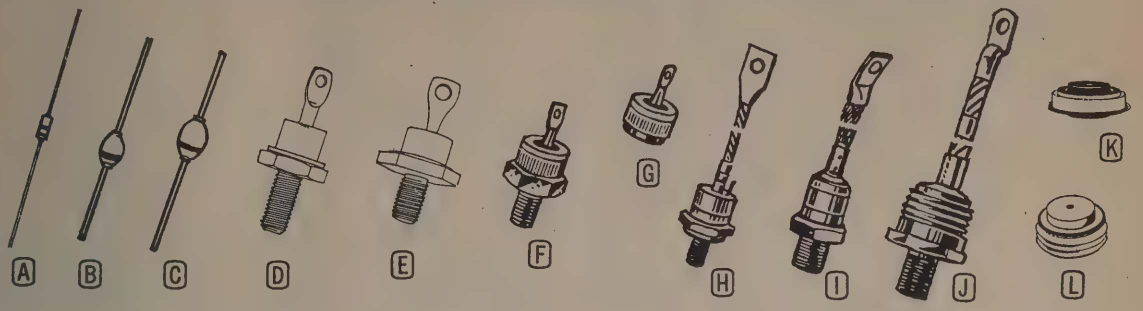
Silicon Rectifiers

SILICON RECTIFIERS—160 to 16000 AMPS, 100 to 3000 VOLTS



GE Type	Fig.	I_F* Amps	I_{Fm}† Amps	Volts‡
1N3267	I	160	2000	400
1N3268	I	160	2000	500
1N3269	I	160	2000	600
1N3270	I	160	2000	700
1N3271	I	160	2000	800
1N3272	I	160	2000	900
1N3273	I	160	2000	1000
A190A 1N3735	I	250	6000	100
A190B 1N3736	I	250	6000	200
A190C 1N3737	I	250	6000	300
A190D 1N3738	I	250	6000	400
A90E 1N3739	I	250	6000	500
A190M 1N3740	I	250	6000	600
A190S	I	250	4500	700
A190N 1N3741	I	250	6000	800
A190T	I	250	4500	900
A190P 1N3742	I	250	6000	1000
A190PA	I	250	4500	1100
A190PB 1N3743	I	250	6000	1200
A190PC	I	250	4500	1300
A190PD 1N3744	I	250	4500	1400
A190PE	I	250	4500	1500
A197A§	I	250	5000	100
A197B§	I	250	5000	200
A197C§	I	250	5000	300
A197D§	I	250	5000	400
A197E§	I	250	5000	500
A197M§	I	250	5000	600
A197S§	I	250	5000	700
A197N§	I	250	5000	800
A197T§	I	250	5000	900
A197P§	I	250	5000	1000
A197PA§	I	250	5000	1100
A197PB§	I	250	5000	1200
A197PC§	I	250	5000	1300
A197PD§	I	250	5000	1400
A197PE§	I	250	5000	1500
1N4049	I	275	5000	300
1N4050	I	275	5000	400
1N4051	I	275	5000	500
1N4052	I	275	5000	600
1N4053	I	275	5000	700
1N4054	I	275	5000	800
1N4055	I	275	5000	900
1N4056	I	275	5000	1000
A390M	K	400	7000	600
A390S	K	400	7000	700
A390N	K	400	7000	800
A390T	K	400	7000	900
A390P	K	400	7000	1000
A390PA	K	400	7000	1100
A390PB	K	400	7000	1200
A390PC	K	400	7000	1300
A390PD	K	400	7000	1400
A390PE	K	400	7000	1500
A397A§	K	400	5000	100
A397B§	K	400	5000	200
A397C§	K	400	5000	300
A397D§	K	400	5000	400
A397E§	K	400	5000	500
A397M§	K	400	5000	600
A397S§	K	400	5000	700
A397N§	K	400	5000	800
A397T§	K	400	5000	900
A397P§	K	400	5000	1000
A397PA§	K	400	5000	1100
A397PB§	K	400	5000	1200
A397PC§	K	400	5000	1300
A397PD§	K	400	5000	1400
A397PE§	K	400	5000	1500
A500PM	L	740	10000	1600
A500PS	L	740	10000	1700
A500PN	L	740	10000	1800
A500PT	L	740	10000	1900
A500L	L	740	10000	2000
A500LA	L	740	10000	2100
A500LB	L	740	10000	2200
A500LC	L	740	10000	2300
A500LD	L	740	10000	2400
A500LE	L	740	10000	2500
A500LM	L	740	10000	2600
A500LS	L	740	10000	2700
A500LN	L	740	10000	2800
A500LT	L	740	10000	2900
A500LP	L	740	10000	3000
A596N§	L	750	10000	900
A596T§	L	750	10000	1000
A596P§	L	750	10000	1100
A596PA§	L	750	10000	1200
A596PB§	L	750	10000	1300
A596PC§	L	750	10000	1400
A596PD§	L	750	10000	1500
A437E§	L	750	10000	500
A437M§	L	750	10000	600
A437S§	L	750	10000	700
A437N§	L	750	10000	800
A437T§	L	750	10000	900
A437P§	L	750	10000	1000
A437PA§	L	750	10000	1100
A437PB§	L	750	10000	1200
A437PC§	L	750	10000	1300
A437PD§	L	750	10000	1400
A437PE§	L	750	10000	1500
A430E	L	1000	10000	500
A430M	L	1000	10000	600
A430S	L	1000	10000	700
A430N	L	1000	10000	800
A430T	L	1000	10000	900
A430P	L	1000	10000	1000
A430PA	L	1000	10000	1100
A430PB	L	1000	10000	1200
A430PC	L	1000	10000	1300
A430PD	L	1000	10000	1400
A430PE	L	1000	10000	1500
A540D	L	1000	12000	400
A540E	L	1000	12000	500
A540M	L	1000	12000	600
A540N	L	1000	12000	800
A540P	L	1000	12000	1000
A540PB	L	1000	12000	1200
A540PD•	L	1000	12000	1400
A540L	L	1000	10000	2000
A540LA	L	1000	10000	2100
A540LB	L	1000	10000	2200
A540LC	L	1000	10000	2300
A540LD	L	1000	10000	2400
A570A	L	1500	18000	100
A570B	L	1500	18000	200
A570C	L	1500	18000	300
A570D	L	1500	18000	400
A570E	L	1500	18000	500
A570M	L	1500	18000	600
A640P	L	1500	16000	1000
A640PA	L	1500	16000	1100
A640PB	L	1500	16000	1200
A640PC	L	1500	16000	1300
A640PD	L	1500	16000	1400
A640PE	L	1500	16000	1500
A640PM	L	1500	16000	1600
A640PS	L	1500	16000	1700
A640PN	L	1500	16000	1800
A640PT	L	1500	16000	1900
A640L	L	1500	16000	2000

*Avg. forward current. †Surge current. ‡Maximum repetitive reverse voltage. §Fast recovery types.

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Signal and Switching Diodes

SILICON SIGNAL DIODES (FIG. A)

GE Type	Min. B_V V	Min. B_V µA	V_F at I_F V	V_F at I_F mA	Max. I_R at 25° C nA	Max. I_R at 25° C V	Max. Cap. at 0 V pF	t_{rr} nsec
1N914	100	100	1.0	10	25	30	4	4
1N914A	100	100	1.0	20	25	20	4	4
1N914B	100	100	1.0	100	25	20	4	4
1N916	100	100	1.0	10	25	20	2	4
1N916A	100	100	1.0	20	25	20	2	4
1N916B	100	100	1.0	30	25	20	2	4
1N4148*	100	100	1.0	10	25	20	4	4
1N4149	100	100	1.0	10	25	20	2	4
1N4150*	50	100	1.0	200	100	50	2.5	4
1N4151	75	5	1.0	50	50	50	2	2
1N4152	40	100	0.88	20	50	30	2	2
1N4153*	75	100	0.88	20	50	50	2	2
1N4154	35	100	1.0	30	100	25	4	2
1N4305	75	100	0.85	10	100	50	2	2
1N4444	70	100	1.0	100	50	50	2	7
1N4446	100	100	1.0	20	25	20	4	4
1N4447	100	100	1.0	20	25	20	2	4
1N4448	100	100	1.0	100	25	20	4	4
1N4449	100	100	1.0	30	25	20	2	4
1N4450	30	100	1.0	200	50	30	4	4
1N4451	40	100	1.0	300	50	30	6	10
1N4454*	75	100	1.0	10	100	50	2	2
1N4531*	100	100	1.0	10	25	25	4	4#
1N4532	75	100	1.0	10	100	50	2	2#
1N4533	40	100	.88	20	50	30	2	2#
1N4534	75	100	.88	20	50	50	2	2#
1N4536	35	100	1.0	30	100	25	4	2#
1N4606	85	100	1.0	200	100	50	4	4
1N4607	85	100	1.0	400	100	50	4	10
1N4608	85	100	.96	400	100	50	4	10
1N4727	30	100	0.85	10	100	20	4	4
1N4863	70	100	1.2	100	50	50	2	7
1N4864	125	100	1.1	100	100	80	1.3	4
DZ800	2	100	0.8	10	2#	2	....	.....
DZ805	15	100	0.8	10	2#	12	....	.....
DZ806	25	100	0.8	10	2#	22	....	.....
DA1701	100	100	1.0	50	50	50	1	2
DA1702	75	5	1.0	50	50	50	1	2
DA1703	40	5	1.0	50	50	30	2	2
DA1704	25	5	1.1	50	100	20	3	4
DE104	40	100	.89	10	.02	20	4	200
DE110	40	100	.88	10	2.0	30	4	200
DE111	40	100	.88	10	.2	20	4	200
DE112	40	100	1.0	50	.1	20	6	200
DE113	40	100	1.0	50	.25	20	6	200
DE114	40	100	.88	10	1.0	30	4	200
DE115	40	100	.88	10	2.0	50	4	200
DT230A	100	......	1.1	250	1000	250	5	300
DT230B	200	......	1.1	250	1000	250	5	300
DT230F	50	......	1.1	250	1000	250	5	300
DT230G	150	......	1.1	250	1000	250	5	300
DT230H	250	......	1.1	200	1000	250	5	300
DT230H1	250	......	1.1	250	1000	250	5	300

*JAN and JANTX type available. #DO-34 package (Fig. B.).

MULTIPELLET STABISTORS (FIG. A)

Power dissipation = 400 mW. Derate 2.67 mW/° C for T_A above 25° C. Capacitance value at f = 1 MHz.

GE Type	Min. B_V V	Min. B_V µA	Max. V_R V	V_F I_F = 10 mA V	Max. I_R at 25° C nA	Max. I_R at 25° C V	Max. Cap. at 0 V pF
1N4156	30	5	20	1.58	50	20	25
1N4157	30	5	20	2.32	50	20	20
1N4453	30	5	20	0.80	50	20	30
1N4828	30	5	20	.830	100	20	35
1N4829	30	100	20	1.61	100	20	25
1N4830	30	100	20	2.35	100	20	20
1N5179	30	5	20	3.20	50	20	20
MPD200	70	5	30	1.54	30	30	15 typ.
MPD201	50	5	20	1.57	50	20	15
MPD202	50	5	20	1.60	90	20	15
MPD203	50	5	20	1.51	90	20	.15
MPD300	100	5	60	2.33	30	30	10 typ.
MPD301	60	5	20	2.32	40	20	10
MPD302	60	5	20	2.32	90	20	10
MPD400	120	5	90	3.07	30	30	7 typ.
MPD401	75	5	20	3.01	50	20	7
MPD402	75	5	20	3.01	90	20	7
STB567	50	5	12	1.61	500	20	15
STB568	60	5	12	2.31	500	20	10
STB569	75	5	20	3.01	500	20	7

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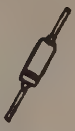
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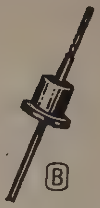
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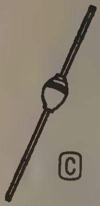
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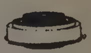
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GERMANIUM TUNNEL DIODES

Ideal for high speed switching, 1000 times faster than computer diodes; microwave oscillators and mixers; communications—tuners, converters, detectors and amplifiers; level sensing—sampling (scopes), Schmidt triggers and counters; computer circuits—sense amplifiers, flip-flops, AND-NOR gates.

GENERAL PURPOSE (FIG. B)

Series inductance, 0.5 nH. Typical peak voltage, 65 mV.

GE Type	Peak Point I_P mA	Peak Point I_P ± %	Maximum Valley Point mA	Maximum Cap. pF	Maximum Series Resis. Ohms	*	Typ. f_{ro} GHz
1N3712	1.0	10	0.18	10	4.0	8	2.3
1N3713*	1.0	2.5	0.14	5	4.0	8.5 ± 1	3.2
1N3714	2.2	10	0.48	25	3.0	18	2.2
1N3715*	2.2	2.5	0.31	10	3.0	19 ± 3	3.0
1N3716	4.7	10	1.04	50	2.0	40	1.8
1N3717*	4.7	2.5	0.60	25	2.0	41 ± 5	3.4
1N3718	10.0	10	2.20	90	1.5	80	1.6
1N3719*	10.0	2.5	1.40	50	1.5	85 ± 10	2.8
1N3720	22.0	10	4.80	150	1.0	180	1.6
1N3721*	22.0	2.5	3.10	100	1.0	190 ± 30	2.6
TD-9	0.5	10	0.10	5	6.0	4.0	1.3

*Typ. negative conductance -G mhos x 10^{-3}. *JAN type available.

ULTRA-HIGH SPEED SWITCHING DO-18 (FIG. C)

Subminiature epoxy package with series inductance of 1.5 nH.

GE Type	Peak Point mA (±10%)	Maximum Valley Point mA	Maximum Cap. pF	Voltage, mV Peak Point Typ.	Voltage, mV Fwd $I_F = I_P$	Typical Series Resis. Ohms	Typical Rise Time psec
TD-261	2.2	0.31	3.0	70	500–700	5.0	430
TD-261A	2.2	0.31	1.0	80	500–700	7.0	160
TD-262	4.7	0.60	6.0	80	500–700	3.5	320
TD-262A	4.7	0.60	1.0	90	500–700	4.0	74
TD-263	10.0	1.40	9.0	75	500–700	1.7	350
TD-263A	10.0	1.40	5.0	80	520–700	2.0	190
TD-263B	10.0	1.40	2.0	90	550–700	2.5	68
TD-264	22.0	3.80	18.0	90	600 typ.	1.8	185
TD-264A	22.0	3.80	4.0	100	550–700	2.0	64
TD-265	50.0	8.50	25.0	110	625 typ.	1.4	100
TD-265A	50.0	8.50	5.0	130	640 typ.	1.5	35
TD-266	100	17.50	35.0	150	650 typ.	1.1	57
TD-266A	100	17.50	6.0	180	660 typ.	1.2	22

GERMANIUM BACK DIODES

BD-1 thru BD-7 (Fig. B)—Miniature axial package. Series inductance, 1.5 nH. General purpose usage as detectors, mixers and switching circuits.

BD-402 thru BD-407 (Fig. D)—Microwave pill package. Series inductance, 0.15 nH. Suggested usage as high frequency detectors, mixers and switching circuits.

Fig. C GE Type	Fig. C Maximum I_P mA	Fig. C Maximum Total C, pF	Fig. C Min. V_{R1}* mV	Fig. D GE Type	Fig. D Maximum I_P mA	Fig. D Maximum Total C, pF	Fig. D Min. V_{R1}* mV
BD-1	1.0	20	440	BD-402	0.5	3	420
BD-2	0.5	10	420	BD-403	0.2	1	400
BD-3	0.2	10	400	BD-404	0.1	1	380
BD-4	0.1	10	380	BD-405	0.05	1	350
BD-5	0.05	10	350	BD-406	0.02	1	330
BD-6	0.02	10	330	BD-407	0.01	1	330
BD-7	0.01	10	300				
1N4090†	0.2	1.5	430				

*$I_R = I_P$ max. †Low noise mixer.

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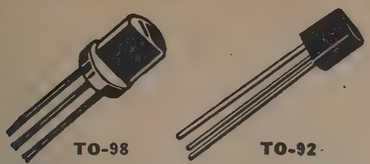
Small Signal Silicon Transistors



SILICON SIGNAL DARLINGTON TRANSISTORS

GE Type	Polarity	BV_{CEO} @ 10 mA Volts	h_{FE} @ I_C		f_T MHz	P_t @ 25° C. mW
			Min.-Max.	mA		
TO-98 PACKAGE						
2N5305	NPN	25	2K-20K	2	60	400
2N5306	NPN	25	7K-70K	2	60	400
2N5306A	NPN	25	7K-70K	2	60	400
2N5307	NPN	40	2K-20K	2	60	400
2N5308	NPN	40	7K-70K	2	60	400
2N5308A	NPN	40	7K-70K	2	60	400
D16P1	NPN	12	2K-70K	2	......	400
TO-92 PACKAGE						
GES5305	NPN	25	2K-20K	2	80	500
GES5306	NPN	25	7K-70K	2	80	500
GES5306A	NPN	25	7K-70K	2	80	500
GES5307	NPN	40	2K-20K	2	80	500
GES5308	NPN	40	7K-70K	2	80	500
GES5308A	NPN	40	7K-70K	2	80	500
D38L1	NPN	40	2K-20K	2	80	500
D38L2	NPN	40	7K-70K	2	80	500
D38L3	NPN	40	50K min.	2	80	500
D38L4	NPN	25	2K-20K	2	80	500
D38L5	NPN	25	7K-70K	2	80	500
D38L6	NPN	25	50K min.	2	80	500
D39C1	PNP	40	2K-20K	2	80	500
D39C2	PNP	40	7K-70K	2	80	500
D39C3	PNP	40	50K min.	2	80	500
D39C4	PNP	25	2K-20K	2	80	500
D39C5	PNP	25	7K-70K	2	80	500
D39C6	PNP	25	50K min.	2	80	500

SILICON GENERAL PURPOSE SIGNAL AMPLIFIERS

GE Type	Polarity	BV_{CEO} @ 10 mA Volts	h_{FE} @ I_C		f_T MHz	P_t @ 25° C. mW
			Min.-Max.	mA		
TO-98 PACKAGE						
2N2711	NPN	18	30–90	2	120	360
2N2712	NPN	18	75–225	2	120	360
2N2713	NPN	18	30–90	2	120	360
2N2714	NPN	18	75–225	2	120	360
2N2923	NPN	25	90–180	2	120	360
2N2924	NPN	25	150–300	2	120	360
2N2925	NPN	25	235–470	2	120	360
2N2926	NPN	18	35–470	2	120	360
2N3390	NPN	25	400–800	2	120	360
2N3391†	NPN	25	250–500	2	120	360
2N3391A†	NPN	25	250–500	2	120	360
2N3392	NPN	25	150–300	2	120	360
2N3393	NPN	25	90–180	2	120	360
2N3394	NPN	25	55–110	2	120	360
2N3395	NPN	25	150–500	2	120	360
2N3396	NPN	25	90–500	2	120	360
2N3397	NPN	25	55–500	2	120	360
2N3398	NPN	25	55–800	2	120	360
2N3402	NPN	25	75–225	2	150	560
2N3403	NPN	25	180–540	2	150	560
2N3404	NPN	50	75–225	2	150	560
2N3405	NPN	50	180–540	2	150	560
2N3414	NPN	25	75–225	2	150	360
2N3415	NPN	25	180–540	2	150	360
2N3416	NPN	50	75–225	2	150	360
2N3417	NPN	50	180–540	2	150	360
2N3662	NPN	12	20 min.	8	1000	200
2N3663	NPN	12	20 min.	8	1000	200
2N3721	NPN	18	60–660	2	120	360
2N3843	NPN	30	20–40	2	150	360
2N3843A	NPN	30	20–40	2	150	360
2N3844†	NPN	30	35–70	2	150	360
2N3844A	NPN	30	35–70	2	150	360
2N3845†	NPN	25	60–120	2	150	360
2N3845A†	NPN	25	60–120	2	150	360
2N3854	NPN	36	35–70	2	200	360
2N3854A	NPN	36	35–70	2	200	360
2N3855	NPN	36	60–120	2	200	360
2N3855A	NPN	36	60–120	2	200	360
2N3856	NPN	36	100–200	2	200	360
2N3856A	NPN	36	100–200	2	200	360
2N3858	NPN	40	60–120	2	150	360
2N3858A	NPN	60	60–120	2	150	360
2N3859	NPN	40	100–200	2	150	360
2N3859A	NPN	60	100–200	2	150	360
2N3860	NPN	40	150–300	2	150	360
2N3877	NPN	70	20 min.	2	120	360
2N3877A	NPN	85	20 min.	2	120	360
2N3900†	NPN	18	250–500	2	120	360
2N3900A†	NPN	18	250–500	2	120	360
2N3901†	NPN	25	350–700	2	120	360
TO-98 PACKAGE (CONTINUED)						
2N4256	NPN	40	100–500	2	120	360
2N4424	NPN	40	180–540	2	150	360
2N4425	NPN	40	180–540	2	150	360
2N5172	NPN	25	100–500	10	100	360
2N5174	NPN	75	40–600	10	120	360
2N5232†	NPN	50	250–500	2	150	360
2N5232A†	NPN	50	250–500	2	150	360
2N5249†	NPN	50	400–800	2	150	360
2N5249A†	NPN	50	400–800	2	150	360
2N5309†	NPN	50	60–120	10*	150	360
2N5310†	NPN	50	100–300	10*	150	360
2N5311†	NPN	50	250–500	10*	150	360
2N5354	PNP	25	40–120	50	200	360
2N5355	PNP	25	100–300	50	200	360
2N5356	PNP	25	250–500	50	200	360
2N5365	PNP	40	40–120	50	350	360
2N5366	PNP	40	100–300	50	350	360
2N5418	NPN	25	40–120	50	250	400
2N5419	NPN	25	100–300	50	250	400
2N5420	NPN	25	250–500	50	250	400
2N6076	PNP	25	100–500	10	300	360
D16G6	NPN	12	20 min.	8	1000	200
D29E1	PNP	25	60–200	2	150	500
D29E2	PNP	25	150–500	2	165	500
D29E4	PNP	40	60–120	2	120	500
D29E5	PNP	40	100–200	2	135	500
D29E6	PNP	40	150–300	2	150	500
D29E7	PNP	40	200–500	2	150	500
D29E9	PNP	60	60–120	2	120	500
D29E10	PNP	60	100–200	2	135	500
D33D21	NPN	25	60–200	2	150	625
D33D22	NPN	25	150–500	2	165	625
D33D24	NPN	40	60–120	2	120	625
D33D25	NPN	40	100–200	2	135	625
D33D26	NPN	40	150–300	2	150	625
D33D27	NPN	40	200–500	2	150	625
D33D29	NPN	60	60–120	2	120	625
D33D30	NPN	60	100–200	2	135	625
TO-92 PACKAGE						
2N3903#	NPN	40	50–150	10	300	350
2N3904#	NPN	40	100–300	10	350	350
2N3905#	PNP	40	50–150	10	250	350
2N3906#	PNP	40	100–300	10	300	350
2N4123	NPN	30	50–150	2	300	350
2N4124	NPN	25	120–360	2	350	350
2N4125	PNP	30	50–150	2	250	350
2N4126	PNP	25	120–360	2	300	350
2N4400#	NPN	40	50–150	150	225	350
2N4401#	NPN	40	100–300	150	275	350
2N4402#	PNP	40	50–150	150	300	350
2N4403#	PNP	40	100–300	150	350	350
2N4409	NPN	50	60–400	10	100	625
2N4410	NPN	80	60–400	10	100	625
2N5088	NPN	30	300–900	0.1	75	350
2N5089	NPN	25	400–1200	0.1	75	350
2N5219	NPN	15	35–500	2	200	350
2N5220	NPN	15	30–600	50	125	350
2N5221	PNP	15	30–600	50	125	350
2N5223	NPN	20	50–800	2	200	350
2N5225	NPN	25	30–600	50	75	350
2N5226	PNP	25	30–600	50	100	350
2N5227	PNP	30	50–700	2	125	350
GES929†	NPN	50	60–120	0.01	100	360
GES930†	NPN	50	100–300	0.01	100	360
GES2221	NPN	30	40–120	150	275	360
GES2221A	NPN	40	40–120	150	275	360
GES2222	NPN	30	100–300	150	275	360
GES2222A	NPN	40	100–300	150	325	360
GES2906#	PNP	40	40–120	150	225	360
GES2907#	PNP	40	100–300	150	225	360
GES5368#	NPN	30	60–200	150	200	360
GES5369#	NPN	30	100–300	150	200	360
GES5370#	NPN	30	200–600	150	200	360
GES5371#	NPN	30	60–600	150	200	360
GES5372#	PNP	30	40–200	150	200	360
GES5373#	PNP	30	100–300	150	200	360
GES5374#	PNP	30	200–400	150	200	360
GES5375#	PNP	30	40–400	150	200	360
GES5810	NPN	25	60–200	2	125	500
GES5811	PNP	25	60–200	2	125	500
GES5812	NPN	25	150–500	2	150	500
GES5813	PNP	25	150–500	2	150	500
GES5814	NPN	40	60–160	2	125	500
GES5815	PNP	40	60–160	2	125	500
GES5816	NPN	40	100–200	2	150	500
GES5817	PNP	40	100–200	2	150	500
GES5818	NPN	40	150–300	2	150	500
GES5819	PNP	40	150–300	2	150	500
GES5820	NPN	60	60–160	2	125	500
GES5821	PNP	60	60–160	2	125	500
GES5822	NPN	60	100–200	2	150	500
GES5823	PNP	60	100–200	2	150	500
GES5824	NPN	40	60–120	2	100	360
GES5825	NPN	40	100–200	2	100	360
GES5826	NPN	40	150–300	2	100	360
GES5827	NPN	40	250–500	2	100	360
GES5828	NPN	40	400–800	2	100	360

*Microamperes. †Low-noise amplifier. #Switching type.

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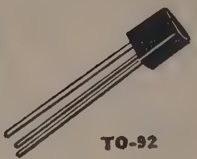
Silicon Signal and Power Transistors



SILICON GENERAL PURPOSE SIGNAL AMPLIFIERS
(CONTINUED FROM PRECEDING PAGE)

GE Type	Polarity	BV_{CEO} @ 10 mA Volts	h_{FE} @ I_C Min.-Max.	h_{FE} @ I_C mA	f_T MHz	P_t @ 25° C. mW
TO-98 PACKAGE (CONT'D)						
GES6000	NPN	25	100–300	10	150	400
GES6001†#	PNP	25	100–300	10	250	400
GES6002#	NPN	25	200–500	10	170	400
GES6003#	PNP	25	200–500	10	250	400
GES6004†#	NPN	40	100–300	10	150	400
GES6005†#	PNP	40	100–300	10	250	400
GES6006#	NPN	40	200–500	10	170	400
GES6007#	PNP	40	200–500	10	250	400
GES6010†#	NPN	40	100–300	10	125	500
GES6011†#	PNP	40	100–300	10	100	500
GES6012†#	NPN	40	200–500	10	150	500
GES6013†#	PNP	40	200–500	10	125	500
GES6014†#	NPN	60	100–300	10	125	500
GES6015†#	PNP	60	100–300	10	100	500
GES6218	NPN	300	20 min.	20	65	500
GES6219	NPN	350	20 min.	20	65	500
GES6220	NPN	200	20 min.	20	65	500
GES6221#	NPN	150	20 min.	20	65	500
GES6222#	NPN	60	75-200	2	100	360
GES6224	NPN	60	150–300	2	100	360
MPSA05	NPN	60	50 min.	100	100	625
MPSA06	NPN	80	50 min.	100	100	625
MPSA20	NPN	40	40-400	5	140	350
MPSA55	PNP	60	50 min.	100	100	625
MPSA56	PNP	80	50 min.	100	100	625
MPS3638#	PNP	25	30 min.	50	125	350
MPS3638A#	PNP	25	100 min.	50	175	350
MPS3702	PNP	25	60–300	50	150	360
MPS3703	PNP	30	30–150	50	150	360
MPS3704	NPN	30	100–300	50	100	360
MPS3705	NPN	30	50–150	50	100	360
MPS3706	NPN	20	30–600	50	100	360
MPS6516	PNP	40	50–100	2	225	350
MPS6517	PNP	40	90–180	2	225	350
MPS6518	PNP	40	150–300	2	350	350
MPS6519	PNP	25	250-500	2	350	350
MPS6530	NPN	40	25 min.	500	250	350
MPS6531	NPN	40	50 min.	500	250	350
MPS6532	NPN	30	30 min.	100	250	350
MPS6533	PNP	40	25 min.	500	350	350
MPS6534	PNP	40	50 min.	500	350	350
MPS6535	PNP	30	30 min.	100	350	350
MPS6565	NPN	45	40–160	10	225	350
MPS6566	NPN	45	100–400	10	225	350
D38H1	NPN	60	55 min.	100	80	500
D38H2	NPN	60	90 min.	100	80	500
D38H3	NPN	60	150 min.	100	80	500
D38H4	NPN	80	55 min.	100	80	500
D38H5	NPN	80	90 min.	100	80	500
D38H6	NPN	80	150 min.	100	80	500
D38H7	NPN	100	55 min.	100	80	500
D38H8	NPN	100	90 min.	100	80	500
D38H9	NPN	100	150 min.	100	80	500
D38S1†	NPN	30	400–800	0.1	200	400
D38S2†	NPN	30	600–1200	0.1	200	400
D38S3†	NPN	30	1000–2000	0.1	200	400
D38S4†	NPN	30	1500–3000	0.1	200	400
D38S5†	NPN	45	400–800	0.1	200	400
D38S6†	NPN	45	600–1200	0.1	200	400
D38S7†	NPN	45	1000–2000	0.1	200	400
D38S8†	NPN	60	250–500	0.1	200	400
D38S9†	NPN	60	400–800	0.1	200	400
D38S10†	NPN	60	600–1200	0.1	200	400
D38W7†	NPN	80	150–300	0.1	75	400
D38W8†	NPN	80	250–500	0.1	75	400
D38W9†	NPN	80	400–800	0.1	75	400
D38W10†	NPN	80	600–1200	0.1	75	400
D39J1	PNP	60	50 min.	0.1	60	500
D39J2	PNP	60	80 min.	0.1	60	500
D39J3	PNP	60	150 min.	0.1	60	500
D39J4	PNP	80	50 min.	0.1	60	500
D39J5	PNP	80	80 min.	0.1	60	500
D39J6	PNP	80	150 m n.	0.1	60	500
D39J7	PNP	100	50 min.	0.1	60	500
D39J8	PNP	100	80 min.	0.1	60	500
D39J9	PNP	100	150 min.	0.1	60	500

†Low-noise amplifier. #Switching type.

SILICON SIGNAL TRANSISTORS
COMPLEMENTARY PAIRS

GE Type NPN	GE Type PNP	GE Type NPN	GE Type PNP
TO-98 PACKAGE			
2N5418	**2N5354**	**D29E5**	**D33D25J1**
2N5419	**2N5355**	**D29E6**	**D33D26J1**
2N6076	**2N5172**	**D29E7**	**D33D27J1**
D29E1	**D33D21J1**	**D29E9**	**D33D29J1**
D29E2	**D33D22J1**	**D29E10**	**D33D30J1**
D29E4	**D33D24J1**		
TO-92 PACKAGE			
2N3903	**2N3905**	**MPSA05**	**MPSA55**
2N3904	**2N3906**	**MPSA06**	**MPSA56**
2N4123	**2N4125**	**MPS3702**	**MPS3704**
2N4124	**2N4126**	**MPS3703**	**MPS3705**
2N4400	**2N4402**	**MPS5172**	**MPS6076**
2N4401	**2N4403**	**MPS6512**	**MPS6516**
GES2221	**GES2906**	**MPS6513**	**MPS6517**
GES2222	**GES2907**	**MPS6514**	**MPS6518**
GES5368	**GES5372**	**MPS6515**	**MPS6519**
GES5369	**GES5373**	**MPS6530**	**MPS6533**
GES5370	**GES5374**	**MPS6531**	**MPS6534**
GES5371	**GES5375**	**MPS6532**	**MPS6535**
GES5810	**GES5811**	**D38H1**	**D39J1**
GES5812	**GES5813**	**D38H2**	**D39J2**
GES5814	**GES5815**	**D38H3**	**D39J3**
GES5816	**GES5817**	**D38H4**	**D39J4**
GES5818	**GES5819**	**D38H5**	**D39J5**
GES5820	**GES5821**	**D38H6**	**D39J6**
GES5822	**GES5823**	**D38H7**	**D39J7**
GES6000	**GES6001**	**D38H8**	**D39J8**
GES6002	**GES6003**	**D38H9**	**D39J9**
GES6004	**GES6005**	**D38L1**	**D39C1**
GES6006	**GES6007**	**D38L2**	**D39C2**
GES6010	**GES6011**	**D38L3**	**D39C3**
GES6012	**GES6013**	**D38L4**	**D39C4**
GES6014	**GES6015**	**D38L5**	**D39C5**
GES6016	**GES6017**	**D38L6**	**D39C6**

COMPLEMENTARY SILICON POWER TRANSISTORS

Typical applications include amplifier output and driver stages, series and shunt regulators, inverters and converters. Feature include high dissipation, low collector saturation voltage, excellent linearity, fast switching and typical f_t of 150 MHz.

GE Type NPN	GE Type PNP	h_{FE}*	V_{CEO} Min. V	I_C Cont. A	P_t† W	Pkg.
D40D1	**D41D1**	50–150‡	30	1	6.25	TO-202AA
D40D2	**D41D2**	120–360#	30	1	6.25	TO-202AA
D40D3	. . ..	50–150†	45	1	6.25	TO-202AA
D40D4	**D41D4**	50–150‡	45	1	6.25	TO-202AA
D40D5	**D41D5**	120–360‡	45	1	6.25	TO-202AA
D40D7	**D41D7**	50–150‡	60	1	6.25	TO-202AA
D40D8	**D41D8**	120–360‡	60	1	6.25	TO-202AA
D40D10	**D41D10**	50–150‡	75	1	6.25	TO-202AA
D40D11	**D41D11**	120–360‡	75	1	6.25	TO-202AA
D41D13	**D41D13**	50–150‡	75	1	6.25	TO-202AA
D41D14	**D41D14**	120–360‡	75	1	6.25	TO-202AA
D40E1	**D41E1**	50 min.‡	30	2	8.00	TO-202AA
D40E5	**D41E5**	50 min.‡	60	2	8.00	TO-202AA
D40E7	**D41E7**	50 min.‡	80	2	8.00	TO-202AA
D42C1	**D43C1**	25 min.§	30	3	12.5	TO-202AA
D42C2	**D43C2**	40–120▲	30	3	12.5	TO-202AA
D42C3	**D43C3**	40–120●	30	3	12.5	TO-202AA
D42C4	**D43C4**	25 min.§	45	3	12.5	TO-202AA
D42C5	**D43C5**	40–120▲	45	3	12.5	TO-202AA
D42C6	**D43C6**	40–120●	45	3	12.5	TO-202AA
D42C7	**D43C7**	25 min.§	60	3	12.5	TO-202AA
D42C8	**D43C8**	40–120▲	60	3	12.5	TO-202AA
D42C9	**D43C9**	40–120●	60	3	12.5	TO-202AA
D42C10	**D43C10**	25 min.§	80	3	12.5	TO-202AA
D42C11	**D43C11**	40–120▲	80	3	12.5	TO-202AA
D42C12	**D43C12**	40–120●	80	3	12.5	TO-202AA
D44C1	**D45C1**	25 min.§	30	4	30	TO-220AB
D44C2	**D45C2**	40–120▲	30	4	30	TO-220AB
D44C3	**D45C3**	40–120●	30	4	30	TO-220AB
D44C4	**D45C4**	25 min.§	45	4	30	TO-220AB
D44C5	**D45C5**	40–120▲	45	4	30	TO-220AB
D44C6	**D45C6**	40–120●	45	4	30	TO-220AB
D44C7	**D45C7**	25 min.§	60	4	30	TO-220AB
D44C8	**D45C8**	40–120▲	60	4	30	TO-220AB
D44C9	**D45C9**	40–120●	60	4	30	TO-220AB
D44C10	**D45C10**	25 min.§	80	4	30	TO-220AB
D44C11	**D45C11**	40–120▲	80	4	30	TO-220AB
D44C12	**D45C12**	40–120●	80	4	30	TO-220AB
D44H1	**D45H1**	35 min.■	30	10	50	TO-220AB
D44H2	**D45H2**	60 min.♦	30	10	50	TO-220AB
D44H4	**D45H4**	35 min.■	45	10	50	TO-220AB
D44H5	**D45H5**	60 min.♦	45	10	50	TO-220AB
D44H7	**D45H7**	35 min.■	60	10	50	TO-220AB
D44H8	**D45H8**	60 min.♦	60	10	50	TO-220AB
....	**D45H9**	60 min.♦	60	10	50	TO-220AB
D44H10	**D45H10**	35 min.■	80	10	50	TO-220AB
D44H11	**D45H11**	60 min.♦	80	10	50	TO-220AB
....	**D45H12**	60 min.♦	80	10	50	TO-220AB

*At 2 V, 100 mA. †At 25° C. ‡Minimum 10 at 2 V, 1 A. #Minimum 20 at 2 V, 1 A. §Minimum 10 at 1 V, 1 A. ▲Minimum 20 at 1 V, 1 A. ●Minimum 20 at 1 V, 2 A. ■Minimum 20 at 1 V, 4 A. ♦Minimum 40 at 1 V, 4 A. **Listing continued on following page.**

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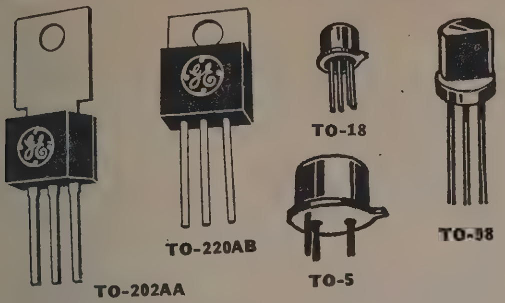
Silicon Power and Unijunction Transistors



COMPLEMENTARY SILICON POWER DARLINGTON TRANSISTORS

Typical applications include driver, regulator, audio output, touch switch, relay substitute and servo amplifier.

GE Type			V_{CEO} Min. V	I_C Cont. A	P_t† W	Pkg.
NPN	PNP	h_{FE}*				
D40K1	D41K1	10K min.	30	2.0	10	TO-202AA
D40K2	D41K2	10K min.	50	2.0	10	TO-202AA
....	D41K3	10K min.	30	2.0	10	TO-202AA
....	D41K4	10K min.	50	2.0	10	TO-202AA
D44E1	D45E1	1K min.#	40	10	50	TO-220AB
D44E2	D45E2	1K min.#	60	10	50	TO-220AB
D44E3	D45E3	1K min.#	80	10	50	TO-220AB

*At 5 V, 100 mA. #At 5 V, 5 A. †At 25° C.

SILICON POWER DARLINGTON TRANSISTORS

NPN-HIGH GAIN

Units feature high gain (typically 60,000) and high input impedance (typically 50,000 ohms) Applications include audio output, touch switch, oscillator, buffer, driver and relay replacement.

GE Type	h_{FE}*	V_{CEO} Min. V	I_C Cont. A	f_t MHz	P_t† W	Pkg.
D40C1	10K-60K	30	0.5	75	6.25	TO-202AA
D40C2	40K min.	30	0.5	75	6.25	TO-202AA
D40C3	90K min.	30	0.5	75	6.25	TO-202AA
D40C4	10K-60K	40	0.5	75	6.25	TO-202AA
D40C5	40K min.	40	0.5	75	6.25	TO-202AA
D40C7	10K-60K	50	0.5	75	6.25	TO-202AA
D40C8	40K min.	50	0.5	75	6.25	TO-202AA

*At 5 V, 200 mA. †At 25° C.

NPN HIGH VOLTAGE SILICON POWER TRANSISTORS

Typical applications include line-operated amplifiers, regulators, TV video and chroma output stages, inverters and converters. Units feature glass passivated mesa construction, fast switching and high voltage ratings.

GE Type	h_{FE}*	V_{CEO} Min. V	I_C Cont. A	f_t MHz	P_t† W	Pkg.
D40N1	30–90	250	0.1	80	6.25	TO-202AA
D40N2	60–180	250	0.1	80	6.25	TO-202AA
D40N3	30–90	300	0.1	80	6.25	TO-202AA
D40N4	60–180	300	0.1	80	6.25	TO-202AA
D40N5	20 min.	375	0.1	80	6.25	TO-202AA
D40P1	‡	120	0.5	.....	6.25	TO-202AA
D40P3	‡	180	0.5	.....	6.25	TO-202AA
D40P5	‡	225	0.5	.....	6.25	TO-202AA
D42R1	30 min.•	250	1.0	55	15	TO-202AA
D42R2	30 min.•	300	1.0	55	15	TO-202AA
D42R3	30 min.•	250	1.0	55	15	TO-202AA
D42R4	30 min.•	300	1.0	55	15	TO-202AA
D44Q1	#	125	4.0	50	31.25	TO-220AB
D44Q3	#	175	4.0	50	31.25	TO-220AB
D44Q5	#	225	4.0	50	31.25	TO-220AB
D44R1	30 min.•	250	1.0	40	31.25	TO-220AB
D44R2	75 min.•	250	1.0	40	31.25	TO-220AB
D44R3	30 min.•	300	1.0	40	31.25	TO-220AB
D44R4	75 min.•	300	1.0	40	31.25	TO-220AB
D44R5	30 min.•	250	1.0	40	31.25	TO-220AB
D44R6	30 min.•	300	1.0	40	31.25	TO-220AB
D44R7	150 min.•	250	1.0	40	31.25	TO-220AB
D44R8	150 min.•	300	1.0	40	31.25	TO-220AB

*At 10 V, 20 mA. †At 25° C. ‡Minimum 40 at 10 V, 80 mA; 20 at 10 V, 2 mA. #Minimum 30 at 10 V, 200 mA; 20 at 10 V, 2 A. •At 10 V, 500 mA.

SILICON CONTROL SWITCHES (SCS)

Four-terminal TO-18 package.

GE Type	Anode Blk. V	Cont. DC I_F mA	Peak Recur. I_F A*	Peak Cath. Gate Cur. mA	Dissipation mW	I_B at VAC V	I_B R_{GC}= 10K µA	Maximum V_{GC} I_{GC}= 20 µA V	Maximum V_{GA} I_{GA}= 1 µA V
3N81	65	200	1.0	500	400	65	20	5	65
3N82	100	200	1.0	500	400	100	20	5	100
3N83	70	50	0.1	50	200	70	20†	5	70
3N84	40	175	0.5	100	320	40	20†	5	40
3N85	100	175	0.5	100	320	100	20†	5	100
3N86	65	200	1.0	500	400	65	20	5	65

*At 100 µsec. †Measured at 125° C; all others at 150° C.

SILICON UNILATERAL SWITCHES (SUS)

6-10 VOLT PLANAR TRIGGER DIODE

V_{ACR} = 30 volts maximum. V_F at 200 mA = 1.5 volts.

GE Type	JEDEC Outline	Max. $I_{F(CONT)}$ mA	T_J −55° C to °C	V_S V	Max. I_S µA	I_B at 5 V µA
2N4983	TO-18	175	+125	6–10	500	1.0
2N4984	TO-18	200	+150	7.5–9	150	0.1
2N4985	TO-18	200	+150	7.5–8.2	300	0.01
2N4986	TO-18	175	+125	7–9	200	0.1
2N4987	TO-98	175	+125	6–10	500	1.0
2N4988	TO-98	200	+150	7.5–9	150	0.1
2N4989	TO-98	200	+150	7.5–8.2	300	0.01
2N4990	TO-98	175	+125	7–9	200	0.1

SILICON BILATERAL SWITCHES (SBS)

6-10 VOLT BIDIRECTIONAL PLANAR TRIGGER DIODE

V_F at 200 mA = 1.7 volts.

GE Type	JEDEC Outline	Max. $I_{F(CONT)}$ mA	T_J −55° C to °C	V_S V	Max. I_S µA	I_B at 5 V µA
2N4991	TO-98	175	+125	6–10	500	1.0
2N4992	TO-98	200	+150	7.5–9	120	0.1
2N4993	TO-18	200	+150	6–10	500	1.0

SILICON UNIJUNCTION TRANSISTORS

"N" type silicon bar mounted between two ohmic base contacts with a "P" type emitter near base two. Three-terminal package. All TO-5 bar structure unless noted otherwise.

GE Type	R_{BBO} V_{BB} = 3V I_E = 0 kohms	Intrin. Stand-off Ratio†	I_V Min. mA	I_P Max. Emitter µA	I_{EO} Max. µA	I_{EO} Max. V_{B2E}‡
2N489				12	2	60
2N489A*	4.7–6.8	.51–.62	8	12	2	60
2N489B				6	0.2	30
2N490				12	2	60
2N490A*	6.2–9.1	.51–.62	8	12	2	60
2N490B				6	0.2	30
2N490C				2	0.02	30
2N491				12	2	60
2N491A*	4.7–6.8	.56–.68	8	12	2	60
2N491B				6	0.2	30
2N492				12	2	60
2N492A*	6.2–9.1	.56–.68	8	12	2	60
2N492B				6	0.2	30
2N492C				2	0.02	30
2N493				12	2	60
2N493A*	4.7–6.8	.62–.75	8	12	2	60
2N493B				6	0.2	30
2N494				12	2	60
2N494A*	6.2–9.1	.62–.75	8	12	2	60
2N494B				6	0.2	30
2N494C				2	0.02	30
2N1671				25	12	30
2N1671A	4.7–9.1	.47–.62	8	25	12	30
2N1671B				6	0.2	30
2N1671C				2	0.02	30
2N2160	4.0–12.0	.47–.80	8	25	12	30
2N2646§	4.7–9.1	.56–.75	4	5	12	30
2N2647§	4.7–9.1	.68–.82	8	2	0.2	30
D5J-43§	4.7–9.1	.68–.82	6	2	1	30
D5J-44§	4.7–9.1	.68–.82	4	5	12	30
2N2840§	4.7–9.1#	.62 typ.	2	10	1	30

†V_{BB} = 10 V. ‡T_J = 25° C. *JAN type available. #At V_{BB} = 1.5 V. §TO-18 cube structure.

PROGRAMMABLE UNIJUNCTION—PUT (TO-98)

Passivated PNPN devices with anode, anode gate and cathode terminals. Recommended for SCR trigger, pulse and timing circuits, oscillators, sensing and sweep circuits. Gate-cathode forward voltage and gate-anode reverse voltage = 40 V. Anode-cathode voltage = ±40 V.

GE Type	I_{GAO} V_S = 40 V nA	Max. Values at V_S = 10 V I_P µA	Max. Values at V_S = 10 V V_T V	Max. Values at V_S = 10 V I_V µA	$I_{F(CONT)}$ mA	P_T W
2N6027	10	2	.2–1.6	50	150	300
2N6028	10	0.15	.2–.6	25	150	300

COMPLEMENTARY UNIJUNCTION (TO-18)

D5K offers the ultimate in unijunction stability and uniformity. Ideal for low frequency oscillators and timers. Same characteristics as standard unijunction except opposite polarity current and voltages are applied to it.

GE Type	R_{BO} kohms	Intrinsic Standoff Ratio	I_V Min. mA	I_P Max. µA	I_{EO} Max. nA	V_O Min. Volts	Freq. Stab.* %
D5K1	5.5–8.2	.58–.62	1	5	10	3.5	1.0
D5K2	5–15	.58–.62	1	15	10	3.5	2.0

*Frequency stability from 25° C, −55° C to +150° C.

GE-MOV® Metal Oxide Varistors

GE-MOV Varistors are voltage dependent, symmetrical resistors which perform in a manner similar to back-to-back zener diodes in circuit protective functions and offer advantages in performance and economics. When exposed to high energy voltage transient, varistor impedance changes from a very high standby value to a very low conducting value thus clamping the line voltage to a safe level. Dangerous energy of incoming high voltage pulse is absorbed by the GE-MOV varistor, thus protecting your voltage sensitive circuit components Eliminates follow-on currents, extends contact life and protects circuit insulation. Applications include component and system voltage transient protection in inductive and transformer switching circuits, regenerative loads, switching magnetic amplifiers; contact arc suppression-reduction of lightning effects. If nonsinusoidal wave input is present, peak voltage input values should be used to select model.

TYPE PA VARISTORS

Power Dissipation: Up to 15 watts at 70° C mounting-tab temperature. **Current:** Can handle up to 3000 amps. **Voltage Rating:** 130–575 volts rms and 170–780 VDC. **Energy Rating:** 10–80 joules. Meets NEMA creep and strike-terminal distances. Comes with quick disconnect terminals.

GE Type	Applied Max. rms Volts	Max. Recurrent Peak Volts	Applied DC Volts	Max. Energy Joules	Max. Avg. Watts†
V130PA10A	130	184	170	10	8
V130PA20A	130	184	170	20	15
V130PA20B	130	184	170	20	15
V130PA20C	130	184	170	20	15
V150PA10A	150	212	195	10	8
V150PA20A	150	212	195	20	15
V150PA20B	150	212	195	20	15
V150PA20C	150	212	195	20	15
V250PA10A	250	354	330	10	4
V250PA20A	250	354	330	20	7
V250PA40A	250	354	330	40	13
V250PA40B	250	354	330	40	13
V250PA40C	250	354	330	40	13
V275PA10A	275	389	360	10	4
V275PA20A	275	389	360	20	7
V275PA40A	275	389	360	40	13
V275PA40B	275	389	360	40	13
V275PA40C	275	389	360	40	13
V320PA40A	320	452	415	40	12
V320PA40B	320	452	415	40	12
V320PA40C	320	452	415	40	12
V420PA20A	420	595	540	20	5
V420PA40A	420	595	540	40	10
V420PA40B	420	595	540	40	10
V420PA40C	420	595	540	40	10
V460PA20A	460	650	600	20	5
V460PA40A	460	650	600	40	10
V460PA40B	460	650	600	40	10
V460PA40C	460	650	600	40	10
V480PA20A	480	679	625	20	3
V480PA40A	480	679	625	40	5
V480PA80A	480	679	625	80	10
V480PA80B	480	679	625	80	10
V480PA80C	480	679	625	80	10
V510PA20A	510	721	655	20	3
V510PA40A	510	721	655	40	5
V510PA80A	510	721	655	80	10
V510PA80B	510	721	655	80	10
V510PA80C	510	721	655	80	10
V550PA20A	550	778	720	20	3
V550PA40A	550	778	720	40	5
V550PA80A	550	778	720	80	9
V550PA80B	550	778	720	80	9
V550PA80C	550	778	720	80	9
V575PA20A	575	813	750	20	3
V575PA40A	575	813	750	40	5
V575PA80A	575	813	750	80	9
V575PA80B	575	813	750	80	9
V575PA80C	575	813	750	80	9

TYPE L VARISTORS

Power Dissipation: Up to 1.3 watts at 85° C ambient temperature. **Current:** Can handle up to 2000 amps. **Voltage Rating:** 95–1000 volts rms and 130–675 VDC. **Energy Rating:** 7–160 joules.

GE Type	Applied Max. rms Volts	Max. Recurrent Peak Volts	Applied DC Volts	Max. Energy Joules	Max. Avg. Watts†
V95LA7A	95	134	130	7	0.45
V95LA7B	95	134	130	7	0.45
V130LA1	130	184	175	1	0.24
V130LA2	130	184	175	2	0.24
V130LA10A	130	184	175	10	0.5
V130LA20A	130	184	175	20	0.85
V130LA20B	130	184	175	20	0.85
V150LA1	150	212	200	1	0.24
V150LA2	150	212	200	2	0.24
V150LA10A	150	212	200	10	0.5
V150LA20A	150	212	200	20	0.85
V150LA20B	150	212	200	20	0.85
V250LA2	250	354	330	2	0.28
V250LA4	250	354	330	4	0.28
V250LA15A	250	354	330	15	0.6

TYPE (CONT'D)

GE Type	Applied Max. rms Volts	Max. Recurrent Peak Volts	Applied DC Volts	Max. Energy Joules	Max. Avg. Watts†
V250LA20A	250	354	330	20	0.6
V250LA40A	250	354	330	40	0.9
V250LA40B	250	354	330	40	0.9
V275LA2	275	389	369	2	0.28
V275LA4	275	389	369	4	0.28
V275LA15A	275	389	369	15	0.6
V275LA20A	275	389	369	20	0.6
V275LA40A	275	389	369	40	0.9
V275LA40B	275	389	369	40	0.9
V300LA2	300	424	405	2	0.28
V300LA4	300	424	405	4	0.28
V320LA15A	320	452	420	15	.6
V320LA20A	320	452	420	20	.6
V320LA40A	320	452	420	40	.9
V320LA40B	320	452	420	40	.9
V420LB20A	420	595	560	20	0.55
V420LB40A	420	595	560	40	0.9
V420LB40B	420	595	560	40	0.9
V460LB20A	460	650	615	20	0.55
V460LB40A	460	650	615	40	0.9
V460LB40B	460	650	615	40	0.9
V480LB20A	480	679	640	20	0.55
V480LB40A	480	679	640	40	0.7
V480LB80A	480	679	640	80	1.0
V480LB80B	480	679	640	80	1.0
V510LB20A	510	721	675	20	0.55
V510LB40A	510	721	675	40	0.7
V510LB80A	510	721	675	80	1.0
V510LB80B	510	721	675	80	1.0
V550LB20A	550	778	....	20	0.6
V550LB40A	550	778	....	40	0.7
V550LB80A	550	778	....	80	1.0
V550LB80B	550	778	....	80	1.0
V575LB20A	575	813	....	20	0.65
V575LB40A	575	813	....	40	0.8
V575LB80A	575	813	....	80	1.1
V575LB80B	575	813	....	80	1.1
V1000LB80A	1000	1414	....	80	0.9
V1000LB160A	1000	1414	....	160	1.3
V1000LB160B	1000	1414	....	160	1.3

†Power dissipation.

TYPE MA VARISTORS

Power Dissipation: 0.2 watts. **Current:** Can handle up to 20 amps.

V150MA1A	88	124	121	.10	.2
V150MA2B	92	130	137	.20	.2
V180MA1B	105	148	144	.15	.2
V180MA3B	110	156	152	.30	.2
V220MA2A	132	187	181	.20	.2
V220MA4B	138	195	191	.40	.2
V270MA2A	163	230	224	.20	.2
V270MA4B	171	242	235	.40	.2
V330MA2A	188	266	257	.25	.2
V330MA5B	200	283	274	.50	.2
V390MA3A	234	331	322	.30	.2
V390MA6B	242	342	334	.60	.2
V430MA3A	253	358	349	.35	.2
V430MA7B	264	373	365	.70	.2

TYPE ZA VARISTORS

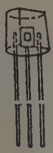
Power Dissipation: Up to .55 watts. **Current:** Can handle up to 2000 amps.

V22ZA1	12	17	16	.6	0.17
V22ZA3	12	17	16	3.0	0.40
V24ZA1	15	21	19	.8	0.18
V24ZA4	15	21	19	4.0	0.40
V27ZA1	15	21	20	.8	0.18
V27ZA4	15	21	20	4.0	0.40
V33ZA1	20	28	26	1.0	0.19
V33ZA5	20	28	26	5.0	0.40
V39ZA1	25	35	31	1.2	0.20
V39ZA6	25	35	31	6.0	0.45
V47ZA1	30	42	38	1.4	0.21
V47ZA7	30	42	38	7.0	0.45
V56ZA2	35	49	45	1.7	0.22
V56ZA8	35	49	45	8.0	0.45
V68ZA2	40	57	56	2.0	0.24
V68ZA10	40	57	56	10.0	0.50
V82ZA2	50	71	66	2.5	0.25
V82ZA12	50	71	66	12.0	0.50
V100ZA3	60	85	81	3.0	0.26
V100ZA15	60	85	81	15.0	0.55
V120ZA1	70	99	97	1.0	0.20
V120ZA6	75	106	102	6.0	0.45
V150ZA1	85	120	119	1.2	0.20
V150ZA8	95	134	127	8.0	0.45
V180ZA1	105	149	146	1.5	0.20
V180ZA10	115	163	153	10.0	0.45

SEE LAST PAGES OF LISTING FOR OEM SEMICONDUCTOR PRICING

SOLID STATE

OPTOELECTRONICS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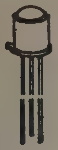
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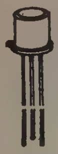
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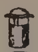
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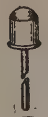
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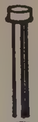
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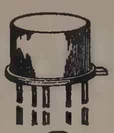
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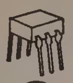
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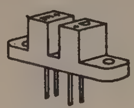
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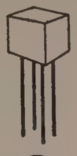
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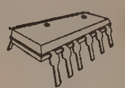
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DETECTORS

PHOTO TRANSISTORS

GE Type	Fig.	Minimum Sensitivity mA/mW/cm²	BV_{CEO} Volts	I_D Max. nA	Typical t_r µsec	Typical t_f µsec	Size, Inches Dia. x Lgth.
L14H1	B	.05	60	100	5	5	.170 x .210
L14H2	B	.2	30	100	5	5	.170 x .210
L14H3	B	.2	60	100	5	5	.170 x .210
L14H4	B	.05	30	100	5	5	.170 x .210
L14G1	C	.6	45	100	5	5	.230 x .255
L14G2	C	.3	45	100	5	5	.230 x .255
L14G3	C	1.2	45	100	5	5	.230 x .255

PHOTO DARLINGTON

GE Type	Fig.	Minimum Sensitivity mA/mW/cm²	BV_{CEO} Volts	I_D Max. nA	Typical t_r µsec	Typical t_f µsec	Size, Inches Dia. x Lgth.
2N5777	B	.25	25	100	75	50	.170 x .210
2N5778	B	.25	40	100	75	50	.170 x .210
2N5779	B	1.0	25	100	75	50	.170 x .210
2N5780	B	1.0	40	100	75	50	.170 x .210
L14F1	C	15	25	100	75	50	.230 x .255
L14F2	C	5	25	100	75	50	.230 x .255

PHOTO SWITCHES

GE Type	Fig.	Irradiance To Trigger mW/cm²	Blocking Volts	I_D Max. µA	V_F Volts	Size, Inches Dia. x Lgth.
L8	G	10	25–200	10	1.4	.370 x .260
L9	G	4.2	25–200	10	1.4	.370 x .260

COUPLERS

PHOTO TRANSISTOR OUTPUT

Also available with photo Darlington output.

GE Type	Fig.	Isolation Volts	Min. Current Transfer Ratio	I_D nA	BV_{CEO} Volts	Typical t_r µsec	Typical t_f µsec	Size, Inches W. x Lgth.
H11A1	I	2500	50%	50	30	2	2	.340 x .350
H11A2	I	1500	20%	50	30	2	2	.340 x .350
H11A3	I	2500	20%	50	30	2	2	.340 x .350
H11A4	I	1500	10%	50	30	2	2	.340 x .350
H11A5	I	1500	30%	100	30	2	2	.340 x .350
H11A10*	I	1500	10%	50	30	2	2	.340 x .350
H11AA1†	I	1500	20%	100	30	2	2	.340 x .350
H11AA2†	I	1500	10%	200	30	2	2	.340 x .350
H15A1	K	4000 rms	20%	100	30	2	2	.250 x .375
H15A2	K	4000 rms	10%	100	30	2	2	.250 x .375
H11A520	I	5656	20%	50	30	2	2	.340 x .350
H11A550	I	5656	50%	50	30	2	2	.340 x .350
H11A5100	I	5656	100%	50	30	2	2	.340 x .350
4N25	I	2500	20%	50	30	3	3	.340 x .350
4N25A	I	1775 rms	20%	50	30	3	3	.340 x .350
4N26	I	1500	20%	50	30	3	3	.340 x .350
4N27	I	1500	10%	50	30	3	3	.340 x .350
4N28	I	500	10%	50	30	3	3	.340 x .350
4N35	I	2500 rms	100%	50	30	3	3	.340 x .350
4N36	I	1750 rms	100%	50	30	5	5	.340 x .350
4N37	I	1050 rms	100%	50	30	5	5	.340 x .350
4N38	I	1500	10%	50	80	5	5	.340 x .350
4N38A	I	1775 rms	10%	50	80	5	5	.340 x .350
H11D1	I	2500	20%	100	300	5	5	.340 x .350
H11D2	I	1500	20%	100	300	5	5	.340 x .350
H11D3	I	1500	20%	100	200	5	5	.340 x .350
H11D4	I	1500	10%	100	200	5	5	.340 x .350
H74A1	I	1500	....	100	15	....	....	.340 x .350

*Programmable threshold. †AC input.

COUPLERS

PHOTO SCR OUTPUT

GE Type	Fig.	Isolation Volts	I_F to Trigger mA RGK10K	I_D µA	Blocking Volts	V_F Volts	Typ. TON µSec.	Size, Inches W. x Lgth.
H11C1	I	2500	20	50	200	1.5	1	.340 x .350
H11C2	I	1500	20	50	200	1.5	1	.340 x .350
H11C3	I	1500	30	50	200	1.5	1	.340 x .350
H11C4	I	2500	20	100	400	1.5	1	.340 x .350
H11C5	I	1500	20	100	400	1.5	1	.340 x .350
H11C6	I	1500	30	100	400	1.5	1	.340 x .350
4N39	I	1500	14	50	200	1	1.5	.340 x .350
4N40	I	1500	14	150	400	1	1.5	.340 x .350
H74C1	I	1500	....	....	200	....	....	.340 x .350
H74C2	I	1500	....	....	400	....	....	.340 x .350

*Diameter.

PHOTON COUPLED INTERRUPTER MODULES

GE Type	Fig.	Output Current* µA	I_D nA	BV_{CEO} Volts	Typical ton µsec	Typical tf µsec	Size, Inches ‡ x Lgth.
H13A1	J	200	100	30	5	5	.125 x .984
H13A2	J	50	100	30	5	5	.125 x .984
H13B1	J	1000†	100	25	150	150	.125 x .984
H13B2	J	500†	100	25	150	150	.125 x .984

MATCHED EMITTER DETECTOR PAIRS

GE Type	Fig.	Output Current* µA	I_D nA	BV_{CEO} Volts	Typical ton µsec	Typical tf µsec	Size, Inches ‡ x Lgth.
H17A1	B	50	100	30	5	5	.170 x .210
H17B1	B	1000	100	25	150	150	.170 x .210

*At $I_F = 20$ mA. †At $I_F = 10$ mA. ‡Length between pins.

INFRARED EMITTERS

GE Type	Min. Power Output at $I_F = 100$ mA	Max. Forward Voltage at $I_F = 100$ mA	Peak Emission Wavelength Typical Nanometers	Rise Time Typical Nanoseconds	Fall Time Typical Nanoseconds	Max. Power Diss. mW	Max. Forward Current Continuous mA	Package Outline
LED55B	3.5 mW	1.7	940	300	200	1300	100	E
LED55BF	3.5 mW	1.7	940	300	200	1300	100	F
LED55C	5.4 mW	1.7	940	300	200	1300	100	E
LED55CF	5.4 mW	1.7	940	300	200	1300	100	F
LED56	1.5 mW	1.7	940	300	200	1300	100	E
LED56F	1.5 mW	1.7	940	300	200	1300	100	F

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OEM Semiconductor Pricing

In accordance with Amendment 2 dated July 28, 1965 of MIL-S-19500D, all military types will be branded with the prefix JAN rather than USN, USAF, or USA just as rapidly as present inventories are depleted.

GE Type	Net Ea., Lots of	
	1-99	100-999
1N91	#	#
1N92	#	#
1N93	#	#
1N248*†, A*†, B*†, C*†	$ 2.75	$ 1.83
1N249*†, A*†, B*†, C*†	2.84	1.89
1N250*†, A*†, B*†, C*†	2.92	1.95
1N914	.33	.22*
1N914A	.44	.29*
1N914B	.88	.59*
1N916	.57	.37*
1N916A	.64	.42*
1N916B	1.18	.78*
1N1183*†	2.92	1.95
1N1183A*†	3.09	2.06
1N1184*†	3.00	2.00
1N1184A*†	3.17	2.11
JAN1N1184*†	4.85	2.99
JANTX1N1184*†	6.21	4.14
1N1185*†	3.36	2.24
1N1185A*†	3.57	2.38
1N1186*†	3.96	2.64
1N1186A*†	4.08	2.72
JAN1N1186*†	5.47	3.65
JANTX1N1186*†	6.97	4.65
1N1187*†	4.72	3.15
1N1187A*†	4.95	3.30
1N1188*†	5.85	3.90
1N1188A*†	6.19	4.13
JAN1N1188*†	8.89	5.93
JANTX1N1188*†	10.39	6.93
1N1189*†	6.45	4.30
1N1189A*†	7.42	4.95
1N1190*†	6.90	4.60
1N1190A*†	8.70	5.80
JAN1N1190*†	10.95	7.30
JANTX1N1190*†	13.20	8.80
1N1195*†, A*†	4.02	2.68
1N1196*†, A*†	4.95	3.30
1N1197*†, A*†	6.15	4.10
1N1198*†, A*†	6.68	4.45
1N1199*†, A*†	1.95	1.30
1N1200*†, A*†	2.03	1.35
1N1201*†, A*†	2.08	1.39
1N1202*†, A*†	2.62	1.75
JAN1N1202A*†	3.96	2.64
JANTX 1N1202A*†	5.61	3.74
1N1203*†, A*†	3.60	2.40
1N1204*†, A*†	4.57	3.05
JAN1N1204A*†	5.50	3.70
JANTX 1N1204A*†	7.21	4.81
1N1205*†, A*†	5.32	3.55
1N1206*†, A*†	6.37	4.25
JAN1N1206A*†	8.25	5.50
JANTX 1N1206A*†	9.91	6.61
1N1341*†, A*†	1.95	1.30
1N1342*†, A*†	2.03	1.35
1N1343*†, A*†	2.08	1.39
1N1344*†, A*†	2.22	1.48
1N1345*†, A*†	3.16	2.11
1N1346*†, A*†	3.96	2.64
1N1347*†, A*†	4.65	3.10
1N1348*†, A*†	5.48	3.65
1N1585*†	4.11	2.74
1N1586*†	4.96	3.31
1N1587*†	5.92	3.95
1N612*†	1.95	1.30
1N1613*†	2.03	1.35
1N1614*†	2.22	1.48
JAN1N1614†	3.03	2.02
1N1615*†	3.75	2.50
JAN1N1615†	5.25	3.50
1N1616*†	5.55	3.70
JAN1N1616†	7.16	4.77
1N2154*†	2.74	1.82
1N2155*†	3.45	2.30
1N2156*†	4.38	2.92
1N2157*†	5.25	3.50
1N2158*†	5.92	3.95
1N2159*†	6.15	4.10
1N2160*†	6.30	4.20
1N3208*†	2.31	1.54
1N3209*†	2.48	1.65
1N3210*†	2.64	1.76
1N3211*†	2.90	1.94
1N3212*†	3.47	2.31
1N3213*†	4.13	2.75
1N3214*†	4.95	3.30
1N3266*	27.00	16.50
1N3267*	28.50	17.25
1N3268*	30.50	18.50
1N3269*	33.00	19.75

GE Type	Net Ea., Lots of	
	1-99	100-999
1N3270*	$35.50	$21.50
1N3271*	37.50	22.50
1N3272*	41.00	24.50
1N3273*	43.50	26.00
1N3288*	14.95	9.75
1N3289*	15.75	10.25
JAN1N3289	45.50	27.25
1N3290*	16.75	10.25
1N3291*	17.75	10.80
JAN1N3291	49.50	29.75
1N3292*	19.00	11.50
1N3293*	20.00	12.00
JAN1N3293	60.50	36.25
1N3294*	23.00	13.75
JAN1N3294	71.50	43.00
1N3295*	25.00	15.00
JAN1N3295	84.00	50.50
1N3296*	27.00	16.20
1N3670*†, A*†	7.87	5.25
1N3671*†, A*†	8.77	5.85
JAN1N3671A*†	12.34	8.22
JANTX 1N3671A*†	15.04	10.02
1N3672*†, A*†	9.45	6.30
1N3673*†, A*†	9.90	6.60
JAN1N3673A*†	13.68	9.12
JANTX 1N3673A*†	16.38	10.92
1N3712	6.74	4.49
1N3713	10.11	6.74
JAN1N3713	11.62	7.74
1N3714	5.90	3.93
1N3715	9.27	6.18
JAN1N3715	10.76	7.18
1N3716	4.19	2.80
1N3717	7.91	5.27
JAN1N3717	8.66	5.77
1N3718	5.10	3.40
1N3719	7.91	5.27
JAN1N3719	8.28	5.52
1N3720	6.46	4.31
1N3721	7.58	5.05
JAN1N3721	8.28	5.52
1N3738*	28.75	17.25
1N3739*	31.00	18.75
1N3740*	33.50	20.25
1N3741*	38.50	23.00
1N3742*	43.50	26.00
1N3743*	48.50	29.00
1N3765*†	8.55	5.70
1N3766*†	9.75	6.50
JAN1N3766*†	14.40	9.60
JANTX 1N3766*†	17.10	11.40
1N3767*†	10.72	7.15
1N3768*†	11.62	7.75
JAN1N3768*†	16.74	11.16
JANTX1N3768*†	19.44	12.96
1N3879*†	2.55	1.70
1N3880*†	2.93	1.95
1N3881*†	3.23	2.15
1N3882*†	3.83	2.55
1N3883*†	4.50	3.00
1N3889*†	3.00	2.00
1N3890*†	3.60	2.40
JAN1N3890*†	4.80	3.20
JANTX1N3890*†	6.45	4.30
1N3891*†	4.35	2.90
JAN1N3891*†	5.93	3.95
JANTX1N3891*†	7.58	5.05
1N3892*†	5.25	3.50
1N3893*†	6.30	4.20
JAN1N3893*†	8.25	5.50
JANTX1N3893*†	9.90	6.60
1N3899*†	4.20	2.80
1N3900*†	5.02	3.35
1N3901*†	6.00	4.00
1N3902*†	7.20	4.80
1N3903*†	8.63	5.75
1N3909*†	4.88	3.25
JAN1N3909*†	6.30	4.20
JANTX1N3909*†	7.80	5.20
1N3910*†	5.85	3.90
JAN1N3910*†	7.35	4.90
JANTX1N3910*†	8.85	5.90
1N3911*†	6.98	4.65
JAN1N3911*†	9.45	6.30
JANTX1N3911*†	10.95	7.30
1N3912	8.40	5.60
JAN1N3912*†	11.55	7.70
JANTX1N3912*†	13.05	8.70
1N3913*†	10.13	6.75
JAN1N3913*†	13.65	9.10
JANTX1N3913*†	15.15	10.10
1N3987*†	8.25	5.50
1N3988*†	8.76	5.84
1N3989*†	9.44	6.29
1N3990*†	10.80	7.20

GE Type	Net Ea., Lots of	
	1-9	10-99
1N4049*	$32.50	$19.50
1N4050*	32.50	19.50
1N4051*	33.00	19.75
1N4052*	35.00	21.00
1N4053*	38.00	22.75
1N4054*	40.50	24.25
1N4055*	43.50	26.00
1N4056*	46.00	27.50

GE Type	Net Ea., Lots of	
	1-99	100-999
1N4090	#	#
1N4148	$ 0.33	$0.15*
JAN1N4148	.43	.20*
JANTX1N4148	2.11	1.20*
JANTXV1N4148	2.36	1.45*
1N4149	.57	.18*
1N4150	2.10	1.39*
JAN1N4150	2.10	1.39*
JANTX1N4150	3.60	1.60*
1N4151	.83	.21*
1N4152	.66	.20*
1N4153	.83	.21*
JAN1N4153	.83	.21*
JANTX1N4153	1.93	1.08*
1N4154	.36	.17*
1N4156	.75	.33*
1N4157	1.04	.39*
1N4245	.38	.21*
1N4246	.45	.24*
1N4247	.59	.33*
1N4248	1.05	.49*
1N4249	1.19	.56*
1N4305	.66	.19*
1N4444	1.66	.98*
1N4446	.40	.17*
1N4447	.64	.19*
1N4448	.83	.19*
1N4449	1.18	.30*
1N4450	1.60	.44*
1N4451	1.41	.83*
1N4453	.59	.29*
1N4454	.26	.18*
JAN1N4454	.24	.16*
JANTX1N4454	2.10	1.40*
JAN1N4459	11.40	7.60
1N4510*†	11.80	7.45
1N4511*†	14.40	9.60
1N4529*†	13.50	9.00
1N4530*†	17.25	11.50
1N4531	.50	.30*
JAN1N4531	.55	.38*
JANTXV1N4531	2.25	1.59*
1N4532	.72	.47*
JAN1N4532	.77	.53*
JANTX1N4532	2.10	1.38*
JANTXV1N4532	2.35	1.63*
1N4533	.76	.50*
1N4534	1.10	.74*
1N4536	.46	.31*
1N4606	1.32	.88*
1N4607	1.43	.96*
1N4608	1.58	1.03*
1N4727	.44	.29*
1N4828	.50	.33*
1N4829	.76	.51*
1N4830	1.02	.68*
1N4863	1.12	.75*
1N4864	1.54	1.00*
1N5059	.36	.28*
1N5060	.47	.36*
1N5061	.63	.44*
1N5062	.95	.62*
1N5179	1.32	.88*
1N5331*†	10.50	7.00
1N5332*†	12.60	8.40
1N5624	.75	.50*
1N5625	1.00	.67*
1N5626	1.53	1.04*
1N5627	3.75	2.50*
2N319	2.39	1.59
2N320	2.20	1.48
2N321, 2	2.36	1.57
2N323	2.22	1.48
2N324	2.34	1.56
JAN2N461	4.51	3.00
2N489	11.47	7.65*
2N489A	12.27	8.18*
JAN2N489A	12.54	8.36*
JANTX2N489A	15.44	10.30*
2N489B	14.67	9.78*
2N490	12.54	8.36*
2N490A	13.35	8.90*
JAN2N490A	14.32	9.55*
JANTX2N490A	16.76	11.18*
2N490B	15.74	10.49*
2N490C	18.94	12.63*
2N491	13.47	8.98*

GE Type	Net Ea., Lots of	
	1-99	100-999
2N491A	$14.27	$ 9.51*
JAN2N491A	15.30	10.20*
JANTX2N491A	19.90	13.27*
2N491B	16.67	11.12*
2N492	15.87	10.58*
2N492A	16.67	11.12*
JAN2N492A	17.83	11.89*
JANTX2N492A	23.19	15.46*
2N492B	19.07	12.72*
2N492C	22.27	14.85*
2N493	17.21	11.47*
2N493A	18.00	12.00*
JAN2N493A	19.23	12.82*
JANTX2N493A	25.02	16.68*
2N493B	20.41	13.60*
2N494	15.63	10.42*
2N494A	18.27	12.18*
JAN2N494A	19.52	13.01*
JANTX2N494A	25.38	16.92*
2N494B	20.67	13.78*
2N494C	23.88	15.92*
2N508	2.36	1.57
2N508A	2.57	1.71
2N524	2.43	1.62
2N525	2.53	1.68
2N526	2.74	1.83
JAN2N526	3.25	2.17
2N527	3.04	2.03*
2N681†	2.48	1.95*
2N682†	2.64	2.08*
JAN2N682†	4.29	3.38*
JANTX2N682	5.12	4.03*
2N683†	3.30	2.60*
JAN2N683†	4.95	3.90*
JANTX2N683A	5.78	4.55*
2N684†	3.79	2.99*
2N685†	4.95	3.90*
JAN2N685†	6.60	5.20*
JANTX2N685	7.43	5.85*
2N686†	5.77	4.55*
JAN2N686†	7.43	5.85*
JANTX2N686	8.25	6.50*
2N687†	6.02	4.75*
JAN2N687†	7.67	6.05*
JANTX2N687	8.50	6.70*
2N688†	7.01	5.52*
JAN2N688†	8.66	6.83*
JANTX2N688	9.49	7.48*
2N689†	7.43	5.85*
JAN2N689†	9.08	7.15*
JANTX2N689	9.90	7.80*
2N690†	7.83	6.17*
2N691†	8.63	6.90*
2N692	10.95	8.76*
2N877	3.00	2.00
2N878	3.30	2.20
2N879	5.40	3.60
2N880	6.30	4.20
2N881	7.50	5.00
2N885	8.62	5.75
2N886	10.50	7.00
2N887	13.12	8.75
2N888	14.77	9.85
2N1175	2.29	1.53
2N1370	2.01	1.34
2N1371	2.50	1.67
2N1372	2.27	1.52
2N1373	2.60	1.73
2N1374	2.52	1.68
2N1375	2.90	1.93
2N1376	2.95	1.97
2N1377	3.23	2.15
2N1378	2.95	1.97
2N1379	3.29	2.20
2N1380	1.87	1.25
2N1381	2.32	1.55
2N1413	3.02	2.01
2N1414	2.42	1.61
2N1415	2.64	1.76
2N1595	1.65	1.10
2N1595A	1.90	1.27
2N1596	2.40	1.60
2N1596A	2.76	1.84
2N1597	4.80	3.20
2N1597A	5.52	3.68
2N1598	7.50	5.00
2N1598A	8.63	5.75
2N1599	9.90	6.60
2N1599A	11.39	7.59
2N1671	5.25	3.50*
2N1671A	5.69	3.79*
2N1671B	6.27	4.18*
2N1671C	14.43	9.62*
2N1770†	2.25	1.50
2N1770A†	2.85	1.90
2N1771†	2.55	1.70
2N1771A†	3.15	2.10
2N1772†	3.53	2.35
2N1772A†	4.13	2.75
2N1773†	5.10	3.40
2N1773A†	5.70	3.80

*Available in reverse polarity at same price; to order, add suffix **R**, i.e., 1N248**R**, 1N248**R**A, etc. †Prices include mounting hardware. For insulating hardware, add **$0.10** per unit, any quantity. *Larger quantity prices available on request. #Contact factory.

OEM Semiconductor Pricing

GE Type	Net Ea., Lots of	
	1-99	100-999
2N1774†	$ 6.30	$4.20
2N1774A†	6.90	4.60
2N1775†	7.50	5.00
2N1775A†	8.10	5.40
2N1776†	8.40	5.60
2N1776A†	9.00	6.00
2N1777†	9.30	6.20
2N1777A†	9.90	6.60
2N1778†	11.40	7.60

GE Type	Net Ea., Lots of	
	1-9	10-99
2N1792	$18.00	$10.80
2N1793	19.80	11.90
2N1794	22.00	13.20
2N1795	24.00	14.40
2N1796	26.50	15.90
2N1797	28.50	17.10
2N1798	33.00	19.80

GE Type	Net Ea., Lots of	
	1-99	100-999
2N1842	$2.46	$1.97*
2N1842A	2.61	2.09*
2N1843	2.75	2.20*
2N1843A	2.90	2.32*
2N1844	3.38	2.70*
2N1844A	3.53	2.82*
2N1845	3.60	2.88*
2N1845A	3.75	3.00*
2N1846	4.73	3.78*
2N1846A	4.88	3.90*
2N1847	5.03	4.02*
2N1847A	5.18	4.14*
2N1848	5.25	4.20*
2N1848A	5.40	4.32*
2N1849	6.30	5.04*
2N1849A	6.45	5.16*
2N1850	7.13	5.70*
2N1850A	7.28	5.82*

GE Type	Net Ea., Lots of	
	1-9	10-99
2N1909	$16.20	$ 9.70
2N1910	18.00	10.80
2N1911	19.80	11.90
2N1912	22.00	13.20
2N1913	24.00	14.40
2N1914	26.50	15.90
2N1915	28.50	17.10
2N1916	33.00	19.80

GE Type	Net Ea., Lots of	
	1-99	100-999
2N1924	$3.00	$2.00
2N1925	3.40	2.25
2N1926	4.02	2.68

GE Type	Net Ea., Lots of	
	1-9	10-99
2N2023	$24.00	$14.50
2N2024	31.00	18.50
2N2025	35.00	21.00
2N2026	38.00	22.75
2N2027	38.00	22.75
2N2028	39.00	23.50
2N2029	40.00	24.00
2N2030	43.00	25.75
JAN2N2031	33.00	19.75

GE Type	Net Ea., Lots of	
	1-99	100-999
2N2160	$2.59	$1.73*
2N2322	1.95	1.30
2N2322A	3.63	2.42
2N2323	2.15	1.43
JAN2N2323	3.63	2.42
JANTX2N2323	5.28	3.52

GE Type	Net Ea., Lots of	
	1-99	100-999
2N2323A	$ 2.81	$ 1.87
JAN2N2323A	4.13	2.75
JANTX2N2323A	5.78	3.85
2N2324	3.38	2.25*
JAN2N2324	4.79	3.19
JANTX2N2324	6.44	4.29
2N2324A	4.62	3.08
JAN2N2324A	6.27	4.18
JANTX2N2324A	7.92	5.28
2N2325	4.98	3.32
2N2325A	6.60	4.40
2N2326	6.41	4.27
JAN2N2326	8.42	5.61
JANTX2N2326	10.07	6.71
2N2326A	8.58	5.72
JAN2N2326A	12.71	8.47
JANTX2N2326A	14.36	9.57
2N2327	7.59	5.06
2N2327A	12.21	8.14
2N2328	9.24	6.16
JAN2N2328	11.72	7.81
JANTX2N2328	13.37	8.91
2N2328A	13.20	8.80
2N2329	12.21	8.14
JAN2N2329	14.28	9.52
JANTX2N2329	16.34	10.89
2N2344	3.80	2.53
2N2345	4.29	2.86
2N2346	5.61	3.74
2N2347	10.07	6.71
2N2348	13.20	8.80
2N2646	1.00	.67
2N2647	1.89	1.26
2N2711	.33	.21*
2N2712	.33	.21*
2N2713	.45	.30*
2N2714	.39	.25*
2N2840	6.35	4.25*
2N2923	.29	.20*
2N2924	.32	.21*
2N2925	.38	.26*
2N2926	.27	.18*
2N3390	.70	.45*
2N3391	.43	.29*
2N3391A	.47	.32*
2N3392	.29	.20*
2N3393	.29	.20*
2N3394	.27	.18*
2N3395, 6, 7	.40	.27*
2N3398	.45	.30*
2N3402	.39	.28*
2N3403	.42	.30*
2N3404	.50	.35*
2N3405	.61	.43*
2N3414	.34	.23*
2N3415	.37	.25*
2N3416	.45	.30*
2N3417	.56	.38*
2N3649†	5.33	4.10
2N3650†	6.50	5.00
2N3651†	7.80	6.00
2N3652†	10.40	8.00
2N3653†	11.70	9.00
2N3654†	5.40	4.15
2N3655†	6.89	5.30
2N3656†	8.06	6.20
2N3657†	11.05	8.50
2N3658†	13.00	10.00
2N3662	.52	.35*
2N3663	.56	.38*
2N3721	.30	.23*
2N3843	.43	.29*
2N3843A	.45	.30*
2N3844	.45	.30*
2N3844A	.47	.32*
2N3845	.47	.32*
2N3845A	.50	.33*
2N3854	.34	.23*
2N3854A	.36	.24*
2N3855	.36	.24*
2N3855A	.38	.26*
2N3856	.38	.26*
2N3856A	.41	.27*
2N3858	.27	.18*
2N3858A	.34	.23*
2N3859	.29	.20*
2N3859A	.36	.24*
2N3860	.32	.21*
2N3877	.45	.30*
2N3877A	.52	.35*
2N3900	.41	.27*
2N3900A	.45	.30*
2N3901	.75	.50*
2N3903	.47	.30*
2N3904	.49	.35*
2N3905	.52	.33*
2N3906	.53	.37*
2N4123	$0.34	$0.20*
2N4124	.35	.23*
2N4125	.35	.22*
2N4126	.36	.23*
2N4256	.68	.45*
2N4400	.57	.37*
2N4401	.73	.45*
2N4402	.55	.37*
2N4403	.73	.45*
2N4409	.67	.45*
2N4410	.96	.65*
2N4424	.43	.29*
2N4425	.47	.32*
2N4983	1.25	.83*
2N4984	1.65	1.10*
2N4985	2.80	1.86*
2N4986	1.35	.90*
2N4987	.84	.56*
2N4988	1.35	.90*
2N4989	1.82	1.21*
2N4990	.94	.63*
2N4991	.83	.55*
2N4992	1.46	.97*
2N4993	2.06	1.37*
2N5060	.63	.42*
2N5061	.66	.45*
2N5062	.75	.50*
2N5063	.80	.53*
2N5064	.84	.56*
2N5088	.50	.36*
2N5089	.72	.46*
2N5172	.24	.16*
2N5174	.29	.20*
2N5204†	8.97	6.58*
2N5205†	10.20	7.48*
2N5206†	13.50	9.90*
2N5207†	17.10	12.54*
2N5219	.28	.19*
2N5220	.28	.19*
2N5221	.32	.20*
2N5223	.21	.14*
2N5225	.28	.17*
2N5226	.32	.20*
2N5227	.25	.17*
2N5232	.34	.23*
2N5232A	.38	.26*
2N5249	.50	.33*
2N5249A	.54	.36*
2N5305	.45	.30*
2N5306	.43	.29*
2N5306A	.50	.33*
2N5307	.47	.32*
2N5308	.52	.35*
2N5308A	.59	.39*
2N5309	.56	.38*
2N5310	.63	.42*
2N5311	.74	.50*
2N5354	.36	.24*
2N5355	.41	.27*
2N5365	.45	.30*
2N5366	.50	.33*
2N5368	.26	.18*
2N5369	.28	.18*
2N5370	.28	.19*
2N5371	.26	.17*
2N5373	.29	.19*
2N5375	.28	.18*
2N5380	.60	.40*
2N5381	.66	.44*
2N5382	.67	.45*
2N5383	.73	.49*
2N5418	.32	.21*
2N5419	.36	.24*
2N5420	.43	.29*
2N5447	.30	.20*
2N5448	.34	.29*
2N5449	.29	.19*
2N5450	.26	.17*
2N5451	.27	.24*
2N5777	.60	.50*
2N5778	.70	.55*
2N5779	1.00	.70*
2N5780	1.20	.80*
2N5810	.36	.24*
2N5811	.41	.27*
2N5812	.38	.26*
2N5813	.45	.30*
2N5815	.38	.26*
2N5816	.41	.27*
2N5817	.41	.27*
2N5818	.43	.29*
2N5819	.45	.30*
2N5821	.68	.45*
2N5822	.62	.41*
2N5823	.70	.46*
2N5824	.25	.17*
2N5825	.27	.18*
2N5826	$0.29	$0.20*
2N5827	.32	.21*
2N5827A	.38	.26*
2N5828	.34	.23*
2N5828A	.41	.27*
2N6000	.54	.36*
2N6001	.56	.38*
2N6004	.59	.39*
2N6010	.68	.45*
2N6011	.70	.46*
2N6014	.72	.48*
2N6015	.74	.50*
2N6027	.79	.53*
2N6028	1.00	.65*
2N6076	.25	.17*
2N6114	6.87	4.58*
2N6115	4.15	2.77*
2N6218	.68	.45*
2N6219	.65	.44*
2N6220	.63	.42*
2N6221	.56	.38*
2N6222	.29	.20*
2N6224	.34	.23*
3N81	3.40	2.25
3N82	4.95	3.30
3N83	1.98	1.32
3N84	1.98	1.32
3N85	3.30	2.20
3N86	6.00	4.00
4N25	1.41	1.13*
4N25A	1.41	1.13*
4N26	1.25	1.00*
4N27	1.14	.91*
4N28	1.03	.83*
4N29	1.83	1.46*
4N29A	1.86	1.49*
4N30	1.65	1.32*
4N31	1.42	1.18*
4N32	1.95	1.56*
4N32A	1.98	1.59*
4N33	1.83	1.46*
4N35	1.50	1.20*
4N36	1.41	1.13*
4N37	1.25	1.00*
4N38	1.65	1.32*
4N38A	1.73	1.38*
4N39	1.88	1.50*
4N40	1.97	1.57*
AC14V	.40	.28*
AC28V	.40	.28*
AC42V	.40	.28*
AC56V	.40	.28*
AC130V	.40	.28*
AC250V	.40	.28*
A14A	.34	.26*
A14C	.40	.31*
A14E	.57	.44*
A14F	.30	.23*
A14P	1.03	.68*
A15A	.62	.42*
A15F	.57	.39*
A28A†	5.40	3.60
A28B†	6.84	4.56
A28C†	8.55	5.70
A28D†	9.90	6.60
A28F†	4.59	3.06
A29A†	5.40	3.60
A29B†	6.84	4.56
A29C†	8.55	5.70
A29D†	9.90	6.60
A29F†	4.59	3.06
A40A†	2.48	1.65
A40B†	2.64	1.76
A40C†	2.91	1.94
A40D†	3.47	2.31
A40E†	4.13	2.75
A40F†	2.31	1.54
A40M†	4.95	3.30
A41A†	2.48	1.65
A41B†	2.64	1.76
A41C†	2.91	1.94
A41D†	3.47	2.31
A41E†	4.13	2.75
A41F†	2.31	1.54
A41M†	4.95	3.30
A44A	1.97	1.31
A44B	2.16	1.44
A44C	2.37	1.58
A44D	2.58	1.72
A44E	3.15	2.10
A44F	1.82	1.21
A44M	3.96	2.64
A45A	1.97	1.31
A45B	2.16	1.44
A45C	2.37	1.58
A45D	2.58	1.72
A45E	3.15	2.10
A45F	1.82	1.21
A45M	3.96	2.64

†Prices include mounting hardware. For insulating hardware, add $0.10 per unit, any quantity. *Larger quantity prices available on request.

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GE Type	Net Ea., Lots of 1-9	10-99
A70S	$21.00	$12.50
A70T	26.00	15.50
A71S	21.00	12.50
A71T	26.00	15.50
A72A	20.60	12.35
A72B	21.60	12.95
A72C	22.70	13.60
A72D	23.80	14.30
A72E	24.00	15.00
A72M	26.30	15.80
A72N	29.00	17.40
A72P	32.00	19.00
A72PA	33.60	20.15
A72PB	35.20	21.10
A72S	27.60	16.55
A72T	30.40	18.25
A73A	20.60	12.35
A73B	21.60	12.95
A73C	22.70	13.60
A73D	23.80	14.30
A73E	24.00	15.00
A73M	26.30	15.80
A73N	29.00	17.40
A73P	32.00	19.00
A73PA	33.60	20.15
A73PB	35.20	21.10
A73S	27.60	16.55
A73T	30.40	18.25

GE Type	Net Ea., Lots of 1-99	100-999
A114A	$0.85	$0.55*
A114B	.91	.58*
A114C	1.02	.65*
A114D	1.07	.79*
A114E	1.38	.91*
A114F	.75	.48*
A114M	1.52	.97*
A115A	1.56	.89*
A115B	1.89	1.05*
A115C	2.21	1.33*
A115D	2.55	1.64*
A115E	2.97	1.96*
A115F	1.50	.86*
A115M	3.72	2.28*
A139E*	12.15	8.10
A139M*	13.20	8.80
A139N*	15.30	10.20
A139P*	17.40	11.60

GE Type	Net Ea., Lots of 1-9	10-99
A170A*	$14.95	$10.80
A170B*	15.75	11.40
A170C*	16.75	11.40
A170D*	17.75	11.40
A170E*	19.00	11.50
A170M*	20.00	12.00
A170N*	23.00	13.75
A170P*	25.00	15.00
A170PA*	26.00	15.50
A170PB*	27.00	16.20
A170PC*	28.00	16.80
A170PD*	29.00	17.40
A170PE*	30.00	18.00
A170S*	21.00	12.50
A170T*	24.00	14.40
A177A*	19.00	11.40
A177B*	19.40	11.65
A177C*	19.80	11.90
A177D*	20.20	12.10
A177E*	20.80	12.50
A177M*	21.50	12.90
A177N*	26.50	15.90
A177P*	28.50	17.10
A177PA*	29.90	17.95
A177PB*	31.00	18.60
A177PC*	32.20	19.30
A177PD*	34.00	20.40
A177PE*	35.20	21.10
A177S*	25.50	15.30
A177T*	27.60	16.55
A180A*	19.00	11.40
A180B*	19.40	11.65
A180C*	19.80	11.90
A180D*	20.20	12.10
A180E*	20.80	12.50
A180M*	21.50	12.90
A180N*	25.30	15.20
A180P*	27.30	16.40
A180PA*	28.60	17.15
A180PB*	29.70	17.80
A180PC*	30.80	18.50
A180PD*	31.90	19.15
A180PE*	33.00	19.80
A180S*	$23.10	$13.85
A180T*	26.20	15.70
A187A*	20.00	12.00
A178B*	20.40	12.25
A187C*	20.80	12.50
A187D*	21.00	12.60
A187E*	22.90	13.75
A187M*	23.60	14.15
A187N*	29.20	17.50
A187P*	31.40	18.85
A187PA*	32.90	19.75
A187PB*	34.10	20.45
A187PC*	35.40	21.25
A187PD*	37.40	22.45
A187PE*	38.70	23.20
A187S*	28.00	16.80
A187T*	30.40	18.25
A190A*	27.85	16.75
A190B*	27.85	16.75
A190C*	28.75	17.25
A190D*	28.75	17.25
A190E*	31.00	18.75
A190M*	33.50	20.25
A190N*	38.50	23.00
A190P*	43.50	26.00
A190PA*	46.00	27.50
A190PB*	48.50	29.00
A190PC*	50.60	30.35
A190PD*	53.20	31.90
A190PE*	55.80	33.50
A190S*	36.00	21.50
A190T*	41.50	25.00
A197A*	26.00	15.50
A197B*	29.00	17.50
A197C*	32.00	19.25
A197D*	35.00	21.00
A197E*	38.50	23.00
A197M*	42.00	25.25
A197N*	48.50	29.00
A197P*	55.00	33.00
A197PA*	56.20	33.70
A197PB*	58.40	35.05
A197PC*	60.20	36.10
A197PD*	62.40	37.45
A197PE*	63.20	37.90
A197S*	45.00	27.00
A197T*	51.50	31.00
A390M	25.00	15.00
A390N	29.50	17.75
A390P	33.50	20.00
A390PA	35.50	21.25
A390PB	38.00	22.75
A390S	27.00	16.25
A390T	31.50	19.00
A390PC	40.40	24.25
A390PD	42.80	25.70
A390PE	45.20	27.10
A397A	27.00	16.20
A397B	27.00	16.20
A397C	27.00	16.20
A397D	28.50	17.00
A397E	31.50	19.00
A397M	33.50	20.00
A397N	39.00	23.50
A397P	45.00	27.00
A397PA	47.60	28.55
A397PB	50.00	30.00
A397PC	52.20	31.30
A397PD	54.40	32.65
A397PE	56.60	33.95
A397S	36.20	21.70
A397T	42.00	25.25
A430E	53.00	31.80
A430M	59.00	35.40
A430N	71.00	42.60
A430P	84.00	50.40
A430S	65.00	39.00
A430T	77.00	46.20
A430PA	90.00	54.00
A430PB	95.00	57.00
A430PC	101.00	60.60
A430PD	106.00	63.60
A430PE	112.00	67.20
A430PM	117.00	70.20
A430PS	122.00	73.20
A437E	62.50	37.50
A437M	72.00	43.20
A437N	91.00	54.60
A437P	110.60	66.35
A437PA	120.00	72.00
A437PB	130.00	78.00
A437PC	137.00	82.20
A437PD	150.00	90.00
A437PE	164.00	98.40
A437S	81.50	48.90
A437T	100.50	60.30
A500L	124.00	74.40
A500LA	126.00	75.60
A500LB	128.00	76.80
A500LC	130.00	78.00
A500LD	$132.00	$79.20
A500LE	134.00	80.40
A500LM	136.00	81.60
A500LN	140.00	84.00
A500LP	144.00	86.40
A500LS	138.00	82.80
A500LT	142.00	85.20
A500PE	112.00	67.20
A500PM	114.00	68.40
A500PN	118.00	70.80
A500PS	116.00	69.60
A500PT	120.00	72.00
A540D	80.00	48.00
A540E	84.00	50.40
A540L	156.00	93.60
A540LA	164.00	98.40
A540LB	172.00	103.20
A540LC	180.00	108.00
A540LD	188.00	112.80
A540M	88.00	52.80
A540N	96.00	57.60
A540P	104.00	62.40
A540PA	108.00	64.80
A540PB	112.00	67.20
A540PC	116.00	69.60
A540PD	120.00	72.00
A540PE	126.00	75.60
A540PM	132.00	79.20
A540PN	144.00	86.40
A540PS	138.00	82.80
A540PT	150.00	90.00
A540S	92.00	55.20
A540T	100.00	60.00
A570A	116.00	69.60
A570B	120.00	72.00
A570C	124.00	74.40
A570D	128.00	76.80
A570E	132.00	79.20
A570M	136.00	81.60
A596M	120.00	72.00
A596N	132.00	79.20
A596P	148.00	88.80
A596S	126.00	75.60
A596T	140.00	84.00
A596PA	156.00	93.60
A596PB	164.00	98.40
A596PC	176.00	105.60
A596PD	190.00	114.00
A640L	272.00	163.20
A640P	154.00	92.40
A640PA	164.00	98.40
A640PB	174.00	104.40
A640PC	184.00	110.40
A640PD	194.00	116.40
A640PE	206.00	123.60
A640PM	218.00	130.80
A640PN	244.00	146.40
A640PS	230.00	138.00
A640PT	258.00	154.80
A640T	146.00	87.60

GE Type	Net Ea., Lots of 1-99	100-999
BD1, 2	$ 9.27	$ 6.18
BD3	5.57	3.71
BD4	9.27	6.18
BD5, 6, 7	18.54	12.36

GE Type	Net Ea., Lots of 1-9	10-99
BD402, 3, 4, 5, 6, 7	$65.94	$32.97

GE Type	Net Ea., Lots of 1-99	100-999
C6A	$ 1.80	$ 1.20
C6B	2.10	1.40
C6C	3.57	2.38
C6D	5.34	3.56
C6F	1.65	1.10
C6G	1.95	1.30
C6U	1.50	1.00
C13F†	.50	.33*
C13Y†	.45	.30*
C15A†	2.36	1.86*
C15B†	2.54	2.00*
C15C†	3.23	2.55*
C15D†	3.61	2.85*
C15E†	$ 5.78	$ 4.55*
C15F†	2.16	1.70*
C15G	2.48	1.95*
C15M	6.60	5.20*
C15U	2.10	1.65*
C35A†	4.29	3.43*
C35B†	5.76	4.61*
C35C†	6.87	5.50*
C35D†	7.50	6.00*
C35E†	8.10	6.48*
C35F†	3.36	2.69*
C35G†	5.04	4.03*
C35H†	6.38	5.10*
C35M†	8.85	7.08*
C35S†	9.38	7.50*
C35U†	2.85	2.42*
C36M†	8.48	6.78*
C36S†	9.00	7.20*
C37A†	3.96	3.12*
C37B†	5.38	4.24*
C37C†	6.55	5.16*
C37D†	7.49	5.90*
C37E†	8.42	6.63*
C37F†	3.14	2.47*
C37M†	9.24	7.28*
C37S†	9.90	7.80*
C37U†	2.74	2.16*
C38A†	5.78	4.55*
C38B†	7.59	5.98*
C38C†	9.90	7.80*
C38D†	12.38	9.75*
C38E†	14.85	11.70*
C37F†	4.54	3.58*
C38G†	6.77	5.33*
C38H†	9.08	7.15*
C38U†	4.13	3.25*

GE Type	Net Ea., Lots of 1-9	10-99
C45B	$21.00	$12.60
C45C	25.00	15.00
C45D	28.40	17.00
C45E	32.00	19.20
C45F	16.80	10.10
C45G	19.80	11.90
C45H	23.00	13.80
C45M	36.00	21.60
C45N	42.40	25.45
C45P	50.40	30.25
C45PA	54.00	32.40
C45PB	57.00	34.20
C45S	39.60	23.75
C45T	47.00	28.20
C45U	15.60	9.35
C46B	21.00	12.60
C46C	25.00	15.00
C46D	28.40	17.00
C46E	32.00	19.20
C46F	16.80	10.10
C46G	19.80	11.90
C46H	23.00	13.80
C46M	36.00	21.60
C46N	42.40	25.45
C46P	50.40	30.25
C46PA	54.00	32.40
C46PB	57.00	34.20
C46S	39.60	23.75
C46T	47.00	28.20
C46U	15.60	9.35
C50E	37.20	22.35
C50M	41.50	24.90
C50N	50.00	30.00
C50P	58.00	34.80
C50PA	62.00	37.20
C50PB	67.00	40.20
C50S	45.80	27.50
C50T	54.00	32.40
C52E	37.20	22.35
C52M	41.50	24.90
C52N	50.00	30.00
C52P	58.00	34.80
C52PA	62.00	37.20
C52PB	67.00	40.20
C52S	45.80	27.50
C52T	54.00	32.40
C60E	60.00	36.00
C62A	35.00	21.00
C62B	38.00	22.75
C62C	40.00	24.00
C62D	43.00	25.75
C62E	60.00	36.00
C62F	31.00	18.50
C62G	38.00	22.75
C62H	39.00	23.50
C62U	24.00	14.50

*Available in reverse polarity at same price; to order, add suffix **R**, i.e., iN248**R**, 1N248**R**A, etc.
*Larger quantity prices available on request.

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GE Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999
C103A	$0.75	$0.50*
C103B	.84	.56*
C103Q	.60	.40*
C103Y	.63	.42*
C103YY	.66	.44*
C106A	.71	.52*
C106B	.79	.58*
C106C	.99	.72*
C106D	1.16	.84*
C106E	1.39	1.00*
C106F	.69	.51*
C106M	1.60	1.17*
C106Q	.63	.46*
C106Y	.66	.48*
C107A	.65	.47*
C107B	.73	.53*
C107C	.84	.61*
C107D	1.10	.74*
C107E	1.17	.85*
C107F	.62	.45*
C107M	1.52	1.10*
C107Q	.57	.41*
C107Y	.58	.42*
C108A	.98	.65*
C108B	1.09	.73*
C108C	1.35	.90*
C108D	1.58	1.05*
C108E	1.80	1.20*
C108F	.94	.63*
C108M	2.25	1.50*
C108Q	.86	.58*
C108Y	.90	.60*
C116A1	.74	.59*
C116B1	.83	.65*
C116D1	1.07	.85*
C116E1	1.49	1.17*
C116F1	.66	.52*
C116M1	1.90	1.50*
C122A1†	.91	.72*
C122B1†	.99	.78*
C122C1†	1.24	.98*
C122D1†	1.40	1.11*
C122E1†	1.65	1.30*
C122F1†	.83	.65*
C122M1†	2.06	1.63*
C123A†	1.07	.85*
C123B†	1.16	.91*
C123C†	1.40	1.11*
C123D†	1.57	1.24*
C123E†	1.82	1.43*
C123F†	.99	.78*
C123M†	2.23	1.76*
C126A†	1.07	.85*
C126B†	1.16	.91*
C126C†	1.40	1.11*
C126D†	1.57	1.24*
C126E†	1.82	1.43*
C126F†	.99	.78*
C126M†	2.23	1.76*
C136D•	6.53	5.22*
C136E•	7.28	5.82*
C136M•	8.22	6.58*
C137E•	8.78	7.02*
C137M•	9.72	7.78*
C137N•	10.95	8.76*
C137P•	14.25	11.40*
C137PA•	15.75	12.60*
C137PB•	17.85	14.28*
C137S•	9.98	7.98*
C137T•	12.45	9.96*
C138E10E•	10.80	8.64*
C138E20E•	8.37	6.70*
C138M10M•	12.09	9.67*
C138M20M•	9.12	7.30*
C138N10M•	14.45	11.56*
C138N20M•	11.01	8.81*
C138S10M•	13.04	10.43*
C138S20M•	10.07	8.05*
C139E10E•	20.52	13.68
C139E20E•	16.68	11.12
C139M10M•	23.04	15.36
C139M20M•	18.60	12.40
C139N10M•	27.84	18.56
C139N20M•	22.68	15.12
C139S10M•	25.20	16.18
C139S20M•	20.52	13.68
C144E15E	18.60	12.40
C144E30E	14.28	9.52
C144M15M	20.88	13.92
C144N15M	25.08	16.72
C144N30M	18.96	12.64
C144S15M	22.56	15.04
C144S30M	17.28	11.52

GE Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
C147A	$15.50	$ 9.25
C147B	16.00	9.50
C147C	16.50	10.00
C147D	18.00	10.75
C147E	20.00	12.00
C147M	23.25	14.00
C147N	31.00	18.50
C147P	39.00	23.50
C147PA	43.00	25.75
C147PB	47.00	28.25
C147S	27.00	16.25
C147T	35.00	21.00
C148M30	35.00	21.00
C148M40	30.00	18.00
C148N30	45.00	27.00
C148N40	38.50	23.10
C148P30	55.00	33.00
C148P40	47.00	28.20
C148PA30	60.00	36.00
C148PA40	51.00	30.60
C148PB30	65.00	39.00
C148PB40	55.00	33.00
C148S30	40.00	24.00
C148S40	34.00	20.40
C148T30	50.00	30.00
C148T40	42.50	25.50
C149A10	21.00	12.75
C149A20	18.50	11.00
C149B10	26.00	15.75
C149B20	22.50	13.50
C149C10	30.50	18.25
C149C20	27.00	16.25
C149D10	35.50	21.25
C149D20	31.00	18.75
C149E10	45.00	27.00
C149E20	38.00	22.75
C149M10	54.50	32.75
C149M20	45.00	27.00
C150E	39.50	23.75
C150M	44.00	26.50
C150N	55.00	33.00
C150P	66.00	39.50
C150PA	70.50	42.25
C150PB	76.00	45.50
C150PC	82.50	49.50
C150S	50.50	30.25
C150T	60.50	36.25
C152E	39.50	23.75
C152M	44.00	26.50
C152N	55.00	33.00
C152P	66.00	39.50
C152PA	70.50	42.25
C152PB	76.00	45.50
C152PC	82.50	49.50
C152S	50.50	30.25
C152T	60.50	36.25
C154A	29.00	17.50
C154B	35.50	21.25
C154C	40.00	24.00
C154D	49.00	29.50
C154E	59.50	35.75
C155A	26.95	16.25
C155B	33.00	19.75
C155C	39.00	23.50
C155D	45.00	27.00
C155E	53.50	32.00
C155M	64.00	38.50
C156A	29.00	17.50
C156B	35.50	21.25
C156C	40.00	24.00
C156D	49.00	29.50
C156E	59.50	35.75
C157A	26.95	16.25
C157B	33.00	19.75
C157C	39.00	23.50
C157D	45.00	27.00
C157E	53.50	32.00
C157M	64.00	38.50
C158E	44.50	26.70
C158M	53.40	32.00
C158N	71.00	42.60
C158P	88.50	53.10
C158PA	97.00	58.20
C158PB	106.00	63.60
C158S	62.00	37.20
C158T	79.50	47.70
C159E	44.50	26.70
C159M	53.40	32.00
C159N	71.00	42.60
C159P	88.50	53.10
C159PA	97.00	58.20
C159PB	106.00	63.60
C159S	62.00	37.20
C159T	79.50	47.70
C164A	36.00	21.60
C164B	44.00	26.40
C146C	51.80	31.10
C164D	59.60	35.75

GE Type	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99
C164E	$ 63.40	$38.00
C164M	71.20	42.70
C165A	34.00	20.40
C165B	41.40	24.85
C165C	48.20	28.90
C165D	54.80	32.90
C165E	57.60	34.55
C165M	64.30	38.60
C165N	77.80	46.70
C165S	70.70	42.40
C180A	40.00	24.00
C180B	43.00	25.80
C180C	47.00	28.20
C180D	52.00	31.20
C180E	58.00	34.80
C180M	66.00	39.60
C180N	93.00	55.80
C180P	110.00	66.00
C180PA	117.00	70.20
C180PB	124.00	74.40
C180PC	132.00	79.20
C180S	78.00	46.80
C180T	102.00	61.20
C184A	71.40	42.85
C184B	76.80	46.00
C184C	84.60	50.75
C184D	94.80	56.85
C184E	111.00	66.60
C184M	129.60	77.75
C185A	59.50	35.75
C185B	64.00	38.50
C185C	70.50	42.25
C185D	79.00	47.50
C185E	92.50	55.50
C185M	108.00	64.75
C185N	130.70	78.40
C185S	118.80	71.30
C186N	94.40	56.65
C186P	114.20	68.50
C186PA	125.60	75.35
C186PB	138.20	82.90
C186S	85.80	51.50
C186T	103.80	62.30

GE Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999
C203A	$ 0.75	$ 0.50*
C203B	.84	.56*
C203Q	.60	.40*
C203Y	.63	.42*
C203YY	.66	.44*
C220A	1.82	1.32*
C220B	1.90	1.38*
C220C	2.19	1.60*
C220D	2.38	1.73*
C220E	2.99	2.17*
C220F	1.68	1.22*
C220M	3.55	2.58*
C220U	1.60	1.16*
C222A	1.58	1.14*
C222B	1.65	1.20*
C222C	1.95	1.42*
C222D	2.13	1.55*
C222E	2.74	1.99*
C222F	1.44	1.04*
C222M	3.30	2.40*
C222U	1.35	.98*
C228A	3.47	2.73*
C228B	5.78	4.55*
C228C	6.19	4.88*
C228D	7.18	5.66*
C228E	7.59	5.98*
C228F	2.81	2.21*
C228M	8.00	6.31*
C229A	3.22	2.54*
C229B	4.87	3.84*
C229C	5.94	4.68*
C229D	6.93	5.46*
C229E	7.34	5.79*
C229F	2.56	2.02*
C229M	7.76	6.11*
C230A	3.14	2.47*
C230B	4.21	3.32*
C230C	4.95	3.90*
C230D	5.61	4.42*
C230E	6.27	4.94*
C230F	2.56	2.02*
C230M	6.55	5.16*
C230U	2.28	1.79*
C231A	3.38	2.67*
C231B	4.46	3.51*
C231C	5.20	4.10*
C231D	5.86	4.62*
C231E	6.52	5.14*
C231F	2.64	2.08*
C231M	6.80	5.36*

GE Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999
C231U	$2.52	$1.99*
C232A	2.89	2.28*
C232B	3.96	3.12*
C232C	4.70	3.71*
C232D	5.36	4.23*
C232E	6.02	4.75*
C232F	2.31	1.82*
C232M	6.30	4.97*

GE Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999
C232U	$ 2.03	$ 1.60*
C233A	3.14	2.47*
C233B	4.20	3.32*
C233C	4.95	3.90*
C233D	5.61	4.42*
C233E	6.27	4.94*
C233F	2.56	2.02*
C233M	6.55	5.16*
C233U	2.28	1.79*
C234A	3.80	2.99*
C234B	5.45	4.29*
C234C	6.52	5.14*
C234D	7.51	5.92*
C234E	7.92	6.24*
C234F	3.14	2.47*
C234M	8.33	6.57*
C235A	3.55	2.80*
C235B	5.20	4.10*
C235C	6.27	4.94*
C235D	7.26	5.72*
C235E	7.67	6.05*
C235F	2.89	2.28*
C235M	8.09	6.37*
C350A	ƒ	ƒ
C350B	ƒ	ƒ
C350C	25.50	15.50
C350D	28.00	16.75
C350E	30.00	18.00
C350M	34.00	20.50
C350N	43.00	25.75
C350P	52.00	31.25
C350PA	56.00	33.50
C350PB	60.00	36.00
C350PC	68.00	40.75
C350S	39.00	23.50
C350T	47.00	28.25
C354A	23.00	15.25
C354B	28.00	17.75
C354C	33.00	19.75
C354D	38.00	22.75
C354E	50.00	27.50
C354M	54.50	32.75
C355A	21.00	12.75
C355B	26.00	15.50
C355C	30.00	18.00
C355D	35.00	21.00
C355E	42.00	25.25
C355M	49.00	29.50
C358E	42.00	25.20
C358M	50.50	30.30
C358N	66.00	39.60
C358P	82.00	49.20
C358PA	90.00	54.00
C358PB	97.60	58.55
C358S	59.50	35.70
C358T	74.00	44.40
C364A	36.50	22.00
C364B	42.00	25.25
C364C	48.00	28.75
C364D	53.50	32.00
C364E	60.50	36.25
C364M	67.00	40.25
C365A	31.50	19.00
C365B	33.50	20.00
C365C	39.50	23.00
C365D	41.50	25.00
C365E	48.00	28.75
C365M	53.50	32.00
C380A	32.00	19.25
C380B	34.00	20.50
C380C	38.00	23.00
C380D	44.00	26.50
C380E	52.00	31.25
C380M	60.00	36.00
C380N	76.00	45.75
C380P	92.00	55.25
C380PA	102.00	61.25
C380PB	110.00	66.00
C380PC	118.00	71.00
C380S	68.00	41.00
C380T	84.00	50.50
C384A	57.60	34.55
C384B	62.40	37.45
C384C	67.20	40.30
C384D	76.80	46.05
C384E	91.20	54.70

*Larger quantity prices available on request. ƒContact factory. •Prices include mounting hardware.
†For insulating hardware, add $0.10 per unit, any quantity.

OEM Semiconductor Pricing

GE Type	Net Ea., Lots of	
	1-99	100-999
C384M	$105.60	$63.35
C385A	48.00	28.75
C385B	52.00	31.25
C385C	56.00	33.50
C385D	64.00	38.50
C385E	76.00	45.50
C385M	88.00	52.75
C385N	116.40	69.85
C385S	101.20	60.70

GE Type	Net Ea., Lots of	
	1-9	10-99
C386N	$82.30	$49.40
C386P	99.60	59.75
C386PA	109.50	65.70
C386PB	120.50	72.30
C386S	74.80	44.90
C386T	90.50	54.30
C387E	114.00	68.00
C387M	128.00	77.00
C387N	164.00	98.00
C387P	198.00	119.00
C387PA	216.00	130.00
C387PB	232.00	139.00
C387S	148.00	89.00
C387T	180.00	108.00
C388E	126.00	76.00
C388M	144.00	86.00
C388N	184.00	110.00
C388P	224.00	134.00
C388PA	244.00	146.00
C388PB	260.00	156.00
C388S	166.00	100.00
C388T	204.00	122.00
C390M	87.00	52.20
C390N	109.00	65.40
C390P	128.00	76.80
C390PA	137.00	82.20
C390PB	146.00	87.60
C390PC	156.00	93.60
C390S	99.00	59.40
C390T	116.00	69.60
C391PC	156.00	93.60
C391PD	164.05	98.70
C391PE	174.05	104.70
C391PM	184.00	110.40
C391PS	198.00	118.80
C391PN	203.00	121.80
C392A	107.00	64.25
C392B	115.00	69.00
C392C	121.00	72.50
C392D	128.00	76.75
C392E	136.00	81.50
C392M	156.00	93.50
C393A	99.00	59.50
C393B	107.00	64.25
C393C	115.00	69.00
C393D	122.00	73.25
C393E	130.00	78.00
C393M	146.00	87.50
C394A	132.00	79.25
C394B	141.00	84.50
C394C	150.00	90.00
C394D	159.00	95.50
C394E	168.00	100.75
C394M	192.00	115.25
C395A	122.00	73.25
C395B	130.00	78.00
C395C	138.00	82.75
C395D	145.00	87.00
C395E	152.00	91.25
C395M	176.00	105.50
C397E	126.00	76.00
C397M	144.00	86.00
C397N	184.00	110.00
C397P	224.00	134.00
C397PA	244.00	146.00
C397PB	260.00	156.00
C397S	166.00	100.00
C397T	204.00	122.00
C398E	140.00	84.00
C398M	160.00	96.00
C398N	204.00	122.00
C398P	248.00	149.00
C398PA	270.00	162.00
C398PB	290.00	174.00
C398S	184.00	110.00
C398T	226.00	136.00
C440M	164.00	98.40
C440N	186.00	116.60
C440P	214.00	128.40
C440PA	232.00	139.20
C440PB	270.00	162.00
C440S	174.00	104.40
C440T	200.00	120.00
C441PB	180.00	108.00
C441PC	190.00	114.00
C441PD	206.00	123.60
C441PE	220.00	132.00
C441PM	238.00	142.80
C441PN	272.00	163.20
C441PS	254.00	152.40
C444A	180.00	108.00
C444B	210.00	126.00
C444C	236.00	141.60
C444D	264.00	158.40
C444E	292.00	175.20
C444M	320.00	192.00
C445A	156.00	93.60
C445B	184.00	110.40
C445C	210.00	126.00
C445D	238.00	142.80
C445E	264.00	158.40
C445M	292.00	175.20
C445S	318.00	190.80
C447N	229.70	137.70
C447P	278.80	167.30
C447PA	304.30	182.60
C447PB	326.40	195.85
C447S	205.70	123.40
C447T	253.30	152.00
C448N	243.00	145.80
C448P	295.20	177.00
C448PA	322.00	193.20
C448PB	345.60	207.35
C448S	217.80	130.70
C448T	268.00	160.80
C501L	296.80	178.00
C501PC	171.70	103.00
C501PD	182.30	109.40
C501PE	195.00	117.00
C501PM	209.90	125.95
C501PN	245.90	147.55
C501PS	226.80	136.00
C501PT	269.20	161.50
C502L	280.00	168.00
C502LA	290.00	174.00
C502PT	164.00	158.40

GE Type	Net Ea., Lots of	
	1-99	100-999
C511A	$ 3.60	$ 2.40*
C511B	6.15	4.10*
C511C	9.15	6.10*
C511D	11.85	7.90*
C511F	2.55	1.70*
C511G	4.95	3.30*
C511H	7.65	5.10*
C511U	2.40	1.60*

GE Type	Net Ea., Lots of	
	1-9	10-99
C600N	216.20	129.70
C600P	239.60	143.75
C600PA	256.50	153.90
C600PB	294.70	176.80
C600PC	313.80	188.30
C600S	205.60	123.35
C600T	226.80	136.00
C600E, M	#	#
C601L	379.50	227.70
C601PA	#	#
C601PB	225.00	124.80
C601PC	235.30	141.00
C601PD	248.00	148.80
C601PE	265.00	159.00
C601PM	282.00	169.20
C601PN	322.20	193.30
C601PS	301.00	180.60
C601PT	347.70	208.60
C602L	282.00	169.20
C602LA	298.00	178.80
C602LB	308.00	184.80
C602LC	328.00	196.80
C602LD	350.00	210.00
C602LE	374.00	224.40
C602LM	400.00	240.00
C602LN	460.00	276.00
C602LS	428.00	256.80
C602PT	268.00	160.80
C602PN	#	#
C602PS	#	#
C609P	292.60	175.55
C609PA	322.00	193.20
C609PB	360.40	216.25
C609T	262.90	157.80
C609N	#	#
C609S	#	#

GE Type	Net Ea., Lots of	
	1-99	100-999
C611A	$2.40	$1.60*
C611B	2.60	1.73*
C611F	2.20	1.45*
C611G	2.50	1.67*
C611U	2.10	1.40*

GE Type	Net Ea., Lots of	
	1-9	10-99
C612PC	296.00	177.60
C612PD	312.00	187.20
C612PE	324.00	194.40
C612PM	338.00	202.80
C612PN	398.00	238.80
C612PS	374.00	224.40
C701L	430.00	258.00
C701PB	246.00	147.60
C701PC	260.00	156.00
C701PD	276.00	165.60
C701PE	294.00	176.40
C701PM	314.00	188.40
C701PN	360.00	216.00
C701PS	336.00	201.60
C701PT	390.00	234.00
C702L	430.00	258.00
C702LA	472.00	283.20
C702LB	522.00	313.20
C702LC	578.00	346.80
C702LD	646.00	384.00
C712L	700.00	420.00
C712PC	452.00	271.20
C712PD	468.00	280.80
C712PE	484.00	290.40
C712PM	506.00	303.60
C712PN	566.00	339.60
C712PS	534.00	320.40
C712PT	604.00	362.40

GE Type	Net Ea., Lots of	
	1-99	100-999
DC14V	$0.40	$0.28*
DC28V	.40	.28*
DC42V	.40	.28*
DC56V	.40	.28*
D5J37	.75	.50
D5J43	1.05	.70
D5J44	.97	.65
D5J45	1.49	.99
D5K1	9.24	6.16*
D5K2	5.15	3.43*
D13H1	.90	.62
D13H2	.85	.57
D13T3	.94	.63*
D13T4	1.87	1.26*
D16G6	#	#
D16P1	.38	.26*
D16U3	#	#
D16U4	#	#
D29E1	.52	.35*
D29E2	.56	.38*
D29E4	.47	.32*
D29E5	.52	.35*
D29E6	.56	.38*
D29E7	.63	.42*
D29E9	.88	.59*
D29E10	.95	.63*
D32H1	.53	.35*
D32H2	.60	.40*
D32H3	.66	.44*
D32H4	.60	.40*
D32H5	.72	.48*
D32H6	.78	.52*
D32H7	.72	.48*
D32H8	.90	.60*
D32H9	1.02	.68*
D32L1	.69	.41*
D32L2	.81	.49*
D32L3	.87	.52*
D32L4	.60	.36*
D32L5	.72	.43*
D32L6	.69	.41*
D32S1	.65	.47*
D32S2	.72	.52*
D32S3	.85	.61*
D32S4	1.04	.75*
D32S5	.72	.52*
D32S6	.78	.54*
D32S7	.94	.68*
D32S8	.59	.42*
D32S9	.75	.54*
D32S10	1.04	.75*
D32V1	.67	.52*
D32V2	.79	.54*
D32V3	.87	.58*
D32W7	.54	.36*
D32W8	.60	.40*
D32W9	$0.75	$0.50*
D32W10	.98	.65*
D32W12	.57	.38*
D32W13	.66	.44*
D32W14	.75	.50*
D33D21	.47	.32*
D33D22	.52	.35*
D33D24	.43	.29*
D33D25	.47	.32*
D33D26	.52	.35*
D33D27	.59	.39*
D33D29	.83	.55*
D33D30	.88	.59*
D34C1	.78	.47*
D34C2	.81	.54*
D34C3	.96	.57*
D34C4	.68	.45*
D34C5	.81	.48*
D34C6	.78	.47*
D34J1	.59	.39*
D34J2	.66	.44*
D34J3	.72	.48*
D34J4	.66	.44*
D34J5	.78	.52*
D34J6	.84	.56*
D34J7	.78	.52*
D34J8	.96	.64*
D34J9	1.08	.72*
D38H1	.53	.35*
D38H2	.60	.40*
D38H3	.66	.44*
D38H4	.60	.40*
D38H5	.72	.48*
D38H6	.78	.52*
D38H7	.72	.48*
D38H8	.90	.60*
D38H9	1.02	.68*
D38L1	.69	.41*
D38L2	.81	.49*
D38L3	.87	.52*
D38L4	.60	.36*
D38L5	.72	.43*
D38L6	.69	.41*
D38S1	.65	.47*
D38S2	.72	.52*
D38S3	.85	.61*
D38S4	1.04	.75*
D38S5	.72	.52*
D38S6	.78	.54*
D38S7	.94	.68*
D38S8	.59	.42*
D38S9	.75	.54*
D38S10	1.04	.75*
D38W7	.54	.36*
D38W8	.60	.40*
D38W9	.75	.50*
D38W10	.98	.65*
D39C1	.78	.47*
D39C2	.81	.54*
D39C3	.96	.57*
D39C4	.68	.45*
D39C5	.81	.48*
D39C6	.78	.47*
D39J1	.59	.39*
D39J2	.66	.44*
D39J3	.72	.48*
D39J4	.66	.44*
D39J5	.78	.52*
D39J6	.84	.56*
D39J7	.78	.52*
D39J8	.96	.64*
D39J9	1.08	.72*
D40C1†	.64	.42*
D40C2†	.89	.59*
D40C3†	1.00	.66*
D40C4†	.71	.48*
D40C5†	1.02	.68*
D40C7†	1.02	.68*
D40C8†	1.28	.85*
D40D1†	.61	.41*
D40D2†	.77	.51*
D40D3†	.82	.54*
D40D4†	.74	.49*
D40D5	.84	.56*
D40D7†	.82	.54*
D40D8	.92	.61*
D40D10†	.97	.65*
D40D11	1.02	.68*
D40D13†	.82	.54*
D40D14†	1.02	.68*
D40E1†	.67	.44*
D40E5	.71	.50*
D40E7	.98	.65*
D40K1	.65	.43*
D40K2	.76	.51*
D40K3†	.89	.60*
D40K4†	1.02	.68*
D40N1†	.82	.54*
D40N2†	.84	.56*
D40N3†	.90	.60*
D40N4†	.92	.61*

Prices include mounting hardware. †For insulating hardware, add $0.10 per unit, any quantity. #Contact factory.
*Larger quantity prices available on request.

OEM Semiconductor Pricing

GE Type	Net Ea., Lots of	
	1-99	100-999
D40N5†	$0.77	$0.51*
D40P1	.81	.54*
D40P3	.92	.61*
D40P5	1.13	.75*
D41D1†	.66	.44*
D41D2†	.87	.58*
D41D4†	.79	.53*
D41D5†	1.00	.66*
D41D7†	.87	.58*
D41D8†	1.13	.75*
D41D10†	1.04	.70*
D41D11†	1.20	.80*
D41D13†	.87	.58*
D41D14†	1.10	.73*
D41E1†	.72	.48*
D41E5†	.92	.61*
D41E7†	1.15	.77*
D41K1	.89	.60*
D41K2	.99	.68*
D41K3	.76	.52*
D41K4	.86	.58*
D42C1†	.77	.51*
D42C2	.84	.56*
D42C3	.90	.59*
D42C4†	.87	.58*
D42C5†	1.02	.68*
D42C6†	1.10	.73*
D42C7†	1.00	.66*
D42C8†	1.17	.78*
D42C9†	1.20	.80*
D42C10†	1.12	.75*
D42C11†	1.23	.82*
D42C12†	1.32	.88*
D42R1†	1.02	.68*
D42R2†	1.13	.75*
D42R3†	.89	.60*
D42R4†	.95	.65*
D43C1†	.84	.56*
D43C2	.90	.60*
D43C3	.96	.64*
D43C4†	.94	.63*
D43C5†	1.15	.76*
D43C6†	1.22	.82*
D43C7†	1.05	.70*
D43C8†	1.30	.87*
D43C9†	1.33	.89*
D43C10†	1.22	.82*
D43C11†	1.33	.89*
D43C12†	1.41	.94*
D44C1	.84	.56*
D44C2	.94	.63*
D44C3†	1.07	.72*
D44C4	.90	.60*
D44C5	1.01	.67*
D44C6	1.05	.70*
D44C7	.93	.62*
D44C8	1.06	.71*
D44C9	1.11	.75*
D44C10	.96	.64*
D44C11	1.14	.76*
D44C12	1.17	.78*
D44E1†	1.33	.90*
D44E2†	1.48	1.00*
D44E3†	1.63	1.11*
D44H1†	1.40	.94*
D44H2†	1.53	1.02*
D44H4†	1.53	1.02*
D44H5†	1.66	1.10*
D44H7†	1.65	1.10*
D44H8†	1.78	1.19*
D44H10†	1.78	1.19*
D44H11†	1.93	1.29*
D44Q1†	1.54	1.02*
D44Q3†	1.64	1.09*
D44Q5†	1.74	1.15*
D44R1†	1.28	.85*
D44R2†	1.38	.92*
D44R3†	1.38	.92*
D44R4†	1.48	.99*
D44R5†	1.00	.66*
D44R6†	1.12	.75*
D44R7†	1.43	.95*
D44R8†	1.58	1.05*
D45C1†	.89	.60*
D45C2†	1.15	.77*
D45C3†	1.20	.80*
D45C4†	.99	.66*
D45C5	.89	.67*
D45C6	1.05	.70*
D45C7	.97	.65*
D45C8	1.00	.67*
D45C9	1.02	.68*
D45C10	1.02	.68*
D45C11	1.10	.73*
D45C12	1.14	.76*
D45E1†	1.58	1.07*
D45E2†	1.73	1.17*
D45E3†	1.88	1.28*
D45H3†	1.60	1.07*
D45H6†	1.73	1.15*
D45H7	1.48	.99*

GE Type	Net Ea., Lots of	
	1-99	100-999
D45H8	$1.98	$1.33*
D45H9	1.61	1.08*
D45H10	1.63	1.09*
D45H11	2.19	1.46*
D45H12	1.85	1.23*
DA1701	.30	.20*
DA1702	.26	.17*
DA1703	.24	.16*
DA1704	.23	.15*
DE104	3.08	2.27*
DE110	1.34	.90*
DE111	1.58	1.06*
DE112	1.74	1.17*
DE113	1.04	.68*
DE114	1.58	1.06*
DE115	1.85	1.23*
DE125	2.67	1.78*
DT230A	.26	.15*
DT230B	.30	.20*
DT230F	.24	.13*
DT230G	.29	.17*
DT230H	.36	.24*
DT230H1	.33	.22*
DZ800	.14	.09*
DZ805	.15	.10*
DZ806	.17	.11*
GER4001	.29	.22*
GER4002	.33	.25*
GER4003	.35	.27*
GER4004	.42	.32*
GER4005	.54	.38*
GER4006	.75	.50*
GER4007	.82	.52*
GES929	.37	.22*
GES930	.37	.22*
GES2221	.30	.20*
GES2221A	.41	.25*
GES2222	.41	.25*
GES2222A	.46	.28*
GES2904	.43	.27*
GES2905	.43	.27*
GES2906	.34	.21*
GES2907	.34	.21*
GES5305	.45	.30*
GES5306	.43	.29*
GES5306A	.50	.39*
GES5307	.47	.32*
GES5308	.52	.35*
GES5308A	.59	.39*
GES5368	.26	.18*
GES5369	.28	.18*
GES5370	.28	.19*
GES5371	.26	.17*
GES5372	.29	.19*
GES5373	.29	.19*
GES5374	.31	.21*
GES5375	.28	.18*
GES5810	.36	.24*
GES5811	.41	.27*
GES5812	.38	.26*
GES5813	.45	.30*
GES5814	.39	.26*
GES5815	.38	.26*
GES5816	.41	.27*
GES5817	.41	.27*
GES5818	.43	.29*
GES5819	.45	.30*
GES5820	.60	.39*
GES5821	.68	.45*
GES5822	.62	.41*
GES5823	.70	.46*
GES5824	.25	.17*
GES5825	.27	.18*
GES5826	.29	.20*
GES5827	.32	.21*
GES5828	.34	.23*
GES6000	.54	.36*
GES6001	.56	.38*
GES6002	.59	.39*
GES6003	.59	.39*
GES6004	.59	.39*
GES6005	.59	.39*
GES6006	.72	.48*
GES6007	.77	.51*
GES6010	.68	.45*
GES6011	.70	.46*
GES6012	.72	.48*
GES6013	.74	.50*
GES6014	.72	.48*
GES6015	.74	.50*
GES6218	.68	.45*
GES6219	.65	.44*
GES6220	.63	.42*
GES6221	.56	.38*
GES6222	.29	.20*
GES6224	.34	.23*
GET29	.37	.22*
GET930	.37	.22*
GET2221	.30	.20*
GET2221A	.41	.25*
GET2222	.41	.27*

GE Type	Net Ea., Lots of	
	1-99	100-999
GET2222A	$0.46	0$.28*
GET2904	.43	.27*
GET2905	.43	.27*
GET2906	.34	.21*
GET2907	.34	.21*
GET3013	.57	.38*
GET3014	.67	.44*
GET3563	.34	.23*
GET3638	.24	.18*
GET3638A	.27	.20*
GET3646	.27	.20*
GET3905	.55	.39*
GET3906	.55	.39*
GET5305	.45	.30*
GET5306	.43	.29*
GET5306A	.50	.33*
GET5307	.47	.32*
GET5308	.52	.35*
GET5308A	.59	.39*
GET5457	.80	.54*
GET5458	.73	.49*
GET5459	.80	.54*
H11A1	1.41	1.13*
H11A2	1.25	1.00*
H11A3	1.41	1.13*
H11A4	1.13	.90*
H11A5	1.03	.83*
H11A10	1.28	1.02*
H11A520	1.65	1.32*
H11A550	1.65	1.32*
H11A5100	1.65	1.32*
H11AA1	2.97	2.25*
H11AA2	2.47	1.98*
H11B1	2.32	1.86*
H11B2	2.17	1.74*
H11B3	1.28	1.02*
H11B255	1.64	1.30*
R11C1	4.00	3.36*
H11C2	3.35	2.80*
H11C3	1.71	1.37*
H11C4	4.60	3.78*
H11C5	4.00	3.30*
H11C6	1.78	1.43*
H11D1	1.80	1.44*
H11D2	1.47	1.18*
H11D3	1.35	1.08*
H11D4	1.20	.96*
H13A1	2.25	1.70*
H13A2	2.02	1.50*
H13B1	2.40	1.80*
H13B2	2.17	1.60*
H15A1	1.65	1.32*
H15A2	1.50	1.20*
H15B1	1.72	1.38*
H15B2	1.58	1.26*
H17A1	1.87	1.40*
H17B1	2.02	1.50*
H19A1	2.13	1.70*
H19B1	2.31	1.84*
H74A1	1.53	1.22*
H74C1	1.53	1.22*
H74C2	2.23	1.79*
HS5305	.47	.32*
HS5306	.45	.31*
HS5307	.49	.34*
HS5308	.54	.37*
HS5810	.49	.34*
HS5811	.54	.37*
HS5812	.54	.37*
HS5813	.58	.40*
HS5815	.49	.34*
HS5816	.49	.34*
HS5817	.54	.37*
HS5818	.54	.37*
HS5819	.58	.40*
HS5820	.85	.57*
HS5821	.90	.61*
HS5822	.90	.61*
HS5823	.97	.65*
HW1000G101	3.50	3.50
HW1000G102	3.50	3.50
HW1000G103	3.50	3.50
HW1000G104	3.50	3.50
HW1000G105	3.50	3.50
HW1000G101B	6.20	6.20
HW1000G102B	6.20	6.20
HW1000G103B	6.20	6.20
HW1000G104B	6.20	6.20
HW1000G105B	6.20	6.20
HW1000G101BT	7.20	7.20
HW1000G102BT	7.20	7.20
HW1000G103BT	7.20	7.20
HW1000G104BT	7.20	7.20
HW1000G105BT	7.20	7.20
HW2500G77	6.00	6.00
HW2500G78	6.00	6.00
HW2500G79	6.00	6.00
HW2500G79BT	12.20	12.20
HW2500G80	6.00	6.00
HW2500G80BT	12.20	12.20
HW2500G81	6.00	6.00

GE Type	Net Ea., Lots of	
	1-99	100-999
HW2500G81BT	$12.20	$12.20
HW2500G82	6.00	6.00
HW2500G82BT	12.20	12.20
HW2500G83	6.00	6.00
HW2500G83BT	12.20	12.20
HW2500G77B	11.00	11.00
HW2500G78B	11.00	11.00
HW2500G79B	11.00	11.00
HW2500G80B	11.00	11.00
HW2500G81B	11.00	11.00
HW2500G82B	11.00	11.00
HW2500G83B	11.00	11.00
HW2500G77BT	12.20	12.20
HW2500G78BT	12.20	12.20
HW3000G146	7.00	7.00
HW3000G147	7.00	7.00
HW3000G148	7.00	7.00
HW3000G149	7.00	7.00
HW3000G150	7.00	7.00
HW3000G146B	12.20	12.20
HW3000G146BT	13.20	13.20
HW3000G147B	12.20	12.20
HW3000G147BT	13.20	13.20
HW3000G148B	12.20	12.20
HW3000G148BT	13.20	13.20
HW3000G149B	12.20	12.20
HW3000G149BT	13.20	13.20
HW3000G150B	12.20	12.20
HW3000G150BT	13.20	13.20
LED55B	2.46	2.15*
LED55BF	2.46	2.15*
LED55C	3.10	2.70*
LED55CF	3.10	2.70*
LED56	1.94	1.69*
LED56F	1.94	1.69*
L8A	7.00	4.65
L8B	11.85	7.90
L8F	4.90	3.25
L8G	9.45	6.30
L8U	4.50	3.00
L9A	7.65	5.10
L9B	13.05	8.70
L9F	5.40	3.60
L9G	10.45	6.95
L9U	4.95	3.30
L14F1	2.25	1.80*
L14F2	2.10	1.68*
L14G1	2.50	1.85*
L14G2	2.25	1.70*
L14G3	2.75	1.99*
L14H1	.48	.38*
L14H2	.53	.42*
L14H3	.60	.48*
L14H4	.45	.36*
L811A•	8.50	5.45
L811B•	13.35	8.65
L811F•	6.40	4.00
L811G•	10.95	7.05
L811U•	6.00	3.75
L911A•	9.15	5.85
L911B•	14.55	9.45
L911F•	6.90	4.35
L911G•	11.95	7.70
L911U•	6.45	4.05
MA1701	.31	.21*
MA1702	.27	.18*
MA1703	.25	.17*
MA1704	.24	.15*
MPA1060A	.97	.61
MPA1060B	1.09	.69*
MPA1060C	1.19	.75*
MPA1060D	1.31	.83*
MPA1060E	1.54	.98*
MPA1060F	.91	.58*
MPA1060M	1.80	1.14*
MPA1061A	1.30	.83*
MPA1061B	1.43	.91*
MPA1061C	1.53	.97*
MPA1061D	1.66	1.05*
MPA1061E	1.91	1.21*
MPA1061F	1.24	.79*
MPA1061M	2.18	1.38*
MPA1062A	.97	.61*
MPA1062B	1.09	.69*
MPA1062C	1.19	.75*
MPA1062D	1.31	.83*
MPA1062E	1.54	.98*
MPA1062F	.91	.58*
MPA1062M	1.80	1.14*
MPA1100A	1.28	.81*
MPA1100B	1.43	.91*
MPA1100C	1.56	.99*
MPA1100D	1.73	1.10*
MPA1100E	2.00	1.27*
MPA1100F	1.17	.74*
MPA1100M	2.36	1.49*
MPA1101A	1.62	1.03*
MPA1101B	1.78	1.13*
MPA1101C	1.90	1.20*
MPA1101D	2.08	1.32*
MPA1101E	2.37	1.50*

Prices include mounting hardware. •For insulating hardware, add $0.15 per unit, any quantity. †For insulating hardware, add $0.10 per unit, any quantity. *Larger quantity prices available on request.

OEM Semiconductor Pricing

GE Type	Net Ea., Lots of		GE Type	Net Ea., Lots of		GE Type	Net Ea., Lots of		GE Type	Net Ea., Lots of	
	1-99	100-999		1-99	100-999		1-99	100-999		1-99	100-999
MPA1101F	$ 1.50	$0.95*	MPA2251A	$2.48	$1.57*	MPS6517	$0.55	$0.36*	SC246M12	$ 5.51	$ 3.51
MPA1101M	2.74	1.73*	MPA2251B	2.74	1.73*	MPS6518	.58	.36*	SC246B13	4.37	2.92
MPA1102A	1.28	.81*	MPA2251C	3.03	1.92*	MPS6519	.72	.46*	SC246D13	5.24	3.50
MPA1102B	1.43	.91*	MPA2251D	3.33	2.11*	MPS6530	.46	.33*	SC246E13	6.38	4.25
MPA1502C	1.56	.99*	MPA2251E	3.90	2.47*	MPS6531	.51	.36*	SC246M13	6.89	4.61
MPA1102D	1.73	1.10*	MPA2251F	2.23	1.41*	MPS6532	.41	.28*	SC250B†	4.10	2.73
MPA1102E	2.00	1.27*	MPA2251M	4.53	2.87*	MPS6533	.54	.38*	SC250D†	4.82	3.21
MPA1102F	1.17	.74*	MPA2252A	1.97	1.25*	MPS6534	.55	.39*	SC250E†	5.80	3.86
MPA1102M	2.36	1.49*	MPA2252B	2.22	1.41*	MPS6535	.46	.29*	SC250M†	6.26	3.97
MPA1105A	1.37	.87*	MPA2252C	2.52	1.59*	MPS6565	.47	.30*	SC250B12†	4.10	2.73
MPA1105B	1.57	.99*	MPA2252D	2.81	1.78*	MPS6566	.50	.33*	SC250D12†	4.82	3.21
MPA1105C	1.74	1.10*	MPA2252E	3.39	2.15*	SC136A	.86	.60*	SC250E12†	5.80	3.86
MPA1105D	1.94	1.23*	MPA2252F	1.72	1.09*	SC136B	.91	.63*	SC250M12†	6.26	3.97
MPA1105E	2.22	1.41*	MPA2252M	4.02	2.55*	SC136D	1.09	.77*	SC250B13†	5.12	3.41
MPA1105F	1.28	.81*	MPA2350A	2.56	1.62*	SC137A	1.03	.68*	SC250D13†	6.03	4.02
MPA1105M	2.57	1.63*	MPA2350B	2.81	1.78*	SC137B	1.09	.72*	SC250E13†	7.25	4.83
MPA1151A	1.71	1.08*	MPA2350C	3.12	1.98*	SC137D	1.31	.88*	SC250M13†	7.82	5.24
MPA1151B	1.91	1.21*	MPA2350D	3.36	2.30*	SC141B†	1.50	1.00*	SC250B2, 3	5.42	3.61
MPA1151C	2.08	1.32*	MPA2350E	4.23	2.68*	SC141D†	1.74	1.16*	SC250D2, 3	6.14	4.10
MPA1151D	2.29	1.45*	MPA2350F	2.39	1.51*	SC141E†	2.49	1.66*	SC250E2, 3	7.12	4.75
MPA1151E	2.59	1.64*	MPA2350M	4.89	3.10*	SC141M†	3.24	2.16*	SC250M2, 3	7.69	4.85
MPA1151F	1.61	1.02*	MPA2351A	3.06	1.94*	SC142B	1.62	1.18*	SC250B22, 32	5.42	3.61
MPA1151M	2.95	1.87*	MPA2351B	3.33	2.11*	SC142D	1.88	1.37*	SC250D22, 32	6.14	4.10
MPA1152A	1.37	.87*	MPA2351C	3.63	2.30*	SC142E	2.69	1.97*	SC250E22, 32	7.12	4.75
MPA1152B	1.57	.99*	MPA2351D	4.14	2.62*	SC142M	3.48	2.44*	SC250M22, 32	7.69	4.85
MPA1152C	1.74	1.10*	MPA2351E	4.74	3.00*	SC146B†	1.88	1.25*	SC250B23, 33	6.77	4.52
MPA1152D	1.94	1.23*	MPA2351F	2.89	1.83*	SC146D†	2.31	1.54*	SC250D23, 33	7.68	5.12
MPA1152E	2.22	1.41*	MPA2351M	5.43	3.44*	SC146E†	3.31	2.21*	SC250E23, 33	8.90	5.93
MPA1152F	1.28	.81*	MPA2352A	2.56	1.62*	SC146M†	4.10	2.73*	SC250M23, 33	9.61	6.44
MPA1152M	2.57	1.63*	MPA2352B	2.81	1.78*	SC151B†	2.50	1.67*	SC251B	3.72	2.48
MPA1250A	2.27	1.44*	MPA2352C	3.12	1.98*	SC151D†	3.08	1.98*	SC251D	4.44	2.96
MPA1250B	2.55	1.61*	MPA2352D	3.63	2.30*	SC151E†	3.40	2.25*	SC251E	5.42	3.61
MPA1250C	2.99	1.89*	MPA2352E	4.23	2.68*	SC151M†	4.60	3.09*	SC251M	5.85	3.72
MPA1250D	3.45	2.19*	MPA2352F	2.39	1.51*	SC240B†	3.23	2.16	SC251B12	3.72	2.48
MPA1250E	3.93	2.49*	MPA2352M	4.89	3.10*	SC240D†	4.15	2.76	SC251D12	4.44	2.96
MPA1250F	2.03	1.28*	MPA3100A	.90	.57*	SC240E†	4.64	3.09	SC251E12	5.42	3.61
MPA1250M	4.50	2.85*	MPA3100B	1.04	.66*	SC240M†	5.08	3.41	SC251M12	5.85	3.72
MPA1251A	2.77	1.75*	MPA3100C	1.22	.77*	SC240B12†	3.23	2.16	SC251B13	4.47	3.10
MPA1251B	3.06	1.94*	MPA3100D	1.44	.91*	SC240D12†	4.15	2.76	SC251D13	5.55	3.71
MPA1251C	3.48	2.20*	MPA3100E	1.74	1.10*	SC240E12†	4.64	3.09	SC251E13	6.77	4.52
MPA1251D	3.96	2.51*	MPA3100F	.78	.49*	SC240M12†	5.08	3.41	SC251M13	7.32	4.90
MPA1251E	4.44	2.81*	MPA3100M	2.05	1.30*	SC240B13†	4.05	2.70	SC260B†	4.90	3.55
MPA1251F	2.54	1.61*	MPA3101A	1.23	.78*	SC240D13†	5.18	3.45	SC260D†	5.79	4.21
MPA1251M	5.04	3.19*	MPA3101B	1.39	.88*	SC240E13†	5.80	3.86	SC260E†	6.80	4.96
MPA1252A	2.27	1.44*	MPA3101C	1.56	.99*	SC240M13†	6.09	4.08	SC260M†	7.12	5.17
MPA1252B	2.55	1.61*	MPA3101D	1.64	1.04*	SC240B2, 3	4.62	3.08	SC260B12†	4.90	3.55
MPA1252C	2.99	1.89*	MPA3101E	2.11	1.33*	SC240D2, 3	5.53	3.69	SC260D12†	5.79	4.21
MPA1252D	3.45	2.19*	MPA3101F	1.10	.70*	SC240E2, 3	6.03	4.02	SC260E12†	6.80	4.96
MPA1252E	3.93	2.49*	MPA3101M	2.13	1.35*	SC240M2, 3	6.33	4.24	SC260M12†	7.12	5.17
MPA1252F	2.03	1.28*	MPA3102A	.90	.57*	SC240B22, 32	4.62	3.08	SC260B13†	6.12	4.44
MPA1252M	4.50	2.85*	MPA3102B	1.04	.66*	SC240D22, 32	6.09	3.69	SC260D13†	7.23	5.26
MPA1400A	4.32	2.74*	MPA3102C	1.22	.77*	SC240E22, 32	6.03	4.02	SC260E13†	8.50	6.20
MPA1400B	5.04	3.19*	MPA3102D	1.44	.91*	SC240M22, 32	6.33	4.24	SC260M13†	8.90	5.46
MPA1400C	5.94	3.76*	MPA3102E	1.74	1.10*	SC240B23, 33	5.78	3.85	SC260B2, 3	6.05	4.41
MPA1400D	6.69	4.24*	MPA3102F	.78	.49*	SC240D23, 33	6.92	4.61	SC260D2, 3	6.98	5.06
MPA1400E	8.49	5.38*	MPA3102M	2.05	1.30*	SC240E23, 33	7.54	5.02	SC260E2, 3	7.87	5.70
MPA1400F	3.81	2.41*	MPA3300A	1.51	.96*	SC240M23, 33	7.70	5.16	SC260M2, 3	8.29	6.03
MPA1400M	10.02	6.35*	MPA3300B	1.72	1.09*	SC241B	2.84	1.89	SC260B22, 32	6.05	4.41
MPA1401A	4.83	3.06*	MPA3300C	1.96	1.24*	SC241D	3.75	2.50	SC260D22, 32	6.98	5.06
MPA1401B	5.55	3.52*	MPA3300D	2.24	1.42*	SC241E	4.25	2.83	SC260E22, 32	7.87	5.70
MPA1401C	6.60	4.18*	MPA3300E	2.60	1.64*	SC241M	4.59	3.07	SC260M22, 32	8.29	6.03
MPAL401D	7.53	4.77*	MPA3300F	1.35	.86*	SC241B12	2.84	1.89	SC260B23, 33	7.56	5.51
MPA1401E	9.48	6.00*	MPA3300M	2.95	1.87*	SC241D12	3.75	2.50	SC260D23, 33	8.75	6.33
MPA1401F	4.32	2.74*	MPA3301A	1.85	1.17*	SC241E12	4.25	2.83	SC260E23, 33	9.83	7.13
MPA1401M	11.22	7.11*	MPA3301B	2.06	1.30*	SC241M12	4.59	3.07	SC260M23, 33	10.36	7.54
MPA1402A	4.32	2.74*	MPA3301C	2.30	1.45*	SC241B13	3.55	2.38	SC261B	4.56	3.33
MPA1402B	5.04	3.19*	MPA3301D	2.60	1.64*	SC241D13	4.70	3.12	SC261D	5.45	3.97
MPA1402C	5.94	3.76*	MPA3301E	2.97	1.88*	SC241E13	5.31	3.54	SC261E	6.46	4.70
MPA1402D	6.69	4.24*	MPA3301F	1.68	1.07*	SC241M13	5.58	3.74	SC261M	6.80	4.95
MPA1402E	8.49	5.38*	MPA3301M	3.33	2.11*	SC245B†	3.87	2.58	SC261B12	4.56	3.33
MPA1402F	3.81	2.41*	MPA3302A	1.51	.96*	SC245D†	4.57	3.05	SC261D12	5.45	3.97
MPA1402M	10.02	6.35*	MPA3302B	1.72	1.09*	SC245E†	5.48	3.65	SC261E12	6.46	4.70
MPA2100A	1.18	.75*	MPA3302C	1.96	1.24*	SC245M†	5.92	3.76	SC261M12	6.80	4.95
MPA2100B	1.38	.88*	MPA3302D	2.24	1.42*	SC245B12†	3.87	2.58	SC261B13	5.70	4.16
MPA2100C	1.50	.95*	MPA3302E	2.60	1.64*	SC245D12†	4.57	3.05	SC261D13	6.81	4.96
MPA2100D	1.80	1.14*	MPA3302F	1.35	.86*	SC245E12†	5.48	3.65	SC261E13	8.08	5.88
MPA2100E	1.94	1.23*	MPA3302M	2.95	1.87*	SC245M12†	5.92	3.76	SC261M13	8.50	6.19
MPA2100F	1.10	.70*	MPD200	1.21	.81*	SC245B13†	4.84	3.23	SC265B†	5.97	4.34
MPA2100M	2.26	1.43*	MPD201	1.05	.65*	SC245D13†	5.71	3.81	SC265B2, 3	6.39	4.85
MPA2101A	1.52	.96*	MPD202	.99	.55*	SC245E13†	6.86	4.57	SC265D†	7.10	5.16
MPA2101B	1.73	1.09*	MPD203	.70	.45*	SC245M13†	7.19	4.82	SC265D2, 3	7.52	5.67
MPA2101C	1.84	1.17*	MPD300	1.49	.99*	SC245B2, 3	5.20	3.47	SC265E†	7.81	5.68
MPA2101D	2.03	1.28*	MPS301	1.15	.70*	SC245D2, 3	5.89	3.93	SC265E2, 3	8.20	6.16
MPA2101E	2.31	1.47*	MPD302	1.04	.61*	SC245E2, 3	6.80	4.54	SC265M†	8.79	6.91
MPA2101F	1.43	.91*	MPD400	1.62	1.08*	SC245M2, 3	7.34	4.64	SC265M2, 3	9.21	6.91
MPA2101M	2.64	1.67*	MPD401	1.30	.86*	SC245B22, 32	5.20	3.47	SC266B	5.64	4.10
MPA2102A	1.18	.75*	MPD402	1.20	.75*	SC245D22, 32	5.89	3.93	SC266D	6.77	4.92
MPA2102B	1.38	.88*	MPSA05	.48	.28*	SC245E22, 32	6.80	4.54	SC266E	7.45	5.41
MPA2102C	1.50	.95*	MPSA06	.50	.29*	SC245M22, 32	7.34	4.64	SC266M	8.46	6.16
MPA2102D	1.80	1.14*	MPSA20	.26	.16*	SC245B23, 33	6.50	4.34	ST2	.66	.44*
MPA2102E	1.94	1.23*	MPSA55	.52	.33*	SC245D23, 33	7.36	4.91	ST4	.60	.46*
MPA2102F	1.10	.70*	MPSA56	.61	.37*	SC245E23, 33	8.51	5.67	STB567	.48	.32*
MPA2102M	2.26	1.43*	MPSA3638	.26	.20*	SC245M23, 33	8.80	5.89	STB568	.64	.43*
MPA2250A	1.97	1.25*	MPSA3638A	.29	.22*	SC246B	3.50	2.33	STB569	.81	.54*
MPA2250B	2.22	1.41*	MPS3702	.34	.28*	SC246D	4.19	2.79	TD9	7.43	4.96
MPA2250C	2.52	1.59*	MPS3703	.34	.28*	SC246E	5.10	3.40	TD261	16.38	10.92
MPA2250D	2.81	1.78*	MPS3704	.31	.29*	SC246M	5.51	3.51	TD261A	26.25	17.50
MPA2250E	3.39	2.15*	MPS3705	.30	.26*	SC246B12	3.50	2.33	TD262	16.38	10.92
MPA2250F	1.72	1.09*	MPS3706	.28	.26*	SC246D12	4.19	2.79	TD262A	26.25	17.50
MPA2250M	4.02	2.55*	MPS6516	.56	.37*	SC246E12	5.10	3.40			

†Prices include mounting hardware. For insulating hardware, add $0.10 per unit, any quantity. *Larger quantity prices available on request.

OEM Semiconductor Pricing

GE Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999
TD263	$13.15	$ 8.77
TD263A	19.63	13.09
TD263B	26.25	17.50
TD264	16.38	10.92
TD264A	26.25	17.50
TD265	16.38	10.92
TD265A	26.25	17.50
TD266	16.38	10.92
TD266A	26.25	17.50
TD401	#	#
T1S62	.37	.32*
T1S63	.32	.28*
V22ZA1	1.04	.73*
V22ZA3	1.75	1.20*
V24ZA1	1.14	.80*
V24ZA4	1.93	1.32*
V27ZA1	1.04	.73*
V27ZA4	1.75	1.20*
V33MA1A	.75	.45*
V33MA1B	.83	.50*
V33ZA1	1.04	.73*
V33ZA5	1.75	1.20*
V39MA2A	.75	.45*
V39MA2B	.83	.50*
V39ZA1	1.04	.73*
V39ZA6	1.75	1.20*
V40LA2A	1.04	.73*
V40LA2B	1.20	.91*
V47MA2A	.75	.45*
V47MA2B	.83	.50*
V47ZA1	1.04	.73*
V47ZA7	1.75	1.20*
V56MA2A	.75	.45*
V56MA2B	.83	.50*
V56ZA2	1.04	.73*
V56ZA8	1.75	1.20*
V60LA3A	1.10	.84*
V60LA3B	1.28	.97*
V68MA3A	.75	.45*
V68MA3B	.83	.50*
V68ZA2	1.04	.73*
V68ZA10	1.75	1.20*
V82MA3A	.75	.45*
V82MA3B	.83	.50*
V82ZA2	1.04	.73*
V82ZA12	1.75	1.20*
V95LA7A	1.60	1.22*
V95LA7B	1.75	1.34*
V100MA4A	.75	.45*
V100MA4B	.83	.50*
V100ZA3	1.04	.73*
V100ZA15	1.75	1.20*
V120MA1A	1.05	.65*

GE Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999
V120MA2B	$1.17	$0.72*
V120ZA1	1.04	.73*
V120ZA6	1.75	1.20*
V130LA1	1.23	.82*
V130LA2	1.38	.92*
V130LA10A	1.75	1.20*
V130LA20A	2.60	1.98*
V130LA20B	2.85	2.17*
V130PA10A	3.94	2.63*
V130PA20A	4.70	3.14*
V130PA20B	4.95	3.30*
V130PA20C	5.18	3.45*
V150LA1	1.23	.82*
V150LA2	1.38	.92*
V150LA10A	1.75	1.20*
V150LA20A	2.60	1.98*
V150LA20B	2.85	2.17*
V150MA1A	1.05	.65*
V150MA2B	1.16	.72*
V150PA10A	3.94	2.63*
V150PA20A	4.70	3.14*
V150PA20B	4.95	3.30*
V150PA20C	5.18	3.45*
V150ZA1	1.04	.73*
V150ZA8	1.75	1.20*
V180MA1A	1.05	.65*
V180MA3B	1.16	.72*
V180ZA1	1.04	.73*
V180ZA10	1.75	1.20*
V220MA2A	1.22	.75*
V220MA4B	1.34	.83*
V250LA2	1.53	1.02*
V250LA4	1.77	1.18*
V250LA15A	2.18	1.65*
V250LA20A	2.60	1.98*
V250LA40A	4.30	3.27*
V250LA40B	4.73	3.59*
V250PA10A	3.94	2.63*
V250PA20A	4.70	3.14*
V250PA40A	6.23	4.16*
V250PA40B	6.55	4.37*
V250PA40C	6.86	4.57*
V270MA2A	1.22	.75*
V270MA4B	1.34	.83*
V275LA2	1.53	1.02*
V275LA4	1.77	1.18*
V275LA15A	2.18	1.65*
V275LA20A	2.60	1.98*
V275LA40A	4.30	3.27*
V275LA40B	4.73	3.59*
V275PA10A	3.94	2.63*
V275PA20A	4.70	3.14*
V275PA40A	6.23	4.16*

GE Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999
V275PA40B	$6.55	$4.37*
V275PA40C	6.86	4.57*
V300LA2	1.53	1.02*
V300LA4	1.77	1.18*
V320LA15A	2.18	1.65*
V320LA20A	2.60	1.98*
V320LA40A	4.30	3.27*
V320LA40B	4.73	3.59*
V320PA40A	6.23	4.16*
V320PA40B	6.55	4.37*
V320PA40C	6.86	4.57*
V330MA2A	1.51	.93*
V330MA5B	1.66	1.02*
V390MA3A	1.51	.93*
V390MA6B	1.66	1.02*
V420LB20A	3.93	2.98*
V420LB40A	5.58	4.24*
V420LB40B	6.13	4.66*
V420PA20A	6.35	4.23*
V420PA40A	7.88	5.25*
V420PA40B	8.28	5.52*
V420PA40C	8.66	5.78*
V430MA3A	1.51	.93*
V430MA7B	1.66	1.02*
V460LB20A	3.93	2.98*
V460LB40A	5.58	4.24*
V460LB40B	6.13	4.66*
V460PA20A	6.35	4.23*
V460PA40A	7.88	5.25*
V460PA40B	8.28	5.52*
V460PA40C	8.66	5.78*
V480LB20A	3.93	2.98*
V480LB40A	5.58	4.24*
V480LB80A	7.90	5.33*
V480LB80B	8.98	6.25*
V480PA20A	6.35	4.23*
V480PA40A	7.88	5.25*
V480PA80A	10.94	7.29*
V480PA80B	11.59	7.73*
V480PA80C	12.04	8.03*
V510LB20A	4.20	3.19*
V510LB40A	5.85	4.45*
V510LB80A	9.25	7.03*
V510LB80B	10.18	7.73*
V510PA20A	6.62	4.41*
V510PA40A	8.15	5.43*
V510PA80A	11.21	7.47*
V510PA80B	11.77	7.85*
V510PA80C	12.33	8.22*
V550LB20A	4.20	3.19*
V550LB40A	5.85	4.45*
V550LB80A	9.25	7.03*
V550LB80B	10.18	7.73*
V550PA20A	6.62	4.41*

GE Type	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999
V550PA40A	$ 8.15	$ 5.43*
V550PA80A	11.21	7.47*
V550PA80B	11.77	7.85*
V550PA80C	12.33	8.22*
V575LB20A	4.20	3.19*
V575LB40A	5.85	4.45*
V575LB80A	9.25	7.03*
V575LB80B	10.18	7.73*
V575PA20A	6.62	4.41*
V575PA40A	8.15	5.43*
V575PA80A	11.21	7.47*
V575PA80B	11.77	7.85*
V575PA80C	12.33	8.22*
W2AA50C	19.56	17.70*
W2AA50E	24.45	22.00*
W2BA25C	23.65	21.25*
W2BA25E	33.35	28.25*
W2BC25C	23.65	21.25*
W2BC25E	33.35	28.25*
W2BE25C	25.85	22.80*
W2BE25E	25.70	30.80*
W2BH25C	36.30	31.90*
W2BH25E	44.50	40.10*
W2BJ25C	25.85	22.80*
W2BJ25E	35.70	30.80*
W2BK25C	23.65	21.25*
W2BK25E	33.35	28.25*
W2CA25C	19.65	17.70*
W2CA25E	24.45	22.00*
W2DA25C	11.60	10.45*
W2DA25E	14.55	12.10*
W2DC25C	19.65	17.70*
W2DC25E	24.45	22.00*
WV2AA50C	20.95	18.85*
WV2AA50E	25.70	23.20*
WV2BA25C	24.90	22.40*
WV2BA25E	34.65	30.10*
WV2BC25C	24.90	22.40*
WV2BC25E	34.65	30.10*
WV2BE25C	26.65	24.00*
WV2BE25E	37.45	32.30*
WV2BH25C	35.60	33.45*
WV2BH25E	45.85	41.25*
WV2BJ25C	26.65	24.00*
WV2BJ25E	37.45	32.30*
WV2BK25C	24.90	22.40*
WV2BK25E	34.65	30.10*
WV2CA25C	20.95	18.85*
WV2CA25E	25.70	23.20*
WV2DA25C	12.90	11.65*
WV2DA25E	15.10	13.50*
WV2DC25C	20.95	18.85*
WV2DC25E	25.70	23.20*

*Larger quantity prices available on request.

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Character Heights: 0.3" and 0.43".
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Low power consumption; as low as 250 µA/segment.
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On-board decoder/driver.
Shaped dot matrix character font.
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Three configurations available: 5 × 7 dot matrix with 0.29" characters in hermetic package; 5 × 7 dot matrix with 0.15" characters and on-board IC; 16 segment monolithic for low power applications.

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TTL compatible.
Available in single or dual configurations.
Shielded detector version improves common mode rejection.
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Recognized under the component program of UL (File No. E55361).

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High current transfer ratio; 1000% typical.
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Performance guaranteed over 0°C to 70°C temperature range.
Higher speed than conventional Photodarlington optocouplers.
Available in single or dual configurations.
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High common mode rejection.
Recognized under the component program of UL (File No. E55361).

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Hermetically sealed.
High density packaging.
High current transfer ratio; 500% typical.
Higher radiation immunity than conventional phototransistor/Photodarlington optocouplers.
Available in low power and high speed configurations.
Performance guaranteed over temperature range.
Standard high reliability screened parts available.
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Isotropic LED chip provides floodlight type beam.
Surface emitter LED chip provides bright spotlight.
By offsetting wirebonds, the active area of the chip is not masked or shadowed
A reciprocal optical port functions as an emitter or narrow band detector.

PIN DIODES

Offset wirebonds facilitate use with fiber optics.
All HP PIN photodiodes have antireflective coating which converts more incident radiation (light) into photocurrent.
Wide spectral response (ultraviolet through IR).
Low junction capacitance detects high speed pulses.
Ultra linear, permitting operation over 10 decades.

MICROWAVE DIODES AND TRANSISTORS

TRANSISTORS

Low noise series optomized for low noise with high associated gain.
General purpose series available.
Linear power series offers linear power with guaranteed tuned gain.
GaAs FETs.

IMPATT DIODES

High power output; 3 watts at 6 GHz.
High efficiency; 10% typical.
High reliability.

STEP RECOVERY DIODES

High cut-off frequency; to 350 GHz.
Guaranteed RF parameters (5082-0300 Series).
Passivated for high reliability.

MIS CAPACITOR CHIPS

Capacitance values between 0.5 and 45 pF.
Composite insulator for high stability.
Tight capacitance tolerance; ±15%.
High dielectric breakdown.

SCHOTTKY BARRIER DIODES

Low noise figure; 6 dB typical.
Matched pairs and quads.
Medium and low barrier.

PIN DIODES

Fast switching models feature: 5 nanosecond switching; low current requirement; 20 mA for 0.8 ohms.
General purpose models feature: low series resistance, 0.8 ohms at 100 mA; low junction capacitance, 0.07 pF at −10V.
Both PIN and NIP polarities available.

RF AND GENERAL PURPOSE DIODES

SCHOTTKY DIODES

High breakdown voltage; up to 70 V.
Pico-second switching speed.
Low turn-on voltage.
Uniform forward tracking.
New low cost, rugged DO-35 package available.

PIN DIODES

Attenuator models feature: low distortion products; large dynamic range.
Band switching models feature: low cost for high volume applications; low series resistance, 0.5 ohms at 10 mA.

HIGH RELIABILITY DEVICES

MILITARY QUALIFIED PRODUCTS

1N5711: 70 V general purpose Schottky diode; JAN, JANTX and JANTXV versions.
1N5712: 20 V general purpose Schottky diode; JAN, JANTX and JANTXV versions.
1N5719: VHF/UHF/MW general purpose PIN diode; JAN and JANTX versions.

HP TEST PROGRAMS

Test programs patterned after MIL-S-19500.
Most HP commercial parts available with additional preconditioning and screening.

HEWLETT-PACKARD FRANCHISED LOCATIONS: CLEVELAND, DAYTON, INDIANAPOLIS, PITTSBURGH

HEWLETT hp PACKARD

COMPONENTS

Optoelectronic Products

OPTOELECTRONIC PRODUCTS

SUBMINIATURE YELLOW LED LAMPS

HP Number	Description	Net Each, Lots of 1-99	100-999	1000-4999	5000-9999
5082-4150	Subminiature Yellow	$0.50	$0.40	$0.30	$0.25

SUBMINIATURE HIGH EFFICIENCY RED LED LAMPS

HP Number	Description	1-99	100-999	1000-4999	5000-9999
5082-4160	Subminiature Red	$0.50	$0.40	$0.30	$0.25
HLMP-6600	5V with Resistor & Reverse Diode, 9.6 mA typ.	.75	.63	.53	.46
HLMP-6620	5V with Resistor & Reverse Diode, 3.5 mA typ.	.75	.63	.53	.46

SUBMINIATURE GREEN LED LAMPS

HP Number	Description	1-99	100-999	1000-4999	5000-9999
5082-4190	Subminiature Green	$0.50	$0.40	$0.30	$0.25

SUBMINIATURE RED LED LAMPS

HP Number	Description	1-99	100-999	1000-4999	5000-9999
5082-4100	Subminiature Red	$0.25	$0.20	$0.16	$0.15
5082-4101	Subminiature Red (.5 mcd min.)	.30	.25	.20	.17
HLMP-6203	Three Element Array, Red	1.65	1.38*	1.14#	......
HLMP-6204	Four Element Array, Red	2.20	1.84*	1.52#	......
HLMP-6205	Five Element Array, Red	2.75	2.30*	1.90#	......

*Net Each, Lots of 100-499. #Net Each, Lots of 500-999.

PIN PHOTODIODES

HP Number	Description	Net Ea., Lots of 1-9	10-99
5082-4203	TO-18 I_R Less Than 2 nA	$25.90	$22.05
5082-4204	TO-18 I_R Less Than 0.4 nA	64.75	55.00
5082-4205	0.010 Active Area, Min. Pill Pkg.	20.90	17.65
5082-4207	0.040 Active Area, TO-18	45.30	38.85
5082-4220	0.020 Active Area, TO-46	12.85	10.70

OPTOCOUPLERS

HP Number	Description	Net Each, Lots of 1-99	100-999	1000-4999
HCPL-2502	Diode/Transistor, Controlled Gain	$ 5.35	$ 4.30	$ 3.50
HCPL-2530	Dual 6N135	5.30	3.75	3.40
HCPL-2531	Dual 6N136	6.35	4.40	3.95
HCPL-2601	High CMR, Ultra High Speed	8.80	6.85	6.20
HCPL-2602	Line Receiver	9.30	7.30	6.65
HCPL-2630	Dual 6N137	9.75	7.90	.....
HCPL-2730	Dual 6N138	5.05	3.50	3.15
HCPL-2731	Dual 6N139	6.30	4.40	3.95
HCPL-2770	High CTR, Quad Hermetic	58.00	44.00	.....
4N45	6 PIN, High CTR, 1.0 mA Input	2.25	1.80	1.50
4N46	6 PIN, High CTR, 0.5 mA Input	2.40	1.92	1.60
5082-4350	High Speed, Low Gain	3.20	2.20	2.00
5082-4351	High Speed, TTL Compatible	3.45	2.40	2.15
5082-4352	Same as HCPL-2502	5.35	4.30	3.50
5082-4354	Same as HCPL-2530	5.30	3.75	3.40
5082-4355	Same as HCPL-2531	6.35	4.40	3.95
5082-4360	Ultra High Speed	6.30	4.95	4.50
5082-4361	Same as HCPL-2601	8.80	6.85	6.20
5082-4364	Same as HCPL-2630	9.75	7.90	.....
5082-4365	High Reliability, Dual Channel	38.70	29.00	.....
5082-4370	Low Input Current, TTL Compatible	2.80	1.95	1.75
5082-4371	Low Input Current, CMOS Compatible	3.50	2.45	2.20
6N134	Same as 5082-4365	38.70	29.00	.....
6N135	Same as 5082-4350	3.20	2.20	2.00
6N136	Same as 5082-4351	3.45	2.40	2.15
6N137	Same as 5082-4360	6.30	4.95	4.50
6N138	Same as 5082-4370	2.80	1.95	1.75
6N139	Same as 5082-4371	3.50	2.45	2.20

HI-REL SCREENED OPTOCOUPLERS

HP Number	Description	Net Ea., Lots of 1-49	50-99
6N134 TXV	Screened, Dual Hermetic	$ 83.70	$ 68.70
6N134 TXVB	Screened, Dual Hermetic	83.70	68.70
TX-4365	Same as 6N134 TXV	83.70	68.70
TXB-4365	Same as 6N134 TXVB	83.70	68.70
TXVHCPL-2770	Screened, High CTR, Hermetic	107.50	......
TXVBHCPL-2770	Screened, High CTR, Hermetic	107.50	......

RED VISIBLE LIGHT EMITTING DIODES

HP Number	Description	Net Each, Lots of 1-99	100-999	1000-4999	5000-9999
5082-4403	Red, Diffused	$0.80	$0.65	$0.49	$0.43
5082-4415	Red, Diffused, PC Mount	.99	.86	.70	.59
5082-4440	Low Cost, Red, Diffused	.70	.54	.44	.38
5082-4444	Low Cost, PC Mount	.86	.70	.60	.52
5082-4468	Resistor, Mini LED	.75	.60	.50	.45
5082-4480	Red. Diffused, Mini LED	.30	.23	.19	.17
5082-4483	Clear, Diffused, Mini LED	.65	.50	.40	.35
5082-4484	Consumer Mini LED	.25	.20	.17	.16

HEWLETT-PACKARD FRANCHISED LOCATIONS: CLEVELAND, DAYTON, INDIANAPOLIS, PITTSBURGH

OPTOELECTRONIC PRODUCTS (CONTINUED)

RED VISIBLE LIGHT EMITTING DIODES (CONTINUED)

HP Number	Description	Net Each, Lots of			
		1-99	100-999	1000-4999	5000-9999
5082-4486	Clear Lens Mini LED	$0.65	$0.50	$0.40	$0.35
5082-4487	Low Profile Mini LED	.25	.20	.17	.16
5082-4488	Low Profile Mini LED	.32	.27	.22	.20
5082-4494	Red. Diffused, Mini LED	.35	.28	.22	.20
5082-4707	Mounting Clip and Ring for T 1 3/4 LED Lamp	.07	.07	.07	.07
5082-4732	Voltage Sensing LED	.95	.80	.68	.60
5082-4790	Low Profile, Red, 1.2 mcd	.50	.37	.33	.30
5082-4791	Low Profile, Red, 2.5 mcd	.60	.48	.40	.37
5082-4850	Red, Diffused, Consumer LED	.27	.22	.20	.18
5082-4855	Red, Diffused, Consumer LED	.37	.30	.24	.21
5082-4860	Resistor LED	.80	.65	.55	.49
5082-4880	Red, Diffused, 0.5 mcd	.52	.35	.32	.29
5082-4881	Red, Diffused, 1.0 mcd	.65	.53	.40	.35
5082-4882	Red, Diffused, 1.6 mcd	.90	.76	.55	.49
5082-4883	Clear Lens, 0.5 mcd	.70	.54	.44	.38
5082-4884	Clear Lens, 1.0 mcd	.80	.65	.49	.43
5082-4885	Clear Lens, 1.6 mcd	.90	.76	.55	.49
5082-4886	Clear, Diffused, 0.5 mcd	.70	.54	.44	.38
5082-4887	Clear, Diffused, 1.0 mcd	.80	.65	.49	.43
5082-4888	Clear, Diffused, 1.6 mcd	.90	.76	.55	.49

HIGH EFFICIENCY RED LIGHT EMITTING DIODES

5082-4650	Red, Diffused, 2.0 mcd	$0.65	$0.52	$0.42	$0.35
5082-4655	Red, Diffused, 4.0 mcd	1.05	.85	.75	.68
5082-4657	Red, Non-Diffused, 12.0 mcd	.75	.62	.51	.43
5082-4658	Red, Non-Diffused, 24.0 mcd	1.05	.85	.75	.68
5082-4670	Rectangular, Red, Diffused, 1.0 mcd	1.10	.90	.80	.70
5082-4684	Red Mini LED	.60	.50	.40	.33
5082-4690	Low Profile, Red, Diffused, 3.5 mcd	.65	.52	.42	.35
5082-4693	Low Profile, Red, Diffused, 7.0 mcd	1.05	.85	.75	.68
5082-4694	Low Profile, Red, Non-Diffused, 8.0 mcd	.75	.62	.51	.43
5082-4695	Low Profile, Red, Non-Diffused, 14.0 mcd	1.05	.85	.75	.68

GREEN VISIBLE LIGHT EMITTING DIODES

5082-4950	Green, Diffused, 1.8 mcd	$0.65	$0.52	$0.42	$0.35
5082-4955	Green, Diffused, 3.0 mcd	1.05	.85	.75	.68
5082-4957	Green, Non-Diffused, 9.0 mcd	.75	.62	.51	.43
5082-4958	Green, Non-Diffused, 16.0 mcd	1.05	.85	.75	.68
5082-4970	Rectangular, Green, Diffused, 1.2 mcd	1.10	.90	.80	.70
5082-4984	Green, Mini LED	.60	.50	.40	.33
5082-4990	Low Profile, Green, Diffused, 4.5 mcd	.65	.52	.42	.35
5082-4992	Low Profile, Green, Diffused, 7.5 mcd	1.05	.85	.75	.68
5082-4995	Low Profile, Green, Non-Diffused, 6.5 mcd	.75	.62	.51	.43
5082-4997	Low Profile, Green, Non-Diffused, 11.0 mcd	1.05	.85	.75	.68

YELLOW VISIBLE LIGHT EMITTING DIODES

5082-4550	Yellow, Diffused, 1.8 mcd	$0.65	$0.52	$0.42	$0.35
5082-4555	Yellow, Diffused, 3.0 mcd	1.05	.85	.75	.68
5082-4557	Yellow, Non-Diffused, 9.0 mcd	.75	.62	.51	.43
5082-4558	Yellow, Non-Diffused, 16.0 mcd	1.05	.85	.75	.68
5082-4570	Rectangular, Yellow, Diffused, 1.2 mcd	1.10	.90	.80	.70
5082-4584	Yellow, Mini LED	.60	.50	.40	.33
5082-4590	Low Profile, Yellow, Diffused, 3.5 mcd	.65	.52	.42	.35
5082-4592	Low Profile, Yellow, Diffused, 6.0 mcd	1.05	.85	.75	.68
5082-4595	Low Profile, Yellow, Non-Diffused, 6.5 mcd	.75	.62	.51	.43
5082-4597	Low Profile, Yellow, Non-Diffused, 11.0 mcd	1.05	.85	.75	.68

HERMETICALLY SEALED LIGHT EMITTING DIODES

HP Number	Description	Net Ea., Lots of	
		1-9	10-99
1N5765	Standard Red	$ 5.40	$ 4.30
1N6092	High Efficiency Red	6.95	5.75
1N6093	Yellow	6.95	5.75
1N6094	Green LED	6.95	5.75
5082-4420 (1N5765)	Standard Red	5.40	4.30
5082-4520 (1N6093)	Yellow	6.95	5.75
5082-4587	Panel Mountable, Yellow	11.00	10.00
5082-4620 (1N6092)	High Efficiency Red	6.95	5.75
5082-4687	Panel Mountable, High Efficiency Red	11.00	10.00
5082-4787	Panel Mountable, Red	10.00	9.00
5082-4920 (1N6094)	Green LED	6.95	5.75
5082-4987	Panel Mountable, Green	11.00	10.00
HLMP-0380		13.50	13.50
HLMP-0381		25.15	25.15
HLMP-0480		13.50	13.50
HLMP-0481		25.15	25.15
HLMP-0580		13.50	13.50
HLMP-0581		25.15	25.15
JAN1N5765	MIL Standard, Red	7.30	7.30
JAN1N6092	MIL Standard, High Efficiency Red	8.70	8.70
JAN1N6093	MIL Standard, Yellow	8.70	8.70
JAN1N6094	MIL Standard, Green	8.70	8.70
JANTX1N5765	MIL Standard, Red	17.40	17.40
JANTX1N6092	MIL Standard, High Efficiency Red	20.60	20.60
JANTX1N6093	MIL Standard, Yellow	20.60	20.60
JANTX1N6094	MIL Standard, Green	20.60	20.60

Optoelectronic Products

OPTOELECTRONIC PRODUCTS (CONTINUED)

SIGNALING LIGHT EMITTING DIODES

HP Number	Description	Net Each, Lots of 1-99	100-999	1000-4999	5000-9999
HEMT-3300	670 nm Emitter in T-1 3/4 Package	$ 1.25	$ 0.90	$ 0.75	$ 0.68
HEMT-6000	700 nm Emitter in a Subminiature Package	1.05	.75	.60	.55

ALPHANUMERIC DISPLAYS

HP Number	Description	Net Each, Lots of 1-9	10-99	100-249	250-999
HDSP-2000	4-Character, Dot Matrix with Electronics	$48.00	$44.00	$37.00	......
		1-24	25-99	100-249	250-999
HDSP-6504	4-Character, 16 Segment	$24.00	$21.60	$19.00	$17.00
HDSP-6505	2nd Lens for HDSP-6504	.85	.80	.75	.70
		1-12	13-49	50-124	125-999
HDSP-6508	8-Character, 16 Segment	$48.00	$43.20	$38.00	$34.00
HDSP-6509	2nd Lens for HDSP-6508	.85	.80	.75	.70

RED HERMETIC NUMERIC DISPLAYS WITH ELECTRONICS

HP Number	Description	Net Each, Lots of 1-33	1-99
5082-7001	3-Character	$191.00	
5082-7010	1-Character	....	$ 63.50
5082-7011	± Sign	....	53.00

RED 0.27" ALPHANUMERIC DISPLAYS

HP Number	Description	Net Each, Lots of 1-3	4-33
5082-7100	3-Character, 0-9, A-Z	$ 67.50	$ 54.00
		1-2	3-24
5082-7101	4-Character, 0-9, A-Z	$ 90.00	$ 72.00
		1	2-19
5082-7102	5-Character, 0-9, A-Z	$112.50	$ 90.00

RED LARGE MONOLITHIC DISPLAYS

HP Number	Description	Net Each, Lots of 1-19	20-199	200-999
5082-7265/7285	5 Digits, 0.175" Character	$ 16.20	$ 13.10	$ 11.25
		1-6	7-6	67-333
5082-7275/7295	15 Digits, 0.175" Character	$ 46.80	$ 37.50	$ 31.95

RED 0.29" NUMERIC DISPLAYS WITH ELECTRONICS

HP Number	Description	Net Each, Lots of 1-99	100-499	500-999
5082-7300	Standard Right Hand Decimal Point	$ 15.60	$ 12.35	$ 10.95
5082-7302	Standard Left Hand Decimal Point	15.60	12.35	10.95
5082-7304	Standard ± Sign	11.25	9.10	7.70
5082-7340	Standard Hexadecimal, 0-9, A-F	17.20	12.85	11.95
5082-7356	Industrial Right Hand Decimal Point	23.50	18.55	....
5082-7357	Industrial Left Hand Decimal Point	23.50	18.55	....
5082-7358	Industrial ± Sign	16.20	13.15	....
5082-7359	Industrial Hexadecimal, 0-9, A-F	24.75	19.30	....
5082-7391	Military Right Hand Decimal Point	54.00	....	....
5082-7392	Military Left Hand Decimal Point	54.00	....	....
5082-7393	Military ± Sign	45.00	....	....
5082-7395	Military Hexadecimal, 0-9, A-F	59.00	....	....

RED NUMERIC PC BOARD MOUNTED DISPLAYS

HP Number	Description	Net Each, Lots of 1-12	13-124	125-624
5082-7240	8-Digit Cluster,0.102" Character	$ 9.20	$ 6.40	$ 4.96
		1-11	12-111	125-555
5082-7241	9-Digit Cluster, 0.102" Character	$ 10.35	$ 7.20	$ 5.58
		1-12	13-124	125-624
5082-7440/7448	8-Digit Cluster, 0.105" Character	$ 10.00	$ 7.44	$ 6.00
		1-11	12-111	112-555
5082-7441/7449	9-Digit Cluster, 0.105" Character	$ 11.25	$ 8.37	$ 6.75
		1-8	9-83	84-416
5082-7442/7445	12-Digit Cluster, 0.110" Character	$ 15.60	$ 12.24	$ 10.44
		1-7	8-71	72-357
5082-7444	14-Digit Cluster, 0.115" Character	$ 18.20	$ 14.28	$ 12.18
5082-7447	14-Digit Cluster, 0.115" Character	18.62	14.70	12.60
		1-6	7-62	63-312
5082-7446	16-Digit Cluster, 0.115" Character	$ 21.28	$ 16.80	$ 14.40
		1-12	13-124	125-624
HDSP-6500	Second Lens (Can be used with 5082-7440, -7441, -7240 and -7241)	$ 0.48	$ 0.45	$ 0.42

HEWLETT-PACKARD FRANCHISED LOCATIONS: CLEVELAND, DAYTON, INDIANAPOLIS, PITTSBURGH

OPTOELECTRONIC PRODUCTS (CONTINUED)

RED NUMERIC LEAD FRAME DISPLAYS

HP Number	Description	Net Each, Lots of			
		1-33	34-166	167-333	334-1666
5082-7402/03/12/13	3-Digit Cluster, 0.110" Character	$ 9.00	$ 7.20	$ 6.60	$ 6.00
		1-24	25-124	125-249	250-1249
5082-7404/7414	4-Digit Cluster, 0.110" Character	$12.00	$ 9.60	$ 8.80	$ 8.00
		1-19	20-99	100-199	200-999
5082-7405/7415	5-Digit Cluster, 0.110" Character	$15.00	$12.00	$11.00	$10.00
			1-49	50-499	500-2499
5082-7432	2-Digit Cluster, 0.110" Character		$ 3.60	$ 3.04	$ 2.60
			1-33	34-333	334-1666
5082-7433	3-Digit Cluster, 0.110" Character		$ 5.40	$ 4.56	$ 3.90

RED 1.5" NUMERIC DISPLAYS WITH ELECTRONICS

HP Number	Description	Net Ea., 1-99
5082-7500	1.5" Character	$29.75

HIGH EFFICIENCY RED 0.3" NUMERIC DISPLAYS

HP Number	Description	Net Each, Lots of		
		1-99	100-999	1000-4999
5082-7610	Left Hand Decimal Point, Common Anode	$ 2.85	$ 2.25	$ 1.85
5082-7611	Right Hand Decimal Point, Common Anode	2.85	2.25	1.85
5082-7613	Right Hand Decimal Point, Common Cathode	2.85	2.25	1.85
5082-7616	±1, Universal Overflow, R. H. Decimal	2.85	2.25	1.85

YELLOW 0.3" NUMERIC DISPLAYS

5082-7620	Left Hand Decimal Point, Common Anode	$ 2.85	$ 2.25	$ 1.85
5082-7621	Right Hand Decimal Point, Common Anode	2.85	2.25	1.85
5082-7623	Right Hand Decimal Point, Common Cathode	2.85	2.25	1.85
5082-7626	±1 Universal Overflow, R. H. Decimal	2.85	2.25	1.85

GREEN 0.3" NUMERIC DISPLAYS

5082-7630	Left Hand Decimal Point, Common Anode	$ 2.85	$ 2.25	$ 1.85
5082-7631	Right Hand Decimal Point, Common Anode	2.85	2.25	1.85
5082-7633	Right Hand Decimal Point, Common Cathode	2.85	2.25	1.85
5082-7636	±1 Universal Overflow, R. H. Decimal	2.85	2.25	1.85

HIGH EFFICIENCY RED 0.43" NUMERIC DISPLAYS

5082-7650	Left Hand Decimal Point, Common Anode	$ 3.10	$ 2.45	$ 2.05
5082-7651	Right Hand Decimal Point, Common Anode	3.10	2.45	2.05
5082-7652	±1 Common Anode Overflow	3.10	2.45	2.05
5082-7653	Right Hand Decimal Point, Common Cathode	3.10	2.45	2.05
5082-7656	±1 Universal Overflow	3.10	2.45	2.05

YELLOW 0.43" NUMERIC DISPLAYS

5082-7660	Left Hand Decimal Point, Common Anode	$ 3.10	$ 2.45	$ 2.05
5082-7661	Right Hand Decimal Point, Common Anode	3.10	2.45	2.05
5082-7662	±1 Common Anode Overflow	3.10	2.45	2.05
5082-7663	Right Hand Decimal Point, Common Cathode	3.10	2.45	2.05
5082-7666	±1 Universal Overflow	3.10	2.45	2.05

GREEN 0.43" NUMERIC DISPLAYS

5082-7670	Left Hand Decimal Point, Common Anode	$ 3.10	$ 2.45	$ 2.05
5082-7671	Right Hand Decimal Point, Common Anode	3.10	2.45	2.05
5082-7672	±1 Common Anode Overflow	3.10	2.45	2.05
5082-7673	Right Hand Decimal Point, Common Cathode	3.10	2.45	2.05
5082-7676	±1 Universal Overflow	3.10	2.45	2.05

RED 0.3" NUMERIC DISPLAYS

5082-7730	Left Hand Decimal Point, Common Anode	$ 1.85	$ 1.60	$ 1.30
5082-7731	Right Hand Decimal Point, Common Anode	1.85	1.60	1.30
5082-7732	±1 Common Anode Overflow	1.85	1.60	1.30
5082-7736	±1 Universal Overflow	1.85	1.60	1.30
5082-7740	Right Hand Decimal Point, Common Cathode	1.85	1.60	1.30

RED 0.43" NUMERIC DISPLAYS

5082-7750	Left Hand Decimal Point, Common Anode	$ 1.95	$ 1.70	$ 1.40
5082-7751	Right Hand Decimal Point, Common Anode	1.95	1.70	1.40
5082-7752	±1 Common Anode Overflow	1.95	1.70	1.40
5082-7756	±1 Universal Overflow	1.95	1.70	1.40
5082-7660	Right Hand Decimal Point, Common Cathode	1.95	1.70	1.40

OPTOELECTRONICS APPLICATIONS MANUAL

HP Number	Description	Net Ea., 1-99
HPBK-1000	Hardcover Opto Handbook—McGraw Hill	$19.25

Semiconductor Products

SEMICONDUCTOR PRODUCTS
EIA REGISTERED DIODES AND TRANSISTORS

HP Number	Description		Net Each, Lots of		
			1-9	10-49	50-99
1N4456	High Conductance Diode (5082-1001)		$ 6.65	$ 6.65	$ 6.65
1N4457	High Conductance Diode (5082-1006)		8.00	8.00	8.00
1N4547	Step Recovery Diode (5082-0253)		87.10	78.35	......
1N4949	Step Recovery Diode (5082-0112)		11.03	9.92	......
1N5163	Step Recovery Diode (5082-0113)		12.15	10.90	......
1N5164	Step Recovery Diode (5082-0114)		22.63	20.37	......
1N5165	Schottky Barrier Diode (5082-2301)		8.80	8.80	8.80
1N5166	Schottky Barrier Diode (5082-2302)		7.04	7.04	7.04
1N5167	Schottky Barrier Diode (5082-2303)		4.05	4.05	4.05
1N5168	Schottky Barrier Diode (5082-2365)		20.00	17.00	17.00
1N5169	Schottky Barrier Diode (5082-2350)		17.40	14.80	14.80
			1-99	100-999	1000-4999
1N5711	Schottky Barrier Diode (5082-2800)		$ 1.20	$ 1.05	$ 0.75
1N5712	Schottky Barrier Diode (5082-2810)		1.45	1.10	.85
1N5713	Schottky Barrier Diode (5082-2811)		1.20	.90	.75
			1-9	10-99	100-999
1N5719	RF PIN Diode (5082-3039)		$ 6.70	$ 6.05	$ 4.85
		1-99	100-999	1000-4999	5000-9999
1N5767	HF/VHF/UHF Current Cont. Res. (5082-3080)	$ 3.05	$ 2.55	$ 1.95	......
1N6263	Schottky Diode (HSCH-1001)	.80	.60	.45	$ 0.36
			1-9	10-24	25-49
2N6617	Low Noise Transistor (HXTR-6101)		$85.00	$75.00	$70.00
2N6618	Low Noise Transistor (HXTR-6103)		55.00	49.00	45.00

DIODE CHIPS AND HYBRID CIRCUITS

HP Number	Description	Net Ea., 10-99
5082-0001*	High Speed Switch PIN Chip	$ 7.90
5082-0008*	Step Recovery Diode Chip	9.90
5082-0009*	X-Band Schottky Detector Chip	9.45
5082-0012*	PIN Switching Diode Chip	4.75
5082-0013*	Zero Bias Detector	9.45
5082-0020*	Step Recovery Diode Chip	9.90
5082-0023*	X-Band Schottky Mixer Chip	9.45
5082-0024#	High Voltage Switching Schottky Chip	1.05
5082-0025*	AGC Pin Chip	2.60
5082-0029*	Ku-Band Schottky Mixer Chip	14.70
5082-0030*	PIN Switching Diode Chip	4.75
5082-0031#	Low Voltage Switch Schottky Chip	.95
5082-0034*	VHF/UHF Switching PIN Chip	2.60
5082-0039*	AGC PIN Chip	2.90
5082-0047*	PIN Switching Diode Chip	4.75
5082-0049*	Medium Power Switch PIN Chip	9.40
5082-0057#	Schottky Diode Chip	1.25
5082-0058#	Schottky Diode Chip	1.05
5082-0087#	General Purpose Switch Schottky Chip	1.25
5082-0094#	Schottky Diode Chip	1.05
5082-0097#	General Purpose Switch Schottky Chip	1.05
5082-9394*	Beam Lead Quad	9.60
5082-9395*	Beam Lead Quad	9.60
5082-9396*	Beam Lead Quad	12.50
5082-9397*	Beam Lead Quad	12.50
5082-9398*	Beam Lead Quad	15.25
5082-9399*	Beam Lead Quad	15.25
5082-9696*	Beam Lead Quad	6.85
5082-9697*	Beam Lead Quad	6.85

*Must be ordered in 5 piece increments. #Must be ordered in 25 piece increments.

STEP RECOVERY DIODES

HP Number	Net Each, Lots of 1-9	10-49	50-99	100-499	500-999
5082-0112	$11.03	$ 9.92	.....	.....	.....
5082-0113	12.15	10.90	.....	.....	.....
5082-0114	22.63	20.37	.....	.....	.....
5082-0132	52.90	47.60	.....	.....	.....
5082-0151	24.26	21.84	.....	.....	.....
5082-0153	36.40	32.75	.....	.....	.....
5082-0180	3.20	3.20	$ 3.20	$ 2.90	$ 2.90
5082-0241	61.75	55.55	.....	.....	.....
5082-0243	87.10	78.40	.....	.....	.....
5082-0253	87.10	78.35	.....	.....	.....
5082-0300	45.20	40.69	.....	.....	.....
5082-0303	45.20	40.69	.....	.....	.....
5082-0305*	16.55	14.90	.....	.....	.....
5082-0310	45.20	40.69	.....	.....	.....
5082-0316*	27.55	24.85	.....	.....	.....
5082-0318*	27.55	24.85	.....	.....	.....
5082-0320	45.20	40.69	.....	.....	.....
5082-0335	45.20	40.69	.....	.....	.....
5082-0340*	16.55	14.90	.....	.....	.....

*Must be ordered in 5 piece increments.

HP Number	Net Each, Lots of 1-9	10-49	50-99	100-499	500-999
5082-0800	$26.00	$22.00	$22.00	.....	.....
5082-0801	26.00	22.00	22.00	.....	.....
5082-0802	26.00	22.00	22.00	.....	.....
5082-0803	10.85	9.25	9.25	.....	.....
5082-0805	26.00	22.00	22.00	.....	.....
5082-0806	26.00	22.00	22.00	.....	.....
5082-0807	26.00	22.00	22.00	.....	.....
5082-0810	26.00	22.00	22.00	.....	.....
5082-0811	26.00	22.00	22.00	.....	.....
5082-0812	26.00	22.00	22.00	.....	.....
5082-0815	10.85	9.25	9.25	.....	.....
5082-0820	26.00	22.00	22.00	.....	.....
5082-0821	26.00	22.00	22.00	.....	.....
5082-0822	26.00	22.00	22.00	.....	.....
5082-0825	10.85	9.25	9.25	.....	.....
5082-0830	26.00	22.00	22.00	.....	.....
5082-0831	26.00	22.00	22.00	.....	.....
5082-0833	10.85	9.25	9.25	.....	.....
5082-0835	26.00	22.00	22.00	.....	.....
5082-0836	26.00	22.00	22.00	.....	.....
5082-0840	10.85	9.25	9.25	.....	.....
5082-0885	39.00	35.00	35.00	.....	.....

HEWLETT-PACKARD FRANCHISED LOCATIONS: CLEVELAND, DAYTON, INDIANAPOLIS, PITTSBURGH

Semiconductor Products

SEMICONDUCTOR PRODUCTS (CONTINUED)

IMPATT DIODES

HP Number	Description	Net Ea., 1-9
5082-0065	Wave Guide Casting	$ 5.25
5082-0400	Medium Power Silicon IMPATT Diode	73.50
5082-0401	Medium Power Silicon IMPATT Diode	73.50
5082-0423	High Power Silicon IMPATT Diode	140.00
5082-0424	High Power Silicon IMPATT Diode	137.00
5082-0425	High Power Silicon IMPATT Diode	137.00
5082-0426	High Power Silicon IMPATT Diode	157.00
5082-0427	High Power Silicon IMPATT Diode	157.00
5082-0431	Low Power Silicon IMPATT Diode	51.00
5082-0432	Low Power Silicon IMPATT Diode	51.00

HP Number	Description	Net Ea., 1-9
5082-0433	Low Power Silicon IMPATT Diode	$ 51.00
5082-0434	Low Power Silicon IMPATT Diode	51.00
5082-0435	Low Power Silicon IMPATT Diode	51.00
5082-0436	Low Power Silicon IMPATT Diode	51.00
5082-0607	Double Drift IMPATT Diode	160.00
5082-0608	Double Drift IMPATT Diode	260.00
5082-0610	High Power Double Drift IMPATT Diode	145.00
5082-0611	High Power Double Drift IMPATT Diode	225.00
5082-0710	High Power Double Drift IMPATT Diode	210.00
5082-0716	High Power Double Drift IMPATT Diode	210.00

MIS CAPACITOR CHIPS

HP Number	Description	Net Each, Lots of 10-99	100-499	500-999
HCAP-4101 (5082-0953)*	10.0 pF MIS Capacitor Chip	$1.60	$1.25	$1.05
HCAP-4151 (5082-0958)*	15.0 pF MIS Capacitor Chip	1.75	1.40	1.20
HCAP-4201 (5082-0954)*	20.0 pF MIS Capacitor Chip	1.75	1.40	1.20
HCAP-4251 (5082-0959)*	25.0 pF MIS Capacitor Chip	1.75	1.40	1.20
HCAP-4301 (5082-0960)*	30.0 pF MIS Capacitor Chip	1.75	1.40	1.20
HCAP-4401 (5082-0956)*	40.0 pF MIS Capacitor Chip	1.75	1.40	1.20
HCAP-4451 (5082-0961)*	45.0 pF MIS Capacitor Chip	1.75	1.40	1.20
HCAP-4500 (5082-0950)*	5.0 pF MIS Capacitor Chip	1.60	1.25	1.05
HCAP-6050 (5082-0957)*	0.5 pF MIS Capacitor Chip	1.75	1.40	1.20
HCAP-6100 (5082-0952)*	1.0 pF MIS Capacitor Chip	1.75	1.40	1.20
HCAP-6200 (5082-0951)*	2.0 pF MIS Capacitor Chip	1.60	1.25	1.05

*Must be ordered in 10 piece increments.

HIGH CONDUCTANCE DIODES

HP Number	Net Each, 1-99
5082-1001	$6.65
5082-1002	6.95
5082-1003	6.10

HP Number	Net Each, 1-99
5082-1004	$6.40
5082-1006	8.05

SCHOTTKY BARRIER DIODES

HP Number	Description	Net Each, Lots of 1-9	10-49	50.99	100-999
5082-2080	Batch Matched Diode 5082-2835	$ 1.70	$ 1.70	$ 1.70	$ 1.30
5082-2200	Hermetic Stripline Schottky Diode	28.35	25.50	....	....
5082-2201	Matched Pair of 5082-2200	62.40	56.20	....	....
5082-2202	Hermetic Stripline Schottky Diode	23.75	21.40	....	....
5082-2203	Matched Pair of 5082-2202	52.00	46.80	....	....
5082-2207	Stripline Schottky Diode	19.50	17.55	....	....
5082-2208	Matched Pair of 5082-2207	42.90	38.60	....	....
5082-2209	Stripline Schottky Diode	15.50	13.95	....	....
5082-2210	Matched Pair of 5082-2209	34.10	30.70	....	....
5082-2213	Stripline Schottky Diode	11.55	9.90	9.90	....
5082-2214	Matched Pair of 5082-2213	25.40	21.80	21.80	....
5082-2215	Stripline Schottky Diode	9.10	8.35	8.35	....
5082-2216	Matched Pair of 5082-2215	20.00	18.40	18.40	....
5082-2217	Stripline Schottky Diode	13.75	11.85	11.85	....
5082-2218	Matched Pair of 5082-2217	34.20	29.25	29.25	....
5082-2219	Stripline Schottky Diode	10.60	9.20	9.20	....
5082-2220	Matched Pair of 5082-2219	24.80	20.80	20.80	....
5082-2229*	X-Band Low V_F Schottky Beam Lead	......	5.95	5.95	....
5082-2231	Low V_F Hermetic Stripline Schottky Quad	34.50	31.00	....	....
5082-2233	Low V_F Hermetic Stripline Schottky Quad	54.50	49.00	....	....
5082-2234	Schottky Barrier Diode	17.40	14.20	14.20	....
5082-2235	Matched Pair of 5082-2234	38.20	31.20	31.20	....
5082-2261	Hermetic Stripline Schottky Ring Quad	34.50	31.00	....	....
5082-2262	Hermetic Stripline Schottky Ring Quad	44.50	40.00	....	....
5082-2263	Hermetic Stripline Schottky Ring Quad	54.50	49.00	....	....
5082-2264*	Ku-Band Low V_F Schottky Beam Lead	12.50	10.75	10.75	....
5082-2271	Low V_F Stripline Schottky Diode Quad	24.50	22.00	....	....
5082-2272	Low V_F Stripline Schottky Diode Quad	34.50	31.00	....	....
5082-2273	Ku-Band Schottky Mixer Diode	62.85	53.55	53.55	....
5082-2276	S-Band Stripline Schottky Ring Quad	18.90	15.00	15.00	....
5082-2277	C-Band Stripline Schottky Ring Quad	36.25	31.10	31.10	....
5082-2279	Low V_F Broadband Stripline Schottky Diode Quad	44.50	40.00	....	....
5082-2280	Low V_F Broadband Stripline Schottky Quad	54.50	49.00	....	....
5082-2285	X-Band Low V_F Schottky Diode	32.00	27.25	27.25	....
5082-2286	Matched Pair of 5082-2285	70.55	59.85	59.85	....
5082-2287	X-Band Low V_F Schottky Diode	23.15	17.95	17.95	....
5082-2288	Matched Pair of 5082-2287	51.00	39.45	39.45	....
5082-2291	Stripline Schottky Ring Quad	24.50	22.00	....	....
5082-2292	Stripline Schottky Ring Quad	34.50	31.00	....	....
5082-2293	Stripline Schottky Ring Quad	44.50	40.00	....	....
5082-2294	Stripline Schottky Ring Quad	54.50	49.00	....	....
5082-2295	X-Band Low V_F Schottky Diode	61.00	49.50	49.50	....
5082-2296	Matched Pair of 5082-2295	125.00	101.00	101.00	....
5082-2297	X-Band Low V_F Schottky Diode	38.00	32.30	32.30	....
5082-2298	Matched Pair of 5082-2297	87.00	74.00	74.00	....
5082-2299*	Ku-Band Low V_F Schottky Beam Lead	9.50	8.25	8.25	....

*Must be ordered in 5 piece increments.

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Semiconductor Products

SEMICONDUCTOR PRODUCTS (CONTINUED)

SCHOTTKY BARRIER DIODES (CONTINUED)

HP Number	Description	Net Each, Lots of			
		1-9	10-49	50-99	100-999
5082-2301	Schottky Barrier Diode	$ 8.80	$ 8.80	$ 8.80	$ 6.45
5082-2302	Schottky Barrier Diode	7.04	7.04	7.04	5.25
5082-2303	Schottky Barrier Diode	4.05	4.05	4.05	2.95
5082-2305	Schottky Barrier Diode	15.45	15.45	15.45	....
5082-2306	Matched Pair of 5082-2301	28.95	24.65	24.65	....
5082-2308	Matched Pair of 5082-2303	10.45	8.40	8.40	....
5082-2350	Schottky Barrier Diode	17.40	14.80	14.80	....
5082-2351	Matched Pair of 5082-2350	38.85	38.85	....	....
5082-2356	Matched Encapsulated Bridge Quad	40.00	33.00	33.00	....
5082-2365	Schottky Barrier Diode	20.00	17.00	17.00	....
5082-2370	Matched Quad of 5082-2303	30.00	28.70	28.70	....
5082-2396	Matched Encapsulated Ring Quad	40.00	40.00	....	....
5082-2400	Schottky Barrier Diode	23.45	23.45	....	....
5082-2401	Matched Pair of 5082-2400	48.50	48.50	....	....
5082-2418	Matched Pair of 5082-2365	44.00	44.00	....	....
5082-2509*	Batch Matched 5082-2709	....	7.70	7.70	....
5082-2510*	Batch Matched 5082-2716	12.70	10.80	10.80	....
5082-2520	Schottky Barrier Diode	6.10	6.10	....	....
5082-2521	Matched Pair of 5082-2520	13.40	13.40	....	....
5082-2544	Schottky Barrier Diode	21.95	17.55	17.55	....
5082-2545	Schottky Barrier Diode	47.40	37.95	37.95	....
5082-2550	Schottky Barrier Diode	6.75	6.75	....	....
5082-2551	Matched Pair of 5082-2550	14.60	14.60	....	....
5082-2565	Schottky Barrier Diode	7.30	7.30	....	....
5082-2566	Matched Pair of 5082-2565	15.80	15.80	....	....
5082-2701	X-Band Schottky Mixer Diode	62.85	53.55	53.55	....
5082-2702	X-Band Schottky Mixer Diode	44.10	39.90	39.90	....
5082-2703	X-Band Schottky Mixer Diode	38.85	35.70	35.70	....
5082-2705*	X-Band Schottky Mixer Diode	26.25	22.60	22.60	....
5082-2706	Matched Pair of 5082-2701	138.60	117.60	117.60	....
5082-2707	Matched Pair of 5082-2702	96.60	88.20	88.20	....
5082-2708	Matched Pair of 5082-2703	85.05	78.75	78.75	....
5082-2709*	X-Band Schottky Mixer Beam Lead	....	6.35	6.35	....
5082-2710*	X-Band Schottky Mixer Diode	15.75	10.50	10.50	....
5082-2711	X-Band Schottky Mixer Diode	23.15	17.95	17.95	....
5082-2712	Matched Pair of 5082-2711	51.00	39.45	39.45	....
5082-2713	X-Band Schottky Mixer Diode	32.00	27.25	27.25	....
5082-2714	Matched Pair of 5082-2713	70.55	59.85	59.85	....
5082-2716*	Ku-Band Schottky Mixer Beam Lead	10.95	9.05	9.05	....
5082-2721	Ku-Band Schottky Mixer Diode	28.40	23.40	23.40	....
5082-2722	Matched Pair of 5082-2721	62.60	54.00	54.00	....
5082-2723	Ku-Band Schottky Mixer Diode	44.50	37.10	37.10	....
5082-2724	Matched Pair of 5082-2723	91.50	81.60	81.60	....
5082-2750	Schottky Detector Diode	30.45	25.85	25.85	....
5082-2751	Schottky Detector Diode	24.30	20.60	20.60	....
5082-2752	Schottky Detector Diode	15.75	13.40	13.40	....
5082-2753*	Schottky Detector Diode	15.75	10.50	10.50	....
5082-2754*	Schottky Detector Diode	26.25	22.60	22.60	....
5082-2755	Schottky Detector Diode	17.65	15.00	15.00	....
5082-2758	Schottky Detector Diode	23.65	20.75	20.75	....
5082-2759*	Schottky Detector Diode	12.10	9.85	9.85	....
5082-2765	Low V_F Hermetic Stripline Schottky	28.35	25.50	....	....
5082-2766	Matched Pair of 5082-2765	62.40	56.15	....	....
5082-2767*	Ku-Band Schottky Mixer Beam Lead	15.75	13.55	13.55	....
5082-2768*	X-Band Schottky Mixer Beam Lead	10.50	9.05	9.05	....
5082-2769*	Ku-Band Schottky Mixer Beam Lead	13.80	11.85	11.85	....
5082-2774	Low V_F Stripline Schottky Diode	19.50	17.55	....	....
5082-2775	Matched Pair of 5082-2774	42.90	38.60	....	....
5082-2778*	Matched Pair of 5082-2768	23.05	19.75	19.75	....
5082-2779*	Matched Pair of 5082-2769	30.35	26.10	26.10	....
5082-2785	Low V_F Hermetic Stripline Schottky	23.75	21.40	....	....
5082-2786	Matched Pair of 5082-2785	52.00	46.80	....	....
5082-2787*	Schottky Barrier Diode	6.30	6.30	6.30	....
5082-2794	Low V_F Stripline Schottky Diode	15.50	13.95	....	....
5082-2795	Matched Pair of 5082-2794	34.10	30.70	....	....

		1-99	100-999	1000-4999
5082-2800	Schottky Barrier Diode (1N5711)	$ 1.20	$ 1.05	$ 0.75
5082-2801*	High Voltage Switch Schottky Diode	6.05	....	....
5082-2802*	High Voltage Switch Schottky Diode	8.45	....	....
5082-2804	Matched Pair of 5082-2800 Unconnected	2.70	2.55	....
5082-2805	Matched Quad of 5082-2800 Unconnected	5.35	4.65	....
5082-2810	Schottky Barrier Diode (1N5712)	1.45	1.10	.85
5082-2811	Schottky Barrier Diode (1N5713)	1.20	.90	.75
5082-2813	Matched Bridge Quad of 5082-2811 Encapsulated	12.60	11.05	....
5082-2814	Matched Ring Quad of 5082-2811 Encapsulated	12.60	11.05	....
5082-2815	Matched Quad of 5082-2811 Unconnected	5.35	4.65	....
5082-2817	Schottky Barrier Diode	1.85	....	....
5082-2818	Matched Pair of 5082-2817	3.95	....	....
5082-2819	Matched Quad of 5082-2817	8.45	....	....
5082-2824	Schottky Barrier Diode	7.90	....	....
5082-2825	Matched Pair of 5082-2824	16.90	....	....
5082-2826	Batch Matched Diode 5082-2811	1.85	1.45	....

		1-99	100-499	500-999
5082-2830	Monolithic Matched Schottky Diode Ring	$ 6.85	$ 5.10	$ 4.45
5082-2831	Low V_F Monolithic Matched Schottky	6.85	5.10	4.45

		1-9	10-99	100-999	1000-4999
5082-2835	Low Offset Schottky Diode	$ 1.10	$ 1.10	$ 0.80	$ 0.64
5082-2836	Batch Matched Diode 5082-2800	1.85	1.85	1.45	....
5082-2837#	Schottky Diode Beam Lead	3.00	3.00	2.40	....
5082-2844*	Schottky Barrier Diode	8.45	8.45	....	....
5082-2845*	Schottky Barrier Diode	6.65	6.65	....	....
5082-2900	Schottky Barrier Diode	1.85	1.85	1.40	1.25

*Must be ordered in 5 piece increments. #Must be ordered in 25 piece increments.

SEMICONDUCTOR PRODUCTS (CONTINUED)

SCHOTTKY BARRIER DIODES (CONTINUED)

HP Number	Description	Net Each, Lots of			
		1-99	10-99	100-999	1000-4999
5082-2912	Matched Pair of 5082-2900 Unconnected	$ 4.60	$ 4.00	....	....
5082-2970	Matched Quad of 5082-2900 Unconnected	11.55	9.75	....	....
5082-2996	Matched Ring Quad of 5082-2900 Encapsulated	23.10	16.80	....	....
5082-2997	Matched Bridge Quad of 5082-2900 Encapsulated	23.10	16.80	....	....
		1-99	100-999	1000-4999	5000-9999
HSCH-1001	Schottky Switching Diode (1N6263)	$ 0.80	$ 0.60	$ 0.45	$ 0.36
			1-9	10-49	50-99
HSCH-3171	Zero Bias Schottky		$ 18.00	$ 15.00	$ 15.00
HSCH-3206	Zero Bias Schottky		25.00	22.00	....
HSCH-3207	Zero Bias Schottky		25.00	22.00	....
HSCH-3486	Zero Bias Schottky		12.00	10.00	10.00

PIN DIODES

HP Number	Description	Net Each, Lots of			
		1-9	10-49	50-99	100-999
5082-3000*	RF PIN Switching Diode	$ 8.40	$ 7.65	....	....
5082-3001	RF PIN Diode	14.50	12.10	....	....
5082-3002	RF PIN Diode	16.00	13.30	....	....
5082-3005*	PIN Switching Diode	18.25	14.20	....	....
5082-3010*	High Speed Switch PIN Diode	8.40	7.55	....	....
5082-3039	RF PIN Diode	6.70	6.05	$ 6.05	$ 4.85
5082-3040*	Stripline PIN Diode	29.95	24.85	....	....
5082-3041	Stripline PIN Diode	29.95	24.85	....	....
5082-3042	RF PIN Diode	14.50	12.10	....	....
5082-3043	RF PIN Diode	9.10	7.90	....	....
5082-3045*	High Speed Switch PIN Diode	18.25	14.20	....	....
5082-3046	Stripline PIN Diode	39.50	33.10	....	....
5082-3071	Microwave Limiter PIN Diode	44.45	36.40	....	....
			1-99	100-999	1000-4999
5082-3077	VHF/UHF PIN Switching Diode		$ 3.35	$ 2.60	....
5082-3080	HF/VHF/UHF Current Controlled Resistor (1N5767)		3.05	2.55	$ 1.95
5082-3081	HF/VHF/UHF Current Controlled Resistor		3.40	2.75	2.10
				1-9	10-99
5082-3085*	AGC PIN Diode			$ 17.35	$ 17.35
5082-3086*	AGC PIN Diode			9.25	9.25
				1-9	10.49
5082-3101	RF PIN Diode			$ 22.05	$ 17.65
5082-3102	RF PIN Diode			27.50	22.05
5082-3140	Hermetic Stripline PIN Diode			31.50	28.35
5082-3141	Hermetic Stripline PIN Diode			31.50	28.35
			1-99	100-999	1000-4999
5082-3168	VHF/UHF Switching PIN Diode		$ 0.60	$ 0.45	$ 0.38
				1-9	10-49
5082-3170	Hermetic Stripline PIN Diode			$ 31.50	$ 28.35
			1-99	100-999	1000-4999
5082-3188	VHF/UHF Switching PIN Diode		$ 0.60	$ 0.45	$ 0.38
			1-9	10-40	50-99
5082-3201	RF PIN Diode		$ 22.05	$ 17.65	....
5082-3202	RF PIN Diode		27.50	22.05	....
5082-3258*	High Speed Switch PIN Diode		13.90	11.55	....
5082-3259*	PIN Switching Diode		13.90	11.55	....
5082-3301	RF PIN Diodes		22.05	17.65	....
5082-3302	RF PIN Diodes		27.50	22.05	....
5082-3303	RF PIN Diodes		22.05	17.65	....
5082-3304	RF PIN Diodes		27.50	22.05	....
5082-3305	High Speed Switch PIN Diode		19.85	16.85	....
5082-3306	High Speed Switch PIN Diode		18.75	15.20	....
5082-3309*	PIN Switch Diode		10.95	10.00	....
5082-3340	Stripline PIN Diode		29.95	24.85	....
5082-3900*	PIN Diode Beam Lead		14.00	10.50	$ 10.50
HPND-4050*	PIN Diode Beam Lead		16.00	12.00	12.00
HPND-4162	RF Current Controlled Resistor		16.90	14.50	12.85
HPND-4163	RF Current Controlled Resistor		16.90	14.50	12.85

*Must be ordered in 5 piece increments.

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Semiconductor Products

SEMICONDUCTOR PRODUCTS (CONTINUED)

PRINTED CIRCUIT BALANCED MIXER

HP Number	Description	Net Each, Lots of 1-99	100-499	500-999
5082-9200	Single Balanced Mixer	$ 6.00	$ 5.50	$ 4.75

MILITARY QUALIFIED PRODUCTS

HP Number	Description	Net Each, Lots of 1-9	10-99	100-999	1000-4999
JAN1N5711	MIL Schottky Barrier Diode	$ 2.35	$ 2.35	$ 1.80	$ 1.25
JAN1N5712	MIL Schottky Barrier Diode	2.65	2.65	2.10	1.55
JAN1N5719	MIL PIN Diode	6.90	6.90	5.10	....
JANTX1N5711	MIL Schottky Barrier Diode	8.40	8.40	7.20	....
JANTX1N5712	MIL Schottky Barrier Diode	8.70	8.70	7.55	....
JANTX1N5719	MIL PIN Diode	13.00	13.00	10.50	....
JANTXV1N5711	MIL Schottky Barrier Diode	12.00	12.00	....	....
JANTXV1N5812	MIL Schottky Barrier Diode	12.25	12.25	....	....

HIGH FREQUENCY TRANSISTORS

HP Number	Description	Net Each, Lots of 1-9	10-24	25-49
35812E	Microwave Transistor	$ 43.00	$ 40.00	$ 37.00
35820A*	Microwave Transistor Chip	17.00	16.00	15.00
35821B	Microwave Transistor	28.00	25.00	24.00
35821E	Microwave Transistor	25.00	23.00	22.00
35822E	Microwave Transistor	30.00	27.50	26.00
35824A	Microwave Transistor	16.50	15.75	14.75
35826E	Microwave Transistor	18.50	18.00	16.50
35827B	Microwave Transistor	40.00	37.00	36.00
35827E	Microwave Transistor	33.00	31.00	30.00
35828E	Microwave Transistor	28.00	25.00	24.00
35829E	Microwave Transistor	27.00	25.00	24.00
35831B OPT 005	Linear Power Microwave Transistor	43.00	40.00	38.00
35831E OPT 005	Linear Power Microwave Transistor	43.00	40.00	38.00
35850A*	Linear Power Microwave Transistor Chip	22.00	21.00	20.00
35853B	Linear Power Microwave Transistor	52.00	50.00	47.00
35853E	Linear Power Microwave Transistor	42.00	38.00	35.00
35854B	Linear Power Microwave Transistor	52.00	50.00	47.00
35854E	Linear Power Microwave Transistor	42.00	38.00	35.00
35859E	Microwave Transistor	39.00	36.00	33.00
35860A*	Low Noise Microwave Transistor Chip	25.00	23.50	22.50
35861E	Low Noise Microwave Transistor	49.00	46.00	43.00
35861E OPT 100	Low Noise Microwave Transistor	100.00	97.00	94.00
35862E	Low Noise Microwave Transistor	66.00	64.00	62.00
35862E OPT 100	Low Noise Microwave Transistor	99.00	95.00	93.50
35866E	Low Noise Microwave Transistor	38.00	33.00	30.00
35866E OPT 100	Low Noise Microwave Transistor	50.00	46.00	42.00
35867B	Low Noise Microwave Transistor	60.00	57.00	54.00
35867E	Low Noise Microwave Transistor	60.00	57.00	54.00
35868E	Low Noise Microwave Transistor	41.00	38.00	36.00
35868L	Low Noise Microwave Transistor	58.00	55.00	50.00
HFET-1000	Microwave GaAs FET Chip	85.00	80.00	75.00
HFET-1101	Low Noise GaAs FET	125.00	110.00	100.00
HXTR-2101	General Purpose Microwave Transistor	18.00	16.00	16.00
HXTR-6101	Low Noise Microwave Transistor (2N6617)	85.00	75.00	70.00
HXTR-6102	Low Noise Microwave Transistor	115.00	100.00	92.00
HXTR-6103	Low Noise Microwave Transistor (2N6618)	55.00	49.00	45.00
HXTR-6104	Low Noise Microwave Transistor	100.00	95.00	87.00
HXTR-6105	Low Noise Microwave Transistor	40.00	31.00	31.00

*Must be ordered in 5 piece increments.

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SEMICONDUCTOR MEMORIES AND MICROPROCESSORS

Silicon Gate low threshold technology allows design and production of higher performance MOS circuits; provides a higher functional density on a monolithic chip than conventional MOS technologies. Provides excellent protection against contamination.

Package prefix: B, ceramic, hermetic DIP; **C,** Ceramic, metal lid, hermetic DIP; **P,** silicon plastic DIP.
Power Dissipation calculated with maximum power supply current and nominal power supply voltages.

RANDOM ACCESS MEMORIES (RAM)

Intel Type	No. of Bits	Description	Organization	No. of Pins	Elect. Characteristics Over Temp. Maximum Access Time nsec.	Cycle Time nsec.	PD mW	Supplies V	Net Each, Lots of 1-24	25-99	100-999
P2102A	1024	Static	1024 x 1	16	350	350	275	+5	**$ 3.25**	**$ 2.55**	**$ 2.15**
P2114	4096	Static, common I/O	1024 x 4	18	450	450	710	+5	**21.00**	**16.40**	**13.35**
P2115A	1024	Static, open collector	1024 x 1	16	45	45	660	+5	**9.30**	**7.50**	**6.90**
P2125A	1024	Static, three-state	1024 x 1	16	45	45	660	+5	**9.30**	**7.50**	**6.90**
C2147	4096	High speed static	4096 x 1	18	60–90	60–90	500/50	+5	**50.00**	**41.50**	**37.50**
P5101-8	1024	Static CMOS RAM	256 x 4	22	800	800	150/2.5	+5	**8.00**	**7.15**	**6.05**

MOS EPROM FAMILY

Intel Type	No. of Bits	Organization	No. of Pins	Output	Maximum Access (ns)	PD (mW)	Operating Temp. Range (°C)	Power Supply V	Net Each, Lots of 1-24	25-99	100-999
B1702A	2048	256 x 8	24	T.S.	1 μs	885	0 to 70	5–9V ±5%	**$18.30**	**$13.85**	**$11.70**
B2708	8192	1024 x 8	24	T.S.	450	800	0 to 70	5V ±5% 12V ±5% −5V ±5%	**38.00**	**29.00**	**25.65**
B2716	16384	2048 x 8	24	T.S.	450	525/132	0 to 70	5V ±5%	**76.00**	**59.00**	**53.15**

MCS-48™ MICROCOMPUTER

The MCS-48™ Microcomputer family is the first family of true single-chip microcomputers. The 8748 contains the following functions in a 40-pin package: 8-bit CPU; 1K x 8 EPROM program memory; 64 x 8 RAM data memory; 27 I/O lines; 8-bit timer/event counter; 8-level stack; single level interrupt.

Intel Type	Description	Net Each, Lots of 1-24	25-99	100-999
P8035	Single-chip, 8-bit microcomputer with clock, 64 bytes RAM and 27 I/O lines (Requires external ROM) (2.5 μs cycle)	**$ 22.00**	**$ 16.40**	**$ 13.55**
P8035-8	Single-chip, 8-bit microcomputer with 1K bytes of XXXX programmable ROM program memory and with 64 bytes of RAM (2.5 μs)	**21.00**	**15.75**	**13.20**
P8243	16-line I/O extender for 8035, 8048 and 8748 microcomputers	**8.00**	**6.00**	**5.00**
C8748	Single-chip, 8-bit microcomputer with 1K bytes of eraseable and programmable (EPROM) program memory and with 64 bytes of RAM (2.5 μs)	**275.00**	**210.00**	**175.00**
B8748-8	Single-chip, 8-bit microcomputer with 1K bytes of eraseable and programmable (EPROM) program memory and with 64 bytes of RAM (5.0 μs)	**190.00**	**140.00**	**95.00**

MCS-80/85™ MICROPROCESSOR

Intel 8000 Series microprocessor elements may be used to form a variety of microcomputer systems. Powerful 8-bit CPU's such as the 8080A and 8085, combined with general purpose or dedicated peripherals, memories and other LSI blocks, make the Intel 8000 Series the largest and most versatile microcomputer family available.

Intel No.	Description	Net Each, Lots of 1-24	25-99	100-999
P8080A	8-bit central processor unit (2 μs cycle)	**$ 15.00**	**$ 13.15**	**$ 11.25**
P8085	8-bit central processor unit (1.2 μs cycle)	**27.00**	**23.00**	**19.00**
P8205	1-of-8 binary decoder	**4.35**	**3.15**	**2.80**
P8212	8-bit input/output port	**4.60**	**3.30**	**2.90**
P8214	Interrupt control unit (ICU)	**7.40**	**4.95**	**4.65**
P8216	Non-inverting bidirectional bus driver	**3.90**	**3.15**	**2.75**
P8224	Clock generator/driver for 8080A	**6.50**	**5.40**	**4.30**
P8226	Inverting bidirectional bus driver	**3.90**	**3.15**	**2.75**
P8228	System controller and bus driver for 8080A	**8.20**	**7.10**	**6.40**
P8238	System controller and bus driver for 8080A	**8.20**	**7.10**	**6.40**
P8251	Programmable communication interface (USART)	**12.50**	**11.50**	**10.00**
P8255A	Programmable peripheral interface (PPI)	**11.10**	**9.05**	**7.40**
D8257	Programmable DMA controller	**28.75**	**25.00**	**20.00**
D8259	Programmable interrupt controller	**23.65**	**20.60**	**17.20**
D8279	Programmable keyboard/display interface	**20.00**	**17.50**	**14.10**
C8755-8	16,384 bit (2048 x 8) eraseable and electrically programmable PROM (450 ns) with 16 I/O lines	**185.00**	**155.00**	**125.00**
I8801	18.432 MHz crystal for 8224 clock/generator/driver for the 8080A	**10.00**	**7.50**	**6.25**

MICROCOMPUTER SYSTEMS

Single board computers provide all the resources of a full computer (i.e., CPU, Read/Write Memory, Read Only Memory, Parallel I/O, and Serial I/O) on a single PC board. **Intel's System 80/10** and **System 80/20** extend these capabilities into a low-cost, fully packaged, RETMA rack-mounted computer.

Both the single board computers and packaged systems are supported by a complete line of memory and I/O expansion boards, peripheral and DMA controllers, prototyping packages, modular backplane/cardcages, and power supplies.

Intel No.	Description	Net Each, Lots of 1-9	10-24

SBC-80 SINGLE BOARD COMPUTERS

SBC-80/10	Complete computer system on a single 6.75″ x 12″ printed circuit board, including a CPU, system clock, 1K bytes of RAM memory, sockets for 4K bytes of EPROM, 48 programmable I/O lines, a USART, RS-232C and TTY drivers and receivers, sockets for I/O line drivers and terminators, and 6 interrupt lines.	**$ 495.00**	**$ 445.00**
SBC-80/20	Complete computer system on a single 6.75″ x 12″ printed circuit board, including a CPU, system clock, 2K bytes of RAM memory, sockets for 4K bytes (using 2708) or 8K bytes (using Intel™ 2716) of EPROM, multimaster Multibus™ arbitration logic, 8 level programmable vectored interrupt control, 2 programmable BCD and binary timers/counters, 48 programmable I/O lines, a USART, RS-232C drivers and receivers, and sockets for I/O line drivers and terminators.	**895.00**	**805.00**

SYS-80 PACKAGED COMPUTERS

SYS-80/10	System 80/10 packaged microcomputer, includes chassis, power supply, dual fans, cardcage and backplane, SBC-80/10 single board computer and system monitor, 1K bytes RAM, sockets for 4K bytes ROM, 48 programmable parallel I/O lines, and a programmable synchronous/asynchronous serial port fully interfaced. MC8255 included.	**$1495.00**	**$1315.00**
SYS-80/20-4	System 80/20-4 packaged microcomputer, includes chassis, power supply, dual fans cardcage and backplane, SBC-80/20-4 single board computer and system monitor, 4K bytes RAM, sockets for 4K bytes (using 2708) or 8K bytes (using 2716) of EPROM, 48 programmable parallel I/O lines, and a programmable synchronous/asynchronous serial port, fully interfaced.	**1895.00**	**1670.00**

SBC-80 HIGH SPEED MATHEMATICS UNIT

SBC-310	High speed mathematics unit—contains Series 3000 microcomputer that performs the following functions an order of magnitude faster than software routines: floating point add, subtract, multiply, divide, square, and square root; fixed point integer multiply, divide, and extended divide; conversions between fixed and floating point; test, compare, and argument exchange functions.	**$ 595.00**	**$ 535.00**

SCB-80 COMBINATION MEMORY AND I/O EXPANSION BOARDS

SBC-104	4K bytes of RAM, sockets for 4K bytes (using 27080 or 8K bytes (using Intel 2716) of EPROM, 48 programmable I/O lines, USART with RS-232C drivers and receivers, sockets for I/O line drivers and terminators, interrupt request lines and 1 millisecond interval timer (real time clock).	**$ 775.00**	**$ 700.00**
SBC-108	8K bytes of RAM, sockets for 4K bytes (using 2708) or 8K bytes (using Intel 2718) of EPROM, 48 programmable I/O lines, USART with RS-232C drivers and receivers, sockets for I/O lines, drivers and terminators, 8 interrupt request lines, and 1 millisecond interval timer (real time clock).	**895.00**	**805.00**
SBC-116	16K bytes of RAM, sockets for 4K bytes (using 2708) or 16K bytes (using Intel 2716) of EPROM, 48 programmable I/O lines, USART with RS-232C drivers and receivers, sockets for I/O line drivers and terminators, interrupt request lines, and 1 millisecond interval timer (real time clock).	**1100.00**	**990.00**

SBC-80 MASS STORAGE EXPANSION (SPECIFY 230 V, 50 Hz, AS REQUIRED)

SBC-201	Flexible diskette controller—plugs into two slots of SBC-604 or SBC-614 cardcage. Compatible with Shugart Model 800/800R and CDC Model 9404 diskette drivers.	**$ 995.00**	**$ 895.00**
SBC-202	Double density flexible diskette controller—plugs into two slots of SBC-604 or SBC-614 cardcage. Compatible with Shugart Model SA800-1 Double density diskette drivers.	**1290.00**	**1135.00**
SBC-211	Single drive flexible diskette hardware system. Includes SBC-201 controller, power supply, single drive, cables and chassis. Requires two slots of SBC-604 or SBC-614 cardcage. Also available in 220 V; specify SBC-211 220 V.	**2850.00**	**2565.00**
SBC-212	Dual drive flexible diskette hardware system. Includes SBC-201 controller, power supply, single drive, cables, and chassis. Requires two slots of SBC-604 or SBC-614 cardcage. Also available in 220 V; specify SBC-212 220 V.	**3350.00**	**3015.00**

MICROCOMPUTER SYSTEMS (CONTINUED)

Intel No.	Description	Net Each, 1-9	Lots of 10-24
	SBC-80 MEMORY EXPANSION BOARDS		
SBC-016	**16K byte Dynamic RAM memory**	$ 975.00	$ 880.00
SBC-094	4K byte low power RAM memory with battery back-up, containing 4 bytes of static CMOS RAM, power-fail interrupt circuitry and an on-board battery pack, allowing up to 96 hours of data retention.	795.00	720.00
SBC-416	**16K byte PROM/ROM memory**—contains sockets for 16 Intel 8708 PROM's or Intel 8308 ROM's.	295.00	265.00
	SBC-80 DIGITAL I/O EXPANSION BOARDS		
SBC-501	**DMA channel controller**—provides full DMA control for SBC-80/10 and SBC-80/20 based systems. Transfer rates up to 330K bytes/sec. with SBC-80/10 and 1M bytes/sec. with SBC-80/20, to or from any location on SBC-80 expansion board RAM.	$ 450.00	$ 405.00
SBC-508	**Input/output**—contains four 8-bit input ports and four 8-bit output ports with line drivers and terminators.	350.00	315.00
SBC-517	**Programmable serial and parallel input/output**—48 programmable I/O lines. USART with RS-232C drivers and receivers, sockets for I/O drivers and terminators, 8-interrupt request lines and 1 millisecond interval timer (real time clock).	425.00	385.00
SBC-519	**Programmable input/output**—772 programmable I/O lines, sockets for I/O drivers and terminators, 8 level programmable interrupt control and 1 millisecond interval timer (real time clock).	395.00	355.00
SBC-530	**Teletypewriter adapter.** Converts SBC-80/04, SBC-80/05, SBC-80/20, SBC-104, SBC-108, SBC-116 and SBC-517 RS-232C serial ports to a 20 mA optically isolated interface.	150.00	135.00
SBC-534	**Four channel programmable communications**—contains four RS-232C and optically isolated 20 mA current loop buffered USART channels plus Auto-Call unit interface with software programmable baud rates, programmable interrupt handling, two interval timers and loopback for diagnostic use.	650.00	585.00
SBC-556	**Optically isolated input/output**—contains 24 input lines, 16 output lines, and 8 programmable input/output lines with sockets for user-supplied optical isolators and terminators.	395.00	355.00
	SBC-80 ANALOG I/O EXPANSION BOARDS		
SBC-711	**Analog input**—contains 8 differential/16 single-ended input multiplexer programmable gain amplifier, sample/hold, 12-bit A/D converter, pacer clock, DC/DC converter and interface logic.	895.00	830.00
SBC-724	**Analog output**—contains 4 independent 12-bit D/A voltage output converters with DC/DC converter and interface logic.	750.00	695.00
SBC-732	**Combination analog input/output**—contains 8 differential/16 single-ended input multiplexer, programmable gain amplifier, sample/hold, 12-bit A/D converter, pacer clock, DC/DC converter, two 12-bit D/A converters with voltage and current output.	1125.00	1045.00
	SBC-80 CARD CAGES AND CHASSIS		
SBC-604	**Stand-alone card cage and printed circuit backplane with sockets for four SBC boards.** Unit can interface with SBC-614 units via its male backplane connector. Bus lines contain terminators. This unit must be used in single card cage or multiple card cage systems.	170.00	155.00
SBC-614	**Expansion card cage and printed circuit backplane with sockets for four SBC boards.** Unit can interface with SBC-604 and SBC-614 units via male and female connectors.	170.00	155.00
SBC-660	**Seven-inch high system 80 chassis**—contains connectors and printed circuit backplane for SBC boards, heavy duty power supply, dual fans, pop-off front panel, and is mountable in a standard 19-inch rack.	1350.00	1285.00
	SBC-80 POWER SUPPLIES		
SBC-630	Single chassis power supply providing ±5 V and ±12 V with output current capacity for one Intel single board computer plus residual power. Operates from 115 VAC, 60 Hz or 230 VAC, 50 Hz sources. Also provides +26.5 V, 100 mA regulated output level.	270.00	255.00
SBC-635	Single chassis power supply providing ±5 V and ±12 V with output current capacity for one SBC-80 single board computer and up to three SBC-80 Memory, I/O, peripheral control expansion boards. Also provides AC-LOW TTL compatible output signal for orderly system shutdown and/or battery back-up applications. Operates from 100, 115, 215 or 230 VAC source with 50 or 60 Hz inputs.	460.00	440.00

INTEL DESIGN INFORMATION

1977 Intel Data Catalog—928 pages. Here is the complete detailing of what Intel delivers. Complete electrical specs on 286 Intel memory components, systems and support circuits, microcomputer systems, peripheral and development aids. Includes data sheets and comprehensive information on our MCS4/40™, MCS48.., MCS80/85.. and Series 3000 microcomputer families. Provides an index of available software and workshop programs.
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1977 Intel Memory Design Handbook—288 pages. For the facts on efficient memory system design, come to the source: Intel. We're the pioneers and leading suppliers of semiconductor memory. Our new design handbook is the definitive compendium of memory applications. Covers system design, using RAMS, PROM/ROMs, CCD and memory support circuits. Includes actual PC board layouts for many applications.
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MCS-85™ User's Manual—288 pages. We designed our new 8085 to give you a high performance microcomputer with a built-in head start—bus and software compatibility with the industry standard 8080. User's manual details MCS-85 system operation, data sheets and application notes, plus specs on compatible peripherals and standard memories.
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MCS-48™ User's Manual—304 pages. Intel delivers the world's best supported single chip microcomputer, the 8048—and the user's manual that helps you take full advantage of it. Provides an overview of the complete MCS-48 system, including the companion 8748 and 8035 cpu's, data sheets, instruction sets, application notes and specs on the full family of compatible peripherals.
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Litronix Number	Lens Description	Features	Net Each, Lots of		
			1-99	100-999	1000 Up
RL-2*	Red diffusive	Front panel mounting; molded plastic package	$0.70	$0.55	$0.45
RL-2-02	Red clear		.70	.55	.45
RL-20*†	Red diffusive	High luminance; large full flood radiating area	.62	.49	.40
RL-20-02	Red clear		.62	.49	.40
RL-21‡	Red diffusive	Extra wide viewing angle—180°	.65	.43	.36
RL-21-02	Red clear		.65	.43	.36
RL-50*	Water clear	Subminiature axial lead frame package for maximum strength at minimum linear spacing	.34	.23	.19
RL-50-01	Red diffusive		.34	.23	.19
RL-50-02	Red clear		.34	.23	.19
RL-54	Red diffusive	Low cost	.27	.18	.15
RL-55	Red diffusive	High intensity	.41	.27	.22
RL-55-5	Red diffusive	Low cost	.29	.20	.16
RL-209*†	Red diffusive	Subminiature radial lead; low cost	.41	.27	.23
RL-209-02	Red clear		.41	.27	.23
RL-T1*†	Red diffusive	Identical to RL-209 except flangeless	.41	.27	.23
RL-T1-02	Red clear		.41	.27	.23
RL-2000	Red diffusive	High brightness	.59	.39	.33
RL-4403	Red diffusive	High luminance; large full flood area	.45	.30	.25
RL-4415	Red diffusive	Right angle leads	.54	.36	.30
RL-4484§	Red diffusive	Miniature commercial grade	.29	.19	.16
RL-4850	Red diffusive	Commercial panel mount	.27	.18	.15
RL-5054-1	Red diffusive	Extra high luminance for back panel lighting; projects ¼″ spot	.37	.25	.21
RL-5054-2	Red diffusive		.45	.30	.25
RL-5054-5	Red diffusive		.29	.19	.16
RLC-200	Red diffusive	Constant intensity	.54	.42	.35
RLC-201	Red diffusive	Constant intensity	.54	.42	.35
RLC-210	Red diffusive	Constant intensity	.65	.41	.32
RLC-410	Red diffusive	Voltage indicator	.90	.60	.50

*White diffusive (-03); †Water clear diffusive (-04); ‡White diffusive lens available at same price. §Pkg. similar to RL-209. #For sense-source applications.

INFRARED, GREEN, ORANGE AND VISIBLE YELLOW EMITTERS

Litronix Number	Description	Features	Net Each, Lots of		
			1-99	100-999	1000 Up
GL-56	Green	Axial lead	$0.88	$0.60	$0.49
YL-56	Yellow	Axial lead	.88	.60	.49
GL-4484	Green	T1 Pkg.	.71	.52	.42
YL-4484	Yellow	T1 Pkg.	.71	.52	.42
GL-4850	Green	T1 ¾ Pkg.	.70	.52	.42
YL-4850	Yellow	T1 ¾ Pkg.	.70	.52	.42
IRL-60	Infrared	Axial lead	.96	.72	.60

OPTO-ISOLATORS

Optically coupled pair employing infrared LED and NPN phototransistor.

Litronix Number	Break-down V	Net Each, Lots of			Litronix Number	Break-down V	Net Each, Lots of		
		1-99	100-999	1000 Up			1-99	100-999	1000 Up
IL-1	2500	$1.20	$0.90	$0.80	**ILA-55***	1500	$1.61	$1.30	$1.05
IL-5	2500	1.50	1.10	.92	**ILD-74**	1500	2.20	1.47	1.23
IL-12	1000	.91	.65	.54	**ILQ-74**	1500	4.68	3.12	2.60
IL-15	1500	1.03	.82	.69	**ILCA2-30†**	....	1.85	1.28	1.04
IL-16	1500	1.13	.90	.75	**ILCA2-55†**	....	1.95	1.38	1.19
IL-74	1500	1.08	.72	.60	**ILCT-6**	1500	2.53	1.75	1.50
ILA-30*	1500	1.50	1.20	1.00	**IL-100**	1500	5.26	4.50	3.75

*Infrared emitter and photo darlington. †LED and photo darlington transistor.

SINGLE AND DUAL DIGIT NUMERIC DISPLAYS

Litronex Number	Char. Ht., In.	Description	Polar-ity	Net Each, Lots of		
				1-99	100-999	1000 Up
DL-707†	0.3	7 segment, DP left	CA	$2.34	$1.80	$1.50
DL-707R†	0.3	7 segment, DP right	CA	2.34	1.80	1.50
DL-701	0.3	Overflow, polarity indicator	CA	2.34	1.80	1.50
DL-721†	0.5	Overflow, polarity indicator	CA	5.00	3.80	3.20
DL-727†	0.5	7 segment, DP right	CA	5.00	3.80	3.20
DL-746	0.63	Overflow, polarity indicator	CA	4.00	3.10	2.55
DL-747	0.63	7 segment, DP left	CA	4.00	3.10	2.55
DL-702	0.3	7 segment, DP left	CC	2.34	1.80	1.50
DL-704	0.3	Overflow, polarity indicator	CC	2.34	1.80	1.50
DL-722†	0.5	Overflow, polarity indicator	CC	5.00	3.80	3.20
DL-728†	0.5	7 segment, DP right	CC	5.00	3.80	3.20
DL-749	0.63	Overflow, polarity indicator	CC	4.00	3.10	2.55
DL-750	0.63	7 segment, DP left	CC	4.00	3.10	2.55

†Dual Digit Module.

MAGNIFIED SINGLE DIGIT NUMERIC DISPLAYS—COMMON CATHODE

DL-44M	0.19	Dual, 7 segment, DP right	$7.10	$5.85	$4.90
DL-34M	0.11	Quad, 7 segment, DP right	9.15	7.55	6.30

ALPHA-NUMERIC DISPLAYS

DL-57	0.32	5 x 7 dot matrix, DP left	$10.98	$7.32	$6.10
DL-16	0.157	Magnified, 16 segment, DP left, starburst, monolithic	8.15	6.75	5.65
DL-416	0.160	4-digit, 16-segment	24.00	19.00	15.00
DL-1416	0.160	4-digit, 16-segment w/on-board memory, decoder, drivers	40.00*	35.00†	30.00#

Lots of *1–49; †50–99; #100–499.

SPACE PROHIBITS LISTING ALL LITRONIX PRODUCTS
WRITE FOR DATA AND PRICING

PHOTOTRANSISTORS

Litronix Number	Equiv.	Net Each, Lots of	
		1-99	100-999
LPT 100	FPT 100	$0.80	$0.60
LPT 100A	FPT 100A	.95	.70
LPT 100B	FPT 100B	1.15	.85
LPT 110	FPT 110	.73	.55
LPT 110A	FPT 110A	.99	.76
LPT 110B	FPT 110B	1.29	.94

NUMERIC DISPLAYS COMMON CATHODE

Litronix Number	Equiv.	Net Each, Lots of	
		1-99	100-999
DL-10	MAN 1	$9.00	$7.50
DL-10A	MAN 10A	6.30	5.25

DISPLAY STICKS

Litronix Number	Description	Net Each 1-99
DL-3531	.5″ 3½-digit, mpx, ca	$7.80
DL-4500	.5″ 4-digit, mpx, cc	7.80
DL-4520A	.5″ 4-digit, nmpx, cc	7.80
DL-4530	.5″ 4-digit, mpx, ca	7.80
DL-6500	.5″ 6-digit, mpx, ca	11.70
DL-6830	.8″ 6-digit, mpx, ca	16.20
DL-2130	1″ 2-digit, mpx, ca	7.20
DL-3100	1″ 3-digit, mpx, cc	10.80
DL-3130	1″ 3-digit, mpx, ca	10.80
DL-4120A	1″ 4-digit, nmpx, cc	14.40
DL-4130	1″ 4-digit, mpx, ca	14.40

REFLECTOR DIGITS

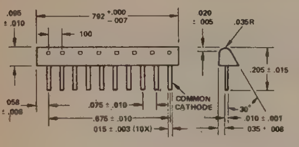
Litronix Number	Description	Net Ea., Lots of		
		1-99	100-999	1000 Up
DL-521	DL-721 equiv.	$3.90	$3.00	$2.50
DL-522	DL-722 equiv.	3.90	3.00	2.50
DL-527	DL-727 equiv.	3.90	3.00	2.50
DL-528	DL-728 equiv.	3.90	3.00	2.50
DL-846	.8″ DL-746	2.70	2.05	1.75
DL-847	.8″ DL-747	2.70	2.05	1.75
DL-849	.8″ DL-749	2.70	2.05	1.75
DL-850	.8″ DL-750	2.70	2.05	1.75

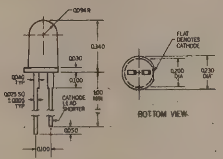
ASK ABOUT
ANY NEW OR
UNLISTED ITEMS

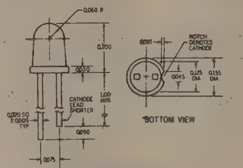
DIMENSIONS

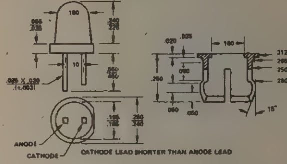
litronix

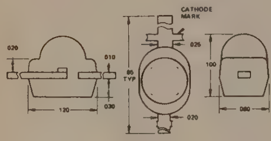
Lamps

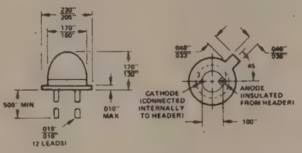

.792 +.000 −.007
.100
.020 ±.005
.035R
.205 ±.015
COMMON CATHODE
30°
.075 ±.010
.675 ±.010
.015 ±.003 (10X)
.010 ±.001
.035 ±.008
.058 ±.008
ARL-18

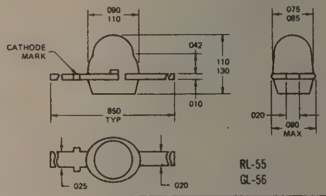

0.094 R
0.340
FLAT DENOTES CATHODE
0.200 DIA
0.230 DIA
.800 MIN
CATHODE LEAD SHORTER
BOTTOM VIEW
0.050
0.100
T1¾


0.060 R
0.200
NOTCH DENOTES CATHODE
1.00 MIN
CATHODE LEAD SHORTER
BOTTOM VIEW
0.045 DIA
0.125 DIA
0.155 DIA
0.050
0.075
RL-T1 (without flange)
RL-209 (with flange)

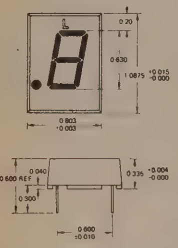

.180
312 DIA
285 DIA
250 DIA
296 DIA
15°
ANODE
CATHODE
CATHODE LEAD SHORTER THAN ANODE LEAD
RL-2

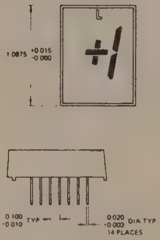

CATHODE MARK
.025
.010
.100
.120
.030
.020
.080
RL-50
RL-54
IRL-60

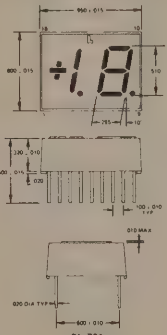

.230" .205"
.170" .150"
.170" .130"
.500" MIN
.010" MAX
.019" .016" (2 LEADS)
.048" .033"
.046" .036"
45°
CATHODE (CONNECTED INTERNALLY TO HEADER)
ANODE (INSULATED FROM HEADER)
.100"
IRL-40

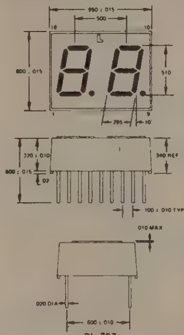

CATHODE MARK
.090 .110
.042
.110 .130
.010
.850 TYP
.075 .085
.020
.080 MAX
.025
.020
RL-55
GL-56

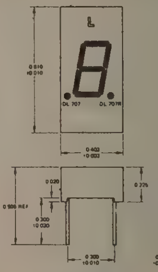
Displays

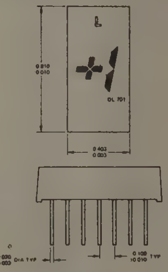

0.20
0.630
1.0875 +0.015 −0.000
0.803 ±0.003
0.040
0.600 REF
0.300
0.335 +0.004 −0.000
0.600 ±0.010
DL-747
DL-750

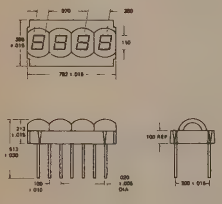

1.0875 +0.015 −0.000
0.100 ±0.010 TYP
0.020 ±0.003 DIA TYP 14 PLACES
DL-746
DL-749

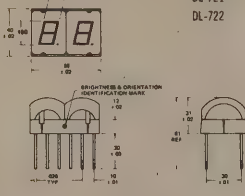

.950 ±.015
.600 ±.015
.510
.370 ±.010
.100 ±.010 TYP
.010 MAX
.020 DIA TYP
.600 ±.010
DL-721
DL-722

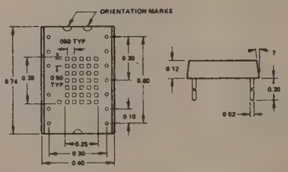

.950 ±.015
.500
.600 ±.015
.510
.370 ±.010
.340 REF
.100 ±.010 TYP
.010 MAX
.020 DIA
.600 ±.010
DL-727
DL-728

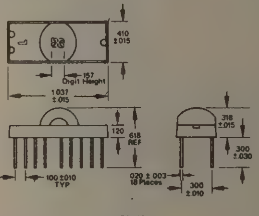

DL 707
DL 707R
0.403 ±0.003
0.300 ±0.020
0.300 ±0.010
DL-707
DL-702


DL 701
0.403 ±0.003
0.100 ±0.010 TYP
DL-701
DL-704

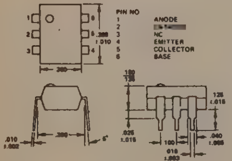

DL-34M

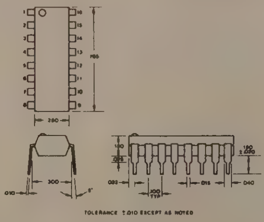

BRIGHTNESS & ORIENTATION IDENTIFICATION MARK
DL-44M

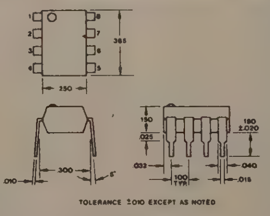

ORIENTATION MARKS
.050 TYP
DL-57


.410 ±.015
.157 Digit Height
1.037 ±.015
.120
.618 REF
.318 ±.015
.300 ±.030
.100 ±.010 TYP
.020 ±.003 18 Places
.300 ±.010
DL-16

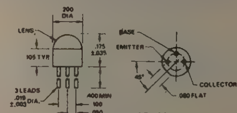
Opto-Isolators

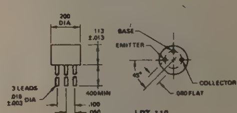

PIN NO
1 ANODE
2 CATHODE
3 NC
4 EMITTER
5 COLLECTOR
6 BASE
Single Channel


TOLERANCE ±.010 EXCEPT AS NOTED
Quad Channel


.365
.250
.300
.100 TYP
TOLERANCE ±.010 EXCEPT AS NOTED
Dual Channel and High Speed

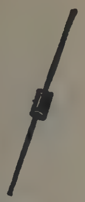
Phototransistors

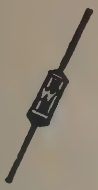

.200 DIA
LENS
.105 TYP
.175 ±.035
BASE
EMITTER
COLLECTOR
.080 FLAT
3 LEADS .018 ±.003 DIA
.400 MIN
.100
.050
45°
LPT-100

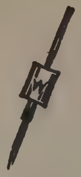

.200 DIA
.113 ±.013
BASE
EMITTER
COLLECTOR
.080 FLAT
3 LEADS .018 ±.003 DIA
.400 MIN
.100
.050
45°
LPT-110

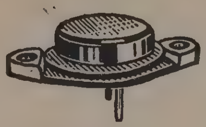
MOTOROLA Semiconductors

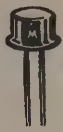
SILICON ZENER DIODES

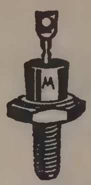

Case 17

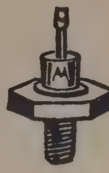

Case 51

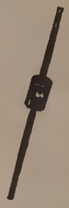

Case 52


Case 54


Case 55


Case 56


Case 58


Case 59

Extensive line of zener diodes may be employed where a nearly constant DC output voltage is required despite relatively large changes in input voltage or load resistance. The zener voltage is measured at approximately ¼ the rated power except for 1N4099 Series which is measured with an $I_{ZT}=250$ μADC, and 1N4370 and 1N746 Series which is measured with an $I_{ZT}=20$ mADC. Standard voltage tolerances of ±5%, ±10% and ±20%; low and high level zener chips; intermediate voltages and tighter tolerances; non-standard devices available to meet virtually any zener diode requirement. MIL types available as noted.

250-mW LOW NOISE (CASE 51)

Test Current (I_{ZT}): 0.250 μA. **Tol.:** ±5%. Also Available: 1N4099–1N4135 JAN, JTX to MIL-S-19500/435.

Motorola Type	Nom. V_Z at I_{ZT} V	Max. Z_{ZT} at I_{ZT} Ω	Motorola Type	Nom. V_Z at I_{ZT} V	Max. Z_{ZT} at I_{ZT} Ω
1N4099	6.8	200	1N4118	27	150
1N4100	7.5	200	1N4119	28	200
1N4101	8.2	200	1N4120	30	200
1N4102	8.7	200	1N4121	33	200
1N4103	9.1	200	1N4122	36	200
1N4104	10	200	1N4123	39	200
1N4105	11	200	1N4124	43	250
1N4106	12	200	1N4125	47	250
1N4107	13	200	1N4126	51	300
1N4108	14	200	1N4127	56	300
1N4109	15	100	1N4128	60	400
1N4110	16	100	1N4129	62	500
1N4111	17	100	1N4130	68	700
1N4112	18	100	1N4131	75	700
1N4113	19	150	1N4132	82	800
1N4114	20	150	1N4133	87	1000
1N4115	22	150	1N4134	91	1200
1N4116	24	150	1N4135	100	1500
1N4117	25	150			

Motorola Type	Net Each, Lots of 1-99	Net Each, Lots of 100-999
1N4099-1N4135	$3.85	$2.90

400-mW DIFFUSED (CASE 51)

Also Available: 1N962B–1N992B JAN, JTX to MIL-S-19500/117; S1N962B–S1N973B NASA types.

Motorola Type	Nom. V_Z at I_{ZT} Volts	I_{ZT} mA	Max. Z_{ZT} at I_{ZT} Ω	Net Each, Lots of 1-99	Net Each, Lots of 100-499
1N957	6.8	18.5	4.5		
1N958	7.5	16.5	5.5		
1N959	8.2	15	6.5	±20% Tol. $0.95	±20% Tol. $0.95
1N960	9.1	14	7.5		
1N961	10.0	12.5	8.5		
1N962	11	11.5	9.5		
1N963	12	10.5	11.5		
1N964	13	9.5	13.0	±10% Tol. $0.95	±10% Tol. $0.95
1N965	15	8.5	16.0		
1N966	16	7.8	17.0		
1N967	18	7.0	21		
1N968	20	6.2	25		
1N969	22	5.6	29	±5% Tol. $0.95	±5% Tol. $0.95
1N970	24	5.2	33		
1N971	27	4.6	41		
1N972	30	4.2	49		
1N973	33	3.8	58		
1N974	36	3.4	70	±20% Tol. $2.15	±20% Tol. $1.60
1N975	39	3.2	80		
1N976	43	3.0	93		
1N977	47	2.7	105		
1N978	51	2.5	125	±10%* Tol. $2.35	±10%* Tol. $1.75
1N979	56	2.2	150		
1N980	62	2.0	185		
1N981	68	1.8	230		
1N982	75	1.7	270	±5%† Tol. $2.95	±5%† Tol. $2.70
1N983	82	1.5	330		
1N984	91	1.4	400		
1N985	100	1.3	500	±20% $2.60	±20% $1.95
1N986	110	1.1	750		
1N987	120	1.0	900		
1N988	130	0.95	1100	±10%* $3.00	±10%* $2.25
1N989	150	0.85	1500		
1N990	160	0.80	1700		
1N991	180	0.68	2200	±5%† $3.65	±5%† $2.75
1N992	200	0.65	2500		

To Order Add Suffix: ***A** (1N957**A**); †**B** (1N957**B**).

400-mW LOW VOLTAGE (CASE 51)

Also Available: 1N746A–1N4372A JAN, JTX to MIL-S-19500/127; S1N746A–S1N759A NASA types.

Motorola Type	Nom. V_Z at I_{ZT} Volts	I_{ZT} mA	Max. Z_{ZT} at I_{ZT} Ω	Net Each, Lots of 1-99	Net Each, Lots of 100-499
1N746	3.3	20	28		
1N747	3.6	20	24		
1N748	3.9	20	23		
1N749	4.3	20	22		
1N750	4.7	20	19	±10% Tol. $0.95	±10% Tol. $0.67
1N751	5.1	20	17		
1N752	5.6	20	11		
1N753	6.2	20	7		
1N754	6.8	20	5		
1N755	7.5	20	6	±5% * Tol. $0.95	±5%* Tol. $0.67
1N756	8.2	20	8		
1N757	9.1	20	10		
1N758	10 0	20	17		
1N759	12.0	20	30		
1N4370	2.4	20	30		
1N4371	2.7	20	30		
1N4372	3.0	20	29		

1-WATT LOW VOLTAGE (CASE 52)

Also Available: 1N3821A–1N3828A JAN, JTX to MIL-S-19500/115.

1N3821	3.3	76	10		
1N3822	3.6	69	10	±10% Tol. $2.10	±10% Tol. $1.60*
1N3823	3.9	64	9		
1N3824	4.3	58	9		
1N3825	4.7	53	8		
1N3826	5.1	49	7		
1N3827	5.6	45	5	±5%* Tol. $2.65	±5%* Tol. $2.00*
1N3828	6.2	41	2		
1N3829	6.8	37	1.5		
1N3830	7.5	34	1.5		

1-WATT SURMETIC™ (CASE 59)

1N4728	3.3	76	10		
1N4729	3.6	69	10		
1N4730	3.9	64	9		
1N4731	4.3	58	9		
1N4732	4.7	53	8		
1N4733	5.1	49	7		
1N4734	5.6	45	5		
1N4735	6.2	41	2		
1N4736	6.8	37	3.5		
1N4737	7.5	34	4		
1N4738	8.2	31	4.5		
1N4739	9.1	28	5		
1N4740	10	25	7		
1N4741	11	23	8	±10% Tol. $1.26	±10% Tol. $0.95
1N4742	12	21	9		
1N4743	13	19	10		
1N4744	15	17	14		
1N4745	16	15.5	16		
1N4746	18	14	20		
1N4747	20	12.5	22		
1N4748	22	11.5	23	±5%* Tol. $1.93	±5%* Tol. $1.45
1N4749	24	10.5	25		
1N4750	27	9.5	35		
1N4751	30	8.5	40		
1N4752	33	7.5	45		
1N4753	36	7	50		
1N4754	39	6.5	60		
1N4755	43	6	70		
1N4756	47	5.5	80		
1N4757	51	5	95		
1N4758	56	4.5	110		
1N4759	62	4	125		
1N4760	68	3.7	150		
1N4761	75	3.3	175		
1N4762	82	3.0	200		
1N4763	91	2.8	250		
1N4764	100	2.5	350		

*To order add suffix **A** (1N746**A**, 1N3821**A**, 1N4728**A**). *100–299 quantity.

500-mW SURMETIC (CASE 51)

Tolerance, ±20%. Other standard voltages available: 2.5, 2.8, 6.0, 8.7, 14, 17, 19, 25, 28, 60, 87, 140, 170 and 190.

Motorola Type Case 51	Motorola Type Case 299	Nom. V_Z at I_{ZT} V	Max. Z_{ZT} at I_{ZT} Ohms
1N5221	1N5985	2.4	3J
1N5223	1N5986	2.7	30
1N5225	1N5987	3.0	29
1N5226	1N5988	3.3	28
1N5227	1N5989	3.6	24
1N5228	1N5990	3.9	23
1N5229	1N5991	4.3	22
1N5230	1N5992	4.7	19
1N5231	1N5993	5.1	17
1N5232	1N5994	5.6	11
1N5234	1N5995	6.2	7
1N5235	1N5996	6.8	5
1N5236	1N5997	7.5	6
1N5237	1N5998	8.2	8
1N5239	1N5999	9.1	10
1N5240	1N6000	10	17
1N5241	1N6001	11	22
1N5242	1N6002	12	30
1N5243	1N6003	13	13
1N5245	1N6004	15	16
1N5246	1N6005	16	17
1N5248	1N6006	18	21
1N5250	1N6007	20	25
1N5251	1N6008	22	29
1N5252	1N6009	24	33
1N5254	1N6010	27	41
1N5256	1N6011	30	49
1N5257	1N6012	33	58
1N5258	1N6013	36	70
1N5259	1N6014	39	80
1N5260	1N6015	43	93
1N5261	1N6016	47	105
1N5262	1N6017	51	125
1N5263	1N6018	56	150
1N5265	1N6019	62	185
1N5266	1N6020	68	230
1N5267	1N6021	75	270
1N5268	1N6022	82	330
1N5270	1N6023	91	400
1N5271	1N6024	100	500
1N5272	1N6025	110	750
1N5273	1N6026	120	900
1N5274	1N6027	130	1100
1N5275	....	140	....
1N5276	1N6028	150	1500
1N5277	1N6029	160	1700
1N5278	....	170	....
1N5279	1N6030	180	2200
1N5281	1N6031	200	2500

Motorola Type	Tol.	Net Ea., Lots 1-99	Net Ea., Lots 100-999
1N5221-1N5257	±20%	$0.67	$0.60
1N5221A-1N5257A	±10%	.90	.80
1N5221B-1N5257B	± 5%	1.05	.93
1N5258-1N5268	±20%	.90	.80
1N5258A-1N5268A	±10%	1.12	1.00
1N5258B-1N5268B	± 5%	1.27	1.13
1N5270-1N5281	±20%	1.27	1.13
1N5270A-1N5281A	±10%	1.50	1.33
1N5270B-1N5281B	± 5%	1.65	1.46
1N5985-1N6000	±20%	1.60	1.40
1N5985A-1N6000A	±10%	1.75	1.60
1N5985B-1N6000B	± 5%	2.20	2.00
1N6001-1N6031	±20%	1.35	1.20
1N6001A-1N6031A	±10%	1.50	1.35
1N6001B-1N6031B	± 5%	2.05	1.80

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MOTOROLA Semiconductors

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1-WATT DIFFUSED (CASE 52)

Also Available: 1N3016B–1N3051B JAN, JTX, JTXV to MIL-S-19500/115; S1N3016B–S1N3051B NASA types.

Motorola Type	Nom. V_Z at I_{ZT} Volts	Test I_{ZT} mA	Max. Z_{ZT} at I_{ZT} Ω	Net Each, Lots of 1-99	Net Each, Lots of 100-299
1N3016	6.8	37	3.5	±20% Tol. $2.85 ±10%* Tol. $3.20 ±5%† Tol. $3.70	±20% Tol. $2.15 ±10%* Tol. $2.40 ±5%† Tol. $2.80
1N3017	7.5	34	4.0		
1N3018	8.2	31	4.5		
1N3019	9.1	28	5.0		
1N3020	10	25	7		
1N3021	11	23	8		
1N3022	12	21	9		
1N3023	13	19	10		
1N3024	15	17	14		
1N3025	16	15.5	16		
1N3026	18	14	20		
1N3027	20	12.5	22		
1N3028	22	11.5	23		
1N3029	24	10.5	25		
1N3030	27	9.5	35		
1N3031	30	8.5	40		
1N3032	33	7.5	45		
1N3033	36	7.0	50		
1N3034	39	6.5	60		
1N3035	43	6.0	70		
1N3036	47	5.5	80		
1N3037	51	5.0	95		
1N3038	56	4.5	110		
1N3039	62	4.0	125		
1N3040	68	3.7	150		
1N3041	75	3.3	175		
1N3042	82	3.0	200		
1N3043	91	2.8	250		
1N3044	100	2.5	350		
1N3045	110	2.3	450	±20% $2.95 ±10%* $3.25 ±5%† $4.65	±20% $2.20 ±10%* $2.45 ±5%† $3.50
1N3046	120	2.0	550		
1N3047	130	1.9	700		
1N3048	150	1.7	1000		
1N3049	160	1.6	1100		
1N3050	180	1.4	1200		
1N3051	200	1.2	1500		

To Order Add Suffix: *A (1N3016**A**); †B (1N3016**B**).

1½-WATT DIFFUSED (CASE 59)

Motorola Type	Nom. V_Z at I_{ZT} Volts	I_{ZT} mA	Max. Z_{ZT} at I_{ZT} Ω	Net Each, Lots of 1-99	Net Each, Lots of 100-299
1N5921	6.8	55	2.7	$2.40 2.70 3.50	$1.80 2.05 2.40
1N5922	7.5	50	3.0		
1N5923	8.2	46	3.5		
1N5924	9.1	41	4.0		
1N5925	10	37	5		
1N5926	11	34	6	±20% Tol. $2.15 ±10% Tol. $2.40 ±5% Tol. $2.80	±20% Tol. $1.60 ±10% Tol. $1.80 ±5% Tol. $2.10
1N5927	12	31	7		
1N5928	13	29	8		
1N5929	15	25	10		
1N5930	16	23	11		
1N5831	18	21	13		
1N5932	20	19	15		
1N5933	22	17	16		
1N5934	24	16	17		
1N5935	27	14	20		
1N5936	30	12	25		
1N5937	33	11	30		
1N5938	36	10	35		
1N5939	39	10	40		
1N5940	43	9.0	45		
1N5941	47	8.0	55		
1N5942	51	7.4	65		
1N5943	56	6.7	75		
1N5944	62	6.0	85		
1N5945	68	5.5	95		
1N5946	75	5.0	110		
1N5947	82	4.5	130		
1N5948	91	4.1	150		
1N5949	100	3.7	200	±20% Tol. $3.25	±20% Tol. $1.75
1N5950	110	3.4	300		
1N5951	120	3.1	350	±10% Tol. $2.60	±10% Tol. $1.95
1N5952	130	2.9	400		
1N5953	150	2.5	700		
1N5954	160	2.3	750		
1N5955	180	2.1	800	±5% Tol. $3.70	±5% Tol. $2.80
1N5956	200	1.9	1000		

To Order Add Suffix; *A (1N5927A); †B (1N5927B). ‡For ±20% tolerance. §For ±10% tolerance, add suffix **A.** #For ±5% tolerance, add suffix **B.**

LARGER QUANTITY PRICES AVAILABLE ON REQUEST.

SEE PREVIOUS PAGE FOR CASE ILLUSTRATIONS.

5-WATT SURMETIC™ (CASE 17)

Tolerance ±10%; for ±5%, use suffix **B** (1N5333**B**). Tolerance of ±20% available at same price as ±10% tolerance: Specify 1N5333–1N5388 (no suffix).

Motorola Type	Nom. V_Z at I_{ZT} Volts	I_{ZT} mA	Max. Z_{ZT} at I_{ZT} Ω	Net Each, Lots of 1-99	Net Each, Lots of 100-499
1N5333	3.3	380	3.0	±20% Tol. $2.20 ±10%* Tol. $2.20 ±5%† Tol. $2.45	±20% Tol. $1.65 ±10%* Tol. $1.65 ±5%† Tol. $1.85
1N5334	3.6	350	2.5		
1N5335	3.9	320	2.0		
1N5336	4.3	290	2.0		
1N5337	4.7	260	2.0		
1N5338	5.1	240	1.5		
1N5339	5.6	220	1.0		
1N5341	6.2	200	1.0		
1N5342	6.8	175	1.0		
1N5343	7.5	175	1.5		
1N5344	8.2	150	1.5		
1N5346	9.1	150	2.0		
1N5347	10	125	2.0		
1N5348	11	125	2.5		
1N5349	12	100	2.5		
1N5350	13	100	2.5		
1N5352	15	75	2.5		
1N5353	16	75	2.5		
1N5355	18	65	2.5		
1N5357	20	65	3.0		
1N5358	22	50	3.5		
1N5359	24	50	3.5		
1N5361	27	50	5.0		
1N5363	30	40	8.0		
1N5364	33	40	10		
1N5365	36	30	11		
1N5366	39	30	14		
1N5367	43	30	20		
1N5368	47	25	25		
1N5369	51	25	27		
1N5370	56	20	35		
1N5372	62	20	42		
1N5373	68	20	44		
1N5374	75	20	45		
1N5375	82	15	65		
1N5377	91	15	75		
1N5378	100	12	90		
1N5379	110	12	125	$2.60‡ 2.60§ 2.85#	$1.95‡ 1.95§ 2.15#
1N5380	120	10	170		
1N5381	130	10	190		
1N5383	150	8	330		
1N5384	160	8	350		
1N5386	180	5	430		
1N5388	200	5	480		

10-WATT DIFFUSED (CASE 56)

Also Available: 1N2970B, RB–1N3015B, RB JAN, JTX to MIL-S-19500/124; S1N2970B–S1N2985B and S1N2991B NASA types. For reverse polarity units, at prices shown, add suffix **R** (1N2970**R**).

Motorola Type	Nom. V_Z at I_{ZT} Volts	I_{ZT} mA	Max. Z_{ZT} at I_{ZT} Ω	Net Each, Lots of 1-99	Net Each, Lots of 100-299
1N2970	6.8	370	1.2	±20% Tol. $5.45 ±10%* Tol. $5.85 ±5%† $7.30	±20% Tol. $4.10 ±10%* Tol. $4.40 ±5%† $5.50
1N2971	7.5	335	1.3		
1N2972	8.2	305	1.5		
1N2973	9.1	275	2.0		
1N2974	10	250	3		
1N2975	11	230	3		
1N2976	12	210	3		
1N2977	13	190	3		
1N2979	15	170	3		
1N2980	16	155	4		
1N2982	18	140	4		
1N2984	20	125	4		
1N2985	22	115	5		
1N2986	24	105	5		
1N2988	27	95	7		
1N2989	30	85	8		
1N2990	33	75	9		
1N2991	36	70	10		
1N2992	39	65	11		
1N2993	43	60	12		
1N2995	47	55	14		
1N2997	51	50	15		
1N2999	56	45	16		
1N3000	62	40	17		
1N3001	68	37	18		
1N3002	75	33	22		
1N3003	82	30	25		
1N3004	91	28	35		
1N3005	100	25	40		
1N3007	110	23	55		
1N3008	120	20	75		
1N3009	130	19	100		
1N3011	150	17	175		
1N3012	160	16	200	$6.00‡ 9.00§ 13.75#	$4.50‡ 6.75§ 10.35#
1N3014	180	14	260		
1N3015	200	12	300		

To Order Add Suffix: *A (1N2970**A**); †B (1N2970**B**). ‡For ±20% tolerance. §For ±10% tolerance, add suffix **A.** #For ±5% tol., add suffix **B.**

10-WATT LOW VOLTAGE (CASE 56)

Also Available: 1N3993A, RA–1N4000A, RA JAN, JTX to MIL-S-19500/272. For reverse polarity units, at prices shown, add suffix **R** (1N3993**R**). Vz value given is nominal.

Motorola Type	V_Z at I_{ZT} Volts	I_{ZT} mA	Max. Z_{ZT} at I_{ZT} Ω	Net Each, Lots of 1-99	Net Each, Lots of 100-299
1N3993	3.9	640	2	±10% Tol. $5.65 ±5%* Tol. $7.70	±10% Tol. $4.25 ±5%* Tol. $5.80
1N3994	4.3	580	1.5		
1N3995	4.7	530	1.2		
1N3996	5.1	490	1.1		
1N3997	5.6	445	1.0		
1N3998	6.2	405	1.1		
1N3999	6.8	370	1.2		
1N4000	7.5	335	1.3		

*To order add suffix **A** (1N3993**A**).

50-WATT DIFFUSED (CASES 54, 58)

Also Available: Case 54, 1N2804B, RB–1N2846B, RB JAN, JTX to MIL-S-19500/114. Case 58, 1N3305B, RB–1N4554B, RB JAN, JTX to MIL-S-19500/358. For reverse polarity units, at prices shown, add suffix **R** (1N2804**R**, 1N3305**R**, 1N3305**RB**).

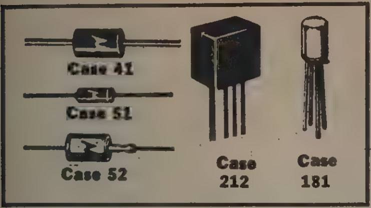
Motorola Type (Case 54)	Motorola Type (Case 58)	Nom. V_Z at I_{ZT} Volts	I_{ZT} mA	Max Z_{ZT} at I_{ZT} Ohms
1N2804	1N3305	6.8	1850	0.2
1N2805	1N3306	7.5	1700	0.3
1N2806	1N3307	8.2	1500	0.4
1N2807	1N3308	9.1	1370	0.5
1N2808	1N3309	10	1200	0.6
1N2809	1N3310	11	1100	0.8
1N2810	1N3311	12	1000	1.0
1N2811	1N3312	13	960	1.1
1N2812*	1N3313*	14	890	1.2
1N2813	1N3314	15	830	1.4
1N2814	1N3315	16	780	1.6
1N2815*	1N3316*	17	740	1.8
1N2816	1N3317	18	700	2.0
1N2817*	1N3318*	19	660	2.2
1N2818	1N3319	20	630	2.4
1N2819	1N3320	22	570	2.5
1N2820	1N3321	24	520	2.6
1N2821*	1N3322*	25	500	2.7
1N2822	1N3323	27	460	2.8
1N2823	1N3324	30	420	3.0
1N2824	1N3325	33	380	3.2
1N2825	1N3326	36	350	3.5
1N2826	1N3327	39	320	4.0
1N2827	1N3328	43	290	4.5
1N2828*	1N3329*	45	280	4.5
1N2829	1N3330	47	270	5.0
1N2830*	1N3331*	50	250	5.0
1N2831	1N3332	51	245	5.2
....	1N3333*	52	240	5.5
1N2832	1N3334	56	220	6
1N2833	1N3335	62	200	7
1N2834	1N3336	68	180	8
1N2835	1N3337	75	170	9
1N2836	1N3338	82	150	11
1N2837	1N3339	91	140	15
1N2838	1N3340	100	120	20
1N2839*	1N3341*	105	120	25
1N2840	1N3342	110	110	30
1N2841	1N3343	120	100	40
1N2842	1N3344	130	95	50
....	1N3345*	140	90	60
1N2843	1N3346	150	85	75
1N2844	1N3347	160	80	80
....	1N3348*	175	70	85
1N2845	1N3349	180	68	90
1N2846	1N3350	200	65	100
1N4557	1N4549	3.9	3200	0.16
1N4558	1N4550	4.3	2900	0.16
1N4559	1N4551	4.7	2650	0.12
1N4560	1N4552	5.1	2450	0.12
1N4561	1N4553	5.6	2250	0.12
1N4562	1N4554	6.2	2000	0.14
1N4563*	1N4555*	6.8	1850	0.16
1N4564*	1N4556*	7.5	1650	0.24

*MIL types not available.

Motorola Type	Tol.	Net Ea., Lots 1-99	Net Ea., Lots 100-999
1N2804–1N2838	±20%	$5.65	$ 4.25
1N2804A–1N2838A	±10%	7.65	5.75
1N2804B–1N2838B	± 5%	10.65	8.00
1N2839–1N2846	±20%	6.80	5.10
1N2839A–1N2846A	±10%	11.30	8.50
1N2839B–1N2846B	± 5%	17.95	13.50
1N3305–1N3340	±20%	5.65	4.25
1N3305A–1N3340A	±10%	7.65	5.75
1N3305B–1N3340B	± 5%	10.65	8.00
1N3341–1N3350	±20%	6.80	5.10
1N3341A–1N3350A	±10%	11.30	8.50
1N3341B–1N3350B	± 5%	17.95	13.50
1N4549–1N4564	±20%	6.05	4.55
1N4549A–1N4564A	±10%	8.00	6.00
1N4549B–1N4564B	± 5%	11.50	8.65

MOTOROLA Semiconductors

SILICON ZENER REFERENCE DIODES



Extremely stable voltage reference sources. Diffused junction units combine smallest size with tight stability.

400-mW SUBMINIATURE

6.2 VOLT (CASE 51)

Temperature Range: −55° C to +100° C. **Voltage Range:** 5.9–6.5 volts at 7.5 mA. **Dynamic Impedance:** 15 ohms max.; 10 ohms suffix **A**.

Motorola Type	Avg. TC %/° C	Net Each, Lots of		
		1-24	25-99	100-299
1N821*	.01	$ 2.75	$ 2.35	$ 1.90
1N821A	.01	3.05	2.60	2.10
1N823*	.005	3.60	3.10	2.50
1N823A	.005	3.90	3.35	2.70
1N825*	.002	5.80	5.00	4.00
1N825A	.002	6.50	5.60	4.50
1N827*	.001	10.85	9.35	7.50
1N827A	.001	13.05	11.25	9.00
1N829*	.0005	16.30	14.05	11.25
1N829A	.0005	19.55	16.85	13.50

*JAN, JTX, JTXV available to MIL-S-19500/159.

8.4 VOLT (CASE 51)

Temperature Range: −55° C to +100° C; −55° C to +150° C (suffix **A**). **Voltage Range:** 7.98–8.8 volts at 10 mA. **Dynamic Impedance:** 15 ohms maximum.

1N3154*	.01	$ 2.60	$2.25	$1.80
1N3154A	.01	3.60	3.10	2.50
1N3155*	.005	3.55	3.05	2.45
1N3155A	.005	4.35	3.75	3.00
1N3156*	.002	6.15	5.30	4.25
1N3156A	.002	7.10	6.10	4.90
1N3157*	.001	7.60	6.55	5.25
1N3157A	.001	11.10	9.55	7.65

*JAN, JTX available to MIL-S-19500/158.

500-mW SUBMINIATURE

9.0 VOLT (CASE 51)

Temperature Range: 0° C to +75° C; −55° C to +100° C (suffix **A**); −55° C to +150° C (suffix **B**). **Voltage Range:** 8.55–9.45 volts at 7.5 mA, 25° C ambient. **Dynamic Impedance:** 20 ohms max.

Motorola Type	Avg. TC %/° C	Net Each, Lots of		
		1-24	25-99	100-299
1N935	.01	$ 2.30	$ 2.00	$ 1.60
1N935A	.01	2.60	2.25	1.80
1N935B*	.01	3.55	3.05	2.45
1N936	.005	2.75	2.35	1.90
1N936A	.005	3.55	3.05	2.45
1N936B	.005	4.20	3.60	2.90
1N937	.002	5.35	4.60	3.70
1N937A	.002	6.15	5.30	4.25
1N937B*	.002	7.10	6.10	4.90
1N938	.001	6.95	6.00	4.80
1N938A	.001	7.55	6.50	5.20
1N938B*	.001	10.00	8.60	6.90
1N939	.0005	18.00	15.50	12.40
1N939A	.0005	25.35	21.85	17.50
1N939B*	.0005	27.35	23.55	18.85

*JAN, JTX, JTXV available to MIL-S-19500/156.

11.7 VOLT (CASE 51)

Temperature Range: 0° C to +75° C; −55° C to +100° C (suffix **A**); −55° C to +150° C (suffix **B**). **Voltage Range:** 11.12–12.29 volts at 7.5 mA. **Dynamic Impedance:** 30 ohms max.

1N941	.01	$ 3.20	$ 2.75	$ 2.20
1N941A	.01	3.40	2.90	2.34
1N941B*	.01	3.60	3.10	2.50
1N942	.005	3.50	3.00	2.40
1N942A	.005	4.35	3.75	3.00
1N942B	.005	4.95	4.25	3.40
1N943	.002	6.90	5.95	4.75
1N943A	.002	6.95	6.00	4.80
1N943B*	.002	7.15	6.20	4.95
1N944	.001	10.15	8.75	7.00
1N944A	.001	13.05	11.25	9.00
1N944B*	.001	17.30	14.95	11.95
1N945	.0005	26.70	23.00	18.40

*JAN, JTX available to MIL-S-19500/157.

LARGER QUANTITY PRICES AVAILABLE ON REQUEST.

250-mW LOW LEVEL SUBMINIATURE

Temperature Range: 0° C to +75° C; −55° C to +100° C (suffix **A**).

6.4 VOLT (CASE 51)

Test Current: 0.5 mA. **Dynamic Impedance:** 200 ohms maximum.

Motorola Type	Avg. TC %/° C	Net Each, Lots of	
		1-99	100-299
1N4565	.01	$ 8.65	$ 6.50
1N4565A	.01	9.70	7.30
1N4566	.005	11.70	8.80
1N4566A	.005	13.05	9.80
1N4567	.002	23.80	17.90
1N4567A	.002	26.45	19.90
1N4568	.001	41.10	30.90
1N4568A	.001	45.75	34.40
1N4569	.0005	89.50	67.30
1N4569A	.0005	99.50	74.80

Test Current: 1.0 mA. **Dynamic Impedance:** 100 ohms maximum.

1N4570	.01	$ 5.85	$ 4.40
1N4570A	.01	6.50	4.90
1N4571	.005	7.30	5.50
1N4571A	.005	8.10	6.10
1N4572	.002	13.25	9.95
1N4572A	.002	14.75	11.10
1N4573	.001	24.25	18.25
1N4573A	.001	27.00	20.30
1N4574	.0005	56.50	42.50
1N4574A	.0005	63.15	47.50

Test Current: 2.0 mA. **Dynamic Impedance:** 50 ohms maximum.

1N4575	.01	$ 3.00	$ 2.25
1N4575A	.01	3.30	2.50
1N4576	.005	3.65	2.75
1N4576A	.005	4.05	3.05
1N4577	.002	6.60	4.95
1N4577A	.002	7.30	5.50
1N4578	.001	12.15	9.15
1N4578A	.001	13.50	10.15
1N4579	.0005	28.25	21.25
1N4579A	.0005	31.40	23.60

Test Current: 4.0 mA. **Dynamic Impedance:** 25 ohms maximum.

1N4580	.01	$ 3.00	$ 2.25
1N4580A	.01	3.30	2.50
1N4581	.005	3.65	2.75
1N4581A	.005	4.05	3.05
1N4582	.002	6.60	4.95
1N4582A	.002	7.30	5.50
1N4583	.001	12.15	9.15
1N4583A	.001	13.50	10.15
1N4584	.0005	28.25	21.25
1N4584A	.0005	31.40	23.60

8.5 VOLT (CASE 51)

Test Current: 0.5 mA. **Dynamic Impedance:** 200 ohms maximum.

Motorola Type	Avg. TC %/° C	Net Each, Lots of	
		1-99	100-299
1N4775	.01	$ 8.65	$ 6.50
1N4775A	.01	9.70	7.30
1N4776	.005	11.70	8.80
1N4776A	.005	13.05	9.80
1N4777	.002	23.80	17.90
1N4777A	.002	26.46	19.90
1N4778	.001	41.10	30.90
1N4778A	.001	45.75	34.40
1N4779	.0005	89.50	67.30
1N4779A	.0005	99.50	74.80

Test Current: 1.0 mA. **Dynamic Impedance:** 100 ohms maximum.

1N4780	.01	$ 5.85	$ 4.40
1N4780A	.01	6.50	4.90
1N4781	.005	7.30	5.50
1N4781A	.005	8.10	6.10
1N4782	.002	13.25	9.95
1N4782A	.002	14.75	11.10
1N4783	.001	24.25	18.25
1N4783A	.001	27.00	20.30
1N4784	.0005	56.50	42.50
1N4784A	.0005	63.15	47.50

750-mW MINIATURE

9.4 VOLT (CASE 52)

Temperature Range: 1N2163–1N2169A, 0° C to +70° C; 1N2164–1N2170A, −55° C to +125° C; 1N2165–1N2171A, −55° C to +185° C. **Voltage:** $V_Z = 9.4$ volts ±0.4 V; ±0.2 V (suffix **A**). **Dynamic Impedance:** 15 ohms maximum.

Motorola Type	Avg. TC %/° C	Net Each, Lots of	
		1-99	100-299
1N2163	.005	$ 3.30	$ 2.50
1N2163A	.005	3.45	2.60
1N2166	.001	6.80	5.10
1N2166A	.001	8.10	6.10
1N2169	.0005	16.95	12.75
1N2169A	.0005	25.00	18.80
1N2164	.005	4.50	3.40
1N2164A	.005	5.50	4.15
1N2167	.001	8.65	6.50
1N2167A	.001	11.05	8.30
1N2170	.0005	23.95	18.00
1N2170A	.0005	36.95	27.80
1N2165	.005	5.65	4.25
1N2165A	.005	7.30	5.50
1N2168	.001	11.90	8.95
1N2168A	.001	15.95	12.00
1N2171	.0005	34.85	26.20
1N2171A	.0005	44.50	33.50

PRECISION REFERENCE DIODES

(CASE 51)

Designed, manufactured and tested for ultra-high stability of voltage with time and temperature change. Calibration is directly traceable to National Bureau of Standards.

Motorola Type	Nom. V_Z Volts	ΔV_Z* mV	Net Ea., Lots	
			1-99	100-999
MZ605	6.2 ± 5%	2.5	$54.55•	$47.15▪
MZ610	6.2 ± 5%	2.5	27.80•	24.05▪
MZ620	6.2 ± 5%	2.5	20.95•	18.10▪
MZ640	6.2 ± 5%	2.5	18.55•	16.05▪
MZ805	8.4 ± 5%	3.5	46.55•	40.25▪
MZ810	8.4 ± 5%	3.5	22.35•	19.30▪
MZ820	8.4 ± 5%	3.5	16.30•	14.10▪
MZ840	8.4 ± 5%	3.5	13.95•	12.05▪
1N4895	6.35 ± 5%	2.5	58.85	44.25
1N4895A	6.35 ± 5%	5.0†	71.40	53.70
1N4893	6.35 ± 5%	2.5	28.25	21.25
1N4893A	6.35 ± 5%	5.0†	34.60	26.00
1N4891	6.35 ± 5%	2.5	21.30	16.00
1N4891A	6.35 ± 5%	5.0†	26.60	20.00
1N4894	6.35 ± 5%	5.0	56.80	42.70
1N4894A	6.35 ± 5%	10†	58.85	44.25
1N4892	6.35 ± 5%	5.0	27.05	20.35
1N4892A	6.35 ± 5%	10†	28.25	21.25
1N4890	6.35 ± 5%	5.0	19.95	15.00
1N4890A	6.35 ± 5%	10†	21.30	16.00
1N3504	6.2–6.5	6.0	28.25	21.25
1N3503	6.2–6.5	6.0	21.30	16.00
1N3502	6.2–6.5	3.0	21.30	16.00
1N3501	6.2–6.5	6.0	19.95	15.00

*Over temperature range of +25° C to +100° C, except †−55° C to +100° C. ‡Certified voltage time stability: parts per million change over 1000 hours of operation. •Lots of 1–10; ▪Lots of 11–99.

SURMETIC™ FORWARD REFERENCE DIODES GLASS PACKAGE

$I_R = 10\ \mu A$ max. at $V_R = 5.0$ V.

Motorola Type	V_F at I_F		Net Ea., Lots	
	V	mA	1-99	100-999
MZ2360*	0.63–0.71	10	$0.28	$0.19
MZ2361†	1.24–1.38	10	.57	.38
MZ2362†	1.90–2.10	10	.84	.57
.4M.64FR10	0.58–0.70	1	.33	.25
.4M1.36FR5	1.29–1.43	10	1.66	1.25
.4M1.36FR2	1.33–1.39	10	2.30	1.75
.4M2.04FR5	1.94–2.14	10	2.40	1.80
.4M2.04FR2	2.00–2.08	10	3.05	2.30
1N816	0.58–0.70	1	.33	.25

*Case 59. †Case 51.

CURRENT LIMITED, TEMPERATURE COMPENSATED REFERENCE DIODES

(CASE 181)

Motorola Type MCLTC-	V_{REF} Volts*	ΔV_{REF} Volts	Net Ea., Lots	
			1-99	100-999
6010	6.08–6.72	0.01	$36.20	$30.75
6025	6.08–6.72	0.025	16.00	11.95
6050	6.08–6.72	0.05	11.15	8.30
6100	6.08–6.72	0.1	9.50	7.05

*At $V_{in} = 31$ volts; $I_{in} = 3.2$–4.8 mA.

SILICON ZENER REFERENCE DIODES

ZENER REFERENCE DIODES (CASE 41, 51)

Temperature Range: +25° C to +100° C except 1N4896**A** thru 1N4932A −55° C to +100° C. Series 1N4000 molded assemblies (Case 41); 1N4896 thru 1N4932A low noise reference diodes (Case 51).

Motorola Type	V_Z V	ΔV_Z V	I_{ZT} DC mA	Avg. TC %/°C	Net Each, Lots of 1-99	100-299
1N4057	12.4	0.047	10	0.005	**$ 5.90**	**$ 4.45**
1N4057A	12.4	0.019	10	0.002	**7.10**	**5.35**
1N4058	14.6	0.055	10	0.005	**6.40**	**4.80**
1N4058A	14.6	0.022	10	0.002	**10.75**	**8.10**
1N4059	16.8	0.063	10	0.005	**7.20**	**5.40**
1N4059A	16.8	0.025	10	0.002	**8.55**	**6.45**
1N4060	18.5	0.069	10	0.005	**7.70**	**5.80**
1N4060A	18.5	0.028	10	0.002	**9.25**	**6.95**
1N4061	21.0	0.079	10	0.005	**8.95**	**6.75**
1N4061A	21.0	0.032	10	0.002	**10.75**	**8.10**
1N4062	23.0	0.086	10	0.005	**9.70**	**7.30**
1N4062A	23.0	0.035	10	0.002	**11.70**	**8.80**
1N4063	27.0	0.101	10	0.005	**10.75**	**8.10**
1N4063A	27.0	0.041	10	0.002	**12.90**	**9.70**
1N4064	30.0	0.113	10	0.005	**12.05**	**9.05**
1N4064A	30.0	0.045	10	0.002	**14.45**	**10.85**
1N4065	33.0	0.124	10	0.005	**12.75**	**9.60**
1N4065A	33.0	0.050	10	0.002	**15.35**	**11.55**
1N4066	37.0	0.139	7.5	0.005	**13.55**	**10.20**
1N4066A	37.0	0.056	7.5	0.002	**16.30**	**12.25**
1N4067	43.0	0.161	7.5	0.005	**14.80**	**11.15**
1N4067A	43.0	0.065	7.5	0.002	**17.80**	**13.40**
1N4068	47.0	0.176	7.5	0.005	**15.90**	**11.95**
1N4068A	47.0	0.071	7.5	0.002	**19.00**	**14.30**
1N4069	51.0	0.191	7.5	0.005	**17.95**	**13.50**
1N4069A	51.0	0.077	7.5	0.002	**21.55**	**16.20**
1N4070	56.0	0.210	7.5	0.005	**19.70**	**14.80**
1N4070A	56.0	0.084	7.5	0.002	**23.60**	**17.75**
1N4071	62.0	0.232	7.5	0.005	**22.35**	**16.80**
1N4071A	62.0	0.093	7.5	0.002	**26.80**	**20.15**
1N4072	68.0	0.255	5.0	0.005	**23.15**	**17.40**
1N4072A	68.0	0.102	5.0	0.002	**27.65**	**20.80**
1N4073	75.0	0.281	5.0	0.005	**25.25**	**19.00**
1N4073A	75.0	0.113	5.0	0.002	**30.30**	**22.80**
1N4074	82.0	0.307	5.0	0.005	**27.25**	**20.50**
1N4074A	82.0	0.123	5.0	0.002	**32.70**	**24.60**
1N4075	87.0	0.326	5.0	0.005	**28.85**	**21.70**
1N4075A	87.0	0.131	5.0	0.002	**34.60**	**26.00**
1N4076	91.0	0.341	5.0	0.005	**30.30**	**22.80**
1N4076A	91.0	0.137	5.0	0.002	**36.35**	**27.35**
1N4077	100	0.375	5.0	0.005	**33.25**	**25.00**
1N4077A	100	0.150	5.0	0.002	**39.90**	**30.00**
1N4078	105	0.394	2.5	0.005	**34.90**	**26.25**
1N4078A	105	0.158	2.5	0.002	**41.90**	**31.50**
1N4079	110	0.413	2.5	0.005	**36.85**	**27.70**
1N4079A	110	0.165	2.5	0.002	**44.15**	**33.20**
1N4080	120	0.450	2.5	0.005	**39.90**	**30.00**
1N4080A	120	0.180	2.5	0.002	**47.90**	**36.00**
1N4081	130	0.488	2.5	0.005	**42.40**	**31.90**
1N4081A	130	0.195	2.5	0.002	**50.85**	**38.25**
1N4082	140	0.525	2.5	0.005	**45.75**	**34.40**
1N4082A	140	0.210	2.5	0.002	**54.85**	**41.25**
1N4083	150	0.563	2.5	0.005	**49.85**	**37.50**
1N4083A	150	0.225	2.5	0.002	**59.85**	**45.00**
1N4084	175	0.656	2.5	0.005	**57.05**	**42.90**
1N4084A	175	0.263	2.5	0.002	**68.40**	**51.45**
1N4085	200	0.750	2.5	0.005	**63.95**	**48.10**
1N4085A	200	0.300	2.5	0.002	**76.75**	**57.70**
1N4896	12.8	0.096	0.5	0.01	**18.20**	**13.70**
1N4896A	12.8	0.198	0.5	0.01	**20.10**	**15.10**
1N4897	12.8	0.048	0.5	0.005	**20.90**	**15.70**
1N4897A	12.8	0.099	0.5	0.005	**23.40**	**17.60**
1N4898	12.8	0.019	0.5	0.002	**42.80**	**32.20**
1N4898A	12.8	0.040	0.5	0.002	**47.60**	**35.80**
1N4899	12.8	0.010	0.5	0.001	**74.10**	**55.70**
1N4899A	12.8	0.020	0.5	0.001	**82.45**	**62.00**
1N4900	12.8	0.096	1.0	0.01	**10.50**	**7.90**
1N4901	12.8	0.048	1.0	0.005	**13.15**	**9.90**
1N4901A	12.8	0.099	1.0	0.005	**14.65**	**11.00**
1N4902	12.8	0.019	1.0	0.002	**23.80**	**17.90**
1N4902A	12.8	0.040	1.0	0.002	**26.60**	**20.00**
1N4903	12.8	0.010	1.0	0.001	**43.75**	**32.90**
1N4903A	12.8	0.020	1.0	0.001	**48.65**	**36.60**
1N4904	12.8	0.096	2.0	0.01	**5 40**	**4.05**
1N4904A	12.8	0.198	2.0	0.01	**6.00**	**4.50**
1N4905	12.8	0.048	2.0	0.005	**6.60**	**4.95**
1N4905A	12.8	0.099	2.0	0.005	**7.20**	**5.41**
1N4906	12.8	0.019	2.0	0.002	**$11.85**	**$ 8.92**
1N4906A	12.8	0.040	2.0	0.002	**13.15**	**9.90**
1N4907	12.8	0.010	2.0	0.001	**21.85**	**16.45**
1N4907A	12.8	0.020	2.0	0.001	**24.35**	**18.30**
1N4908	12.8	0.096	4.0	0.01	**5.40**	**4.05**
1N4908A	12.8	0.198	4.0	0.01	**6.00**	**4.50**
1N4909	12.8	0.048	4.0	0.005	**6.60**	**4.95**
1N4909A	12.8	0.099	4.0	0.005	**7.20**	**5.40**
1N4910	12.8	0.019	4.0	0.002	**11.85**	**8.90**
1N4910A	12.8	0.040	4.0	0.002	**13.15**	**9.90**
1N4911	12.8	0.010	4.0	0.001	**19.75**	**14.85**
1N4911A	12.8	0.020	4.0	0.001	**22.00**	**16.55**
1N4912	12.8	0.096	7.5	0.01	**6.00**	**4.50**
1N4912A	12.8	0.198	7.5	0.01	**10.15**	**7.65**
1N4913	12.8	0.048	7.5	0.005	**7.20**	**5.40**
1N4913A	12.8	0.099	7.5	0.005	**13.15**	**9.90**
1N4914	12.8	0.019	7.5	0.002	**13.15**	**9.90**
1N4914A	12.8	0.040	7.5	0.002	**20.20**	**15.20**
1N4915	12.8	0.010	7.5	0.001	**21.95**	**16.50**
1N4915A	12.8	0.020	7.5	0.001	**29.40**	**22.10**
1N4916	19.2	0.144	0.5	0.01	**20.75**	**15.60**
1N4916A	19.2	0.298	0.5	0.01	**23.25**	**17.50**
1N4917	19.2	0.072	0.5	0.005	**28.05**	**21.10**
1N4917A	19.2	0.149	0.5	0.005	**31.25**	**23.50**
1N4918	19.2	0.029	0.5	0.002	**57.20**	**43.00**
1N4918A	19.2	0.060	0.5	0.002	**63.45**	**47.70**
1N4919	19.2	0.144	1.0	0.01	**14.05**	**10.55**
1N4919A	19.2	0.298	1.0	0.01	**15.60**	**11.75**
1N4920	19.2	0.072	1.0	0.005	**17.55**	**13.20**
1N4920A	19.2	0.149	1.0	0.005	**19.40**	**14.60**
1N4921	19.2	0.029	1.0	0.002	**31.80**	**23.90**
1N4921A	19.2	0.060	1.0	0.002	**35.35**	**26.60**
1N4922	19.2	0.144	2.0	0.01	**7.20**	**5.40**
1N4922A	19.2	0.298	2.0	0.01	**8.00**	**6.00**
1N4923	19.2	0.072	2.0	0.005	**8.75**	**6.60**
1N4923A	19.2	0.149	2.0	0.005	**9.55**	**7.20**
1N4924	19.2	0.029	2.0	0.002	**15.80**	**11.90**
1N4924A	19.2	0.060	2.0	0.002	**17.55**	**13.20**
1N4925	19.2	0.144	4.0	0.01	**7.20**	**5.40**
1N4925A	19.2	0.298	4.0	0.01	**8.00**	**6.00**
1N4926	19.2	0.072	4.0	0.005	**8.75**	**6.60**
1N4926A	19.2	0.149	4.0	0.005	**9.55**	**7.20**
1N4927	19.2	0.029	4.0	0.002	**15.80**	**11.90**
1N4927A	19.2	0.060	4.0	0.002	**17.55**	**13.20**
1N4928	19.2	0.014	4.0	0.001	**26.35**	**19.80**
1N4928A	19.2	0.030	4.0	0.001	**29.40**	**22.10**
1N4929	19.2	0.144	7.5	0.01	**8.10**	**6.10**
1N4929A	19.2	0.298	7.5	0.01	**13.75**	**10.35**
1N4930	19.2	0.072	7.5	0.005	**9.70**	**7.30**
1N4930A	19.2	0.149	7.5	0.005	**17.80**	**13.40**
1N4931	19.2	0.029	7.5	0.002	**17.80**	**13.40**
1N4931A	19.2	0.060	7.5	0.002	**26.85**	**20.20**
1N4932	19.2	0.014	7.5	0.001	**29.40**	**22.10**
1N4932A	19.2	0.030	7.5	0.001	**39.10**	**29.40**

SILICON MOLDED ASSEMBLY REFERENCE DIODES (CASE 41)

V_Z at I_{ZT}=7.5 mA. ΔV_Z at −55° C, +25° C, +100° C. P_D at T_A=25° C.

Motorola Type	V_Z Volts	Z_{ZT} Ohms	TC for Refer. %/° C	ΔV_Z at I_{ZT} Volts	P_D mW	Net Ea., Lots of 1-99	100-299
1N1735	6.2	20	0.01	0.050	200	**$ 5.40**	**$ 4.05**
1N1736	12.4	40	0.01	0.100	400	**8.75**	**6.60**
1N1736A	12.4	40	0.005	0.050	400	**10.70**	**8.05**
1N1737	18.6	60	0.01	0.150	600	**10.50**	**7.90**
1N1737A	18.6	60	0.005	0.075	600	**12.30**	**9.25**
1N1738	24.8	80	0.01	0.200	800	**14.15**	**10.65**
1N1738A	24.8	80	0.005	0.100	800	**16.20**	**12.20**
1N1739	31.0	100	0.01	0.250	1000	**17.50**	**13.15**
1N1739A	31.0	100	0.005	0.125	1000	**20.60**	**15.50**
1N1740	37.2	120	0.01	0.300	1200	**20.30**	**15.25**
1N1740A	37.2	120	0.005	0.150	1200	**24.60**	**18.50**

REFERENCE AMPLIFIERS (CASE 212)

Designed for use in regulated power supplies as a combination voltage reference element and error voltage amplifier. Add suffix **N** to basic type number for NPN polarity; suffix **P** for PNP polarity.

0° C TO +75° C—±10% TOLERANCE

V_{REF} V	ΔV_{REF} V	Motorola Type	V_{REF} V	ΔV_{REF} V	Motorola Type	Net Ea., Lots 1-99	100-999
6.8	0.051	**MCA1911**	8.6	0.060	**MCA2011**	**$ 4.50**	**$ 3.00**
	0.025	**MCA1912**		0.030	**MCA2012**	**7.95**	**5.30**
	0.010	**MCA1913**		0.012	**MCA2013**	**14.10**	**9.40**
	0.005	**MCA1914**		0.006	**MCA2014**	**23.40**	**15.60**
9.5	0.071	**MCA2111**	11.0	0.082	**MCA2211**	**5.25**	**3.95**
	0.035	**MCA2112**		0.041	**MCA2212**	**7.95**	**5.30**
	0.014	**MCA2113**		0.016	**MCA2213**	**14.10**	**9.40**
	0.007	**MCA2114**		0.008	**MCA2214**	**23.40**	**15.60**

−55° C TO +100° C—±5% TOLERANCE

6.8	0.105	**MCA1921**	8.6	0.124	**MCA2021**	**$ 7.95**	**$ 5.30**
	0.052	**MCA1922**		0.062	**MCA2022**	**14.10**	**9.40**
	0.020	**MCA1923**		0.024	**MCA2023**	**22.50**	**15.00**
	0.010	**MCA1924**		0.012	**MCA2024**	**45.00**	**29.00**
9.5	0.147	**MCA2121**	11.0	0.170	**MCA2221**	**7.95**	**5.30**
	0.073	**MCA2122**		0.085	**MCA2222**	**14.10**	**9.40**
	0.028	**MCA2123**		0.034	**MCA2223**	**22.50**	**15.00**
	0.014	**MCA2124**		0.017	**MCA2224**	**45.00**	**29.00**

−55° C TO +150° C—±5% TOLERANCE

V_{REF} V	ΔV_{REF} V	Motorola Type	V_{REF} V	ΔV_{REF} V	Motorola Type	Net Ea., Lots 1-99	100-999
6.8	0.139	**MCA1931**	8.6	0.164	**MCA2031**	**$ 8.25**	**$ 5.50**
	0.069	**MCA1932**		0.082	**MCA2032**	**14.10**	**9.40**
	0.026	**MCA1933**		0.032	**MCA2033**	**23.40**	**15.60**
	0.013	**MCA1934**		0.016	**MCA2034**	**49.50**	**33.00**
9.5	0.194	**MCA2131**	11.0	0.225	**MCA2231**	**8.25**	**5.50**
	0.097	**MCA2132**		0.112	**MCA2232**	**14.10**	**9.40**
	0.038	**MCA2133**		0.044	**MCA2233**	**23.40**	**15.60**
	0.019	**MCA2134**		0.022	**MCA2234**	**49.50**	**33.00**

MOTOROLA Semiconductors Silicon Rectifiers

Case 29

Case 42A

Case 43

Case 59

Case 60

Case 70

Case 119

Case 193

Case 194

Case 245

Case 267

Case 283

GENERAL PURPOSE RECTIFIERS

Motorola Type	Case	V_{RRM} Volts	I_{FSM} Amps	Net Each, Lots 1-24	Net Each, Lots 25-99
1 AMP RATING					
1N4001	59	50	30	$0.30*	$0.23#
1N4002	59	100	30	.32*	.24#
1N4003	59	200	30	.34*	.26#
1N4004	59	400	30	.37*	.28#
1N4005	59	600	30	.47*	.35#
1N4006	59	800	30	.57*	.43#
1N4007	59	1000	30	.63*	.48#
3 AMP RATING					
1N4719, R	60	50	300	$1.10	$0.85
1N4720, R	60	100	300	1.20	.92
1N4721, R	60	200	300	1.30	1.00
1N4722, R	60	400	300	1.50	1.16
1N4723, R	60	600	300	1.70	1.42
1N4724, R	60	800	300	2.50	2.08
1N4725, R	60	1000	300	3.80	3.17
1N4997, R	70	50	300	1.10	.85
1N4998, R	70	100	300	1.20	.92
1N4999, R	70	200	300	1.30	1.00
1N5000, R	70	400	300	1.50	1.16
1N5001, R	70	600	300	1.70	1.42
1N5002, R	70	800	300	2.50	2.08
1N5003, R	70	1000	300	3.80	3.17
MR500	267	50	100	.40	.31
MR501	267	100	100	.50	.39
MR502	267	200	100	.56	.43
MR504	267	400	100	.66	.51
MR506	267	600	100	.80	.62
MR508	267	800	100	1.02	.78
MR510	267	1000	100	1.40	1.08
6 AMP RATING					
MR750	194	50	400	$0.80	$0.62
MR751	194	100	400	.84	.65
MR752	194	200	400	.88	.68
MR754	194	400	400	1.00	.77
MR756	194	600	400	1.56	1.20
MR758	194	800	400	2.00	1.54
MR760	194	1000	400	2.50	1.93
12 AMP RATING					
MR1120, R	245	50	300	$1.22	$0.94
MR1121, R	245	100	300	1.40	1.17
MR1122, R	245	200	300	1.50	1.25
MR1124, R	245	400	300	1.86	1.55
MR1126, R	245	600	300	3.30	2.75
MR1128, R	245	800	300	6.27	5.23
ME1130, R	245	1000	300	8.89	7.40
1N1199, R	245	50	300	1.22	.94
1N1199A, RA	245	50	300	1.22	.94
1N1200, R	245	100	300	1.40	1.17
1N1200A, RA	245	100	300	1.40	1.17
1N1202, R	245	200	300	1.50	1.25
1N1202A, RA	245	200	300	1.50	1.25
1N1204, R	245	400	300	1.86	1.55
1N1204A, RA	245	400	300	1.86	1.55
1N1206, R	245	600	300	3.30	2.75
1N1206A, RA	245	600	300	3.30	2.75
15 AMP RATING					
1N3208, R	42A	50	250	$1.31	$1.03
1N3209, R	42A	100	250	1.60	1.25
1N3210, R	42A	200	250	2.05	1.61
1N3212, R	42A	400	250	2.91	2.28
1N3214, R	42A	600	250	4.18	3.29
20 AMP RATING					
1N248B, RB	42A	50	350	$1.45	$1.23
1N249B, RB	42A	100	350	1.76	1.49
1N250B, RB	42A	200	350	2.69	2.28
1N1191, R	42A	50	350	1.84	1.56
1N1192, R	42A	100	350	2.16	1.83
1N1194, R	42A	200	350	2.89	2.45
1N1196, R	42A	400	350	4.55	3.85
1N1196A, RA	42A	400	350	5.27	4.46
1N1198A, RA	42A	600	350	6.36	5.38
1N3214, R	42A	600	350	4.18	3.29
MR2000S, R	283	50	400	1.02*	.75#
MR2001S, R	283	100	400	1.08*	.79#
MR2002S, R	283	200	400	1.14*	.84#
MR2004S, R	283	400	400	1.20*	.88#
MR2006S, R	283	600	400	1.80*	1.32#
MR2008S, R	283	800	400	2.40*	1.76#
MR2010S, R	283	1000	400	3.00*	2.20#
25 AMP RATING					
MR2500S, R	283	50	600	$1.13*	$0.83#
MR2501S, R	283	100	600	1.29*	.95#
MR2502S, R	283	200	600	1.47*	1.08#
MR2504S, R	283	400	600	1.73*	1.27#
MR2506S, R	283	600	600	2.60*	1.90#
MR2508S, R	283	800	600	3.45*	2.53#
MR2510S, R	283	1000	600	4.32*	3.17#
MR2500	193	50	400	.51*	.43#
MR2501	193	100	400	.54*	.45#
MR2502	193	200	400	.57*	.48#
MR2504	193	400	400	.60*	.50#
MR2506	193	600	400	.72*	.60#
MR2508	193	800	400	.87*	.73#
MR2510	193	1000	400	1.47*	1.23#
1N3491, R	43	50	300	.90	.69
1N3492, R	43	100	300	1.10	.85
1N3493, R	43	200	300	1.30	1.00
1N3495, R	43	400	300	1.68	1.29
MR328, R	43	600	300	2.58	1.99
MR330, R	43	800	300	3.58	2.75
MR331, R	43	1000	300	5.58	4.29
30 AMP RATING					
1N3659, R	43	50	400	$1.15	$0.97
1N3660, R	43	100	400	1.27	1.08
1N3661, R	43	200	400	1.36	1.16
1N3663, R	43	400	400	1.82	1.40
35 AMP RATING					
1N1183, R	42A	50	400	$1.84	$1.56
1N1184, R	42A	100	400	2.16	1.83
1N1186, R	42A	200	400	2.89	2.45
1N1188, R	42A	400	400	4.45	3.77
1N1190, R	42A	600	400	5.99	5.08
1N3766, R	42A	800	400	8.40	6.50
1N3768, R	42A	1000	400	10.50	8.10
40 AMP RATING					
1N1183A, RA	42A	50	800	$1.93	$1.63
1N1184A, RA	42A	100	800	2.25	1.91
1N1186A, RA	42A	200	800	3.20	2.71
1N1188A, RA	42A	400	800	4.45	3.77
1N1190A, RA	42A	600	800	6.36	5.38
50 AMP RATING					
MR5005, R	43	50	600	$2.50	$1.92
MR5010, R	43	100	600	2.70	2.08
MR5020, R	43	200	600	2.90	2.23
MR5040, R	43	400	600	3.80	2.92

*Lots of 1-99; #Lots of 100-999.

POWER TRANSIENT SUPPRESSORS (CASE 119)

$P_D = 350$ W max. at $T_C = 25°$ C, $T_J = 175°$ C. $I_{R(max.)}$ at $V_R =$ 50 μADC. MPZ Series is an array of six basic cells, special configurations are available with various power and/or voltage ratings.

Motorola Type	Nom. $V_{OP(PK)}$ VDC	Max. C_F V	$V_{Z(max.)}$ at I_Z* VDC	$V_{Z(max.)}$ at I_Z* ADC	Typ. C μF	Net Ea., Lots of 1-99	Net Ea., Lots of 100-299
MPZ5-16A	14	1.25	24	200	0.025	$24.75	$18.60
MPZ5-16B	14	1.25	20	200	0.025	44.30	33.30
MPZ5-32A	28	1.25	50	100	0.011	17.70	13.30
MPZ5-32B	28	1.25	45	100	0.011	26.45	19.90
MPZ5-32C	28	1.25	40	100	0.011	44.30	33.30
MPZ5-180A	165	1.14	250	20	0.0012	26.45	19.90
MPZ5-180B	165	1.14	225	20	0.0012	44.30	33.30
MPZ5-180C	165	1.14	205	20	0.0012	61.85	46.50

*Pulse width = 1.0 msec.

ECONOMY DUAL DIODES (CASE 29)

$T_J = 135°$ C, $I_F = 200$ mA. $V_{(BR)}$ at $I_{BR} = 100$ μA; C at $V_R =$ zero; t_{rr} at $I_R = 10$ mA. Common cathode except MSD6150, common anode; MSD7000, series.

Motorola Type	Min. $V_{(BR)}$ Volts	Maximum C pF	Maximum t_{rr} nsec	Net Each, Lots of 1-99	Net Each, Lots of 100-999
MSD6100	100	1.5	4.0	$0.36	$0.24
MSD6101	50	2.0	10	.40	.27
MSD6102	70	3.0	100	.30	.20
MSD6150	70	8.0	100	.37	.25
MSD7000	100	1.5	15	.45	.41

LARGER QUANTITY PRICES AVAILABLE ON REQUEST.

MOTOROLA Semiconductors Silicon Rectifiers

Case 56

Case 257

Case 109

Case 312

Case 117

Case 309A

Case 100

Case 167
Case 189

Case 128

Case 135
Case 136

FAST RECOVERY RECTIFIERS

Motorola Type	Case	V_{RRM} Volts	I_{FSM} Amps	Net Each, Lots 1-24	Net Each, Lots 25-99
1 AMP RATING					
1N4933	59	50	30	$0.48	$0.37
1N4934	59	100	30	.56	.43
1N4935	59	200	30	.68	.53
1N4936	59	400	30	.90	.70
1N4937	59	600	30	1.10	.85
MR810	59	50	30	.60	.46
MR811	59	100	30	.68	.53
MR812	59	200	30	.76	.59
MR814	59	400	30	1.00	.77
MR816	59	600	30	1.18	.91
MR817	59	800	30	1.38	1.06
MR818	59	1000	30	1.60	1.23
MR830, R	60	50	100	1.80	1.39
MR831, R	60	100	100	2.00	1.54
MR832, R	60	200	100	2.40	1.85
MR834, R	60	400	100	3.60	2.77
MR836, R	60	600	100	4.40	3.38
3 AMP RATING					
MR800	70	50	100	$1.80	$1.39
MR801	70	100	100	2.00	1.54
MR802	70	200	100	2.40	1.85
MR804	70	400	100	3.60	2.77
MR806	70	600	100	4.40	3.38
MR850	267	50	100	1.06	.82
MR851	267	100	100	1.22	.94
MR852	267	200	100	1.40	1.08
MR854	267	400	100	1.68	1.29
MR856	267	600	100	1.98	1.52
MR910	267	50	100	.60	.46
MR911	267	100	100	.80	.62
MR912	267	200	100	1.00	.77
MR914	267	400	100	1.20	.92
MR916	267	600	100	1.40	1.08
MR917	267	800	100	1.70	1.31
MR918	267	1000	100	2.00	1.54
5 AMP RATING					
MR820	194	50	300	$2.46	$1.89
MR821	194	100	300	2.60	2.00
MR822	194	200	300	2.94	2.26
MR824	194	400	300	4.10	3.15
MR826	194	600	300	4.80	4.06
6 AMP RATING					
1N3879, R	56	50	150	$2.10	$1.65
1N3880, R	56	100	150	2.50	1.95
1N3881, R	56	200	150	3.00	2.30
1N3883, R	56	400	150	4.00	3.10
MR1366, R	56	600	150	5.00	3.85
12 AMP RATING					
1N3889, R	56	50	200	$2.60	$2.00
1N3890, R	56	100	200	3.00	2.30
1N3891, R	56	200	200	3.50	2.70
1N3893, R	56	400	200	5.50	4.25
MR1376, R	56	600	200	6.50	5.00
20 AMP RATING					
1N3899, R	257	50	250	$4.00	$3.10
1N3900, R	257	100	250	4.60	3.55
1N3901, R	257	200	250	4.90	3.80
1N3903, R	257	400	250	7.10	5.50
MR1386, R	257	600	250	8.90	6.85
30 AMP RATING					
1N3909, R	257	50	300	$4.50	$3.50
1N3910, R	257	100	300	5.10	3.95
1N3911, R	257	200	300	5.40	4.15
1N3913, R	257	400	300	7.60	5.85
MR1396, R	257	600	300	9.40	7.23
40 AMP RATING					
MR860, R	42A	50	350	$4.09	$3.46
MR861, R	42A	100	350	4.55	3.85
MR862, R	42A	200	350	5.00	4.23
MR864, R	42A	400	350	7.18	6.08
MR866, R	42A	600	350	9.55	8.07
50 AMP RATING					
MR870, R	42A	50	400	$4.45	$3.77
MR871, R	42A	100	400	4.90	4.15
MR872, R	42A	200	400	5.36	4.54
MR874, R	42A	400	400	7.73	6.54
MR876, R	42A	600	400	10.18	8.62

RECTIFIER BRIDGES

Motorola Type	Case	V_{RRM} Volts	I_{FSM} Amps	Net Each, Lots 1-24	Net Each, Lots 25-99
1 AMP RATING					
MDA920A2	109	50	32	$1.98	$1.53
MDA920A3	109	100	32	2.28	1.75
MDA920A4	109	200	32	2.72	2.09
MDA920A6	109	400	32	2.90	2.23
MDA920A7	109	600	32	3.78	2.91
MDA100A	312	50	45	.60	.46
MDA101A	312	100	45	.66	.51
MDA102A	312	200	45	.72	.56
MDA104A	312	400	45	.78	.60
MDA106A	312	600	45	.92	.71
MDA108A	312	800	45	1.16	.89
MDA110A	312	1000	45	1.36	1.05
3N246	312	50	45	.60	.46
3N247	312	100	45	.66	.51
3N248	312	200	45	.72	.56
3N249	312	400	45	.78	.60
3N250	312	600	45	.92	.71
3N251	312	800	45	1.16	.89
3N252	312	1000	45	1.36	1.05
2 AMP RATING					
MDA200	312	50	60	$0.90	$0.70
MDA201	312	100	60	1.00	.77
MDA202	312	200	60	1.08	.84
MDA204	312	400	60	1.18	.91
MDA206	312	600	60	1.38	1.07
MDA208	312	800	60	1.74	1.34
MDA210	312	1000	60	2.04	1.57
3N253	312	50	60	.90	.70
3N254	312	100	60	1.00	.77
3N255	312	200	60	1.08	.84
3N256	312	400	60	1.18	.91
3N257	312	600	60	1.38	1.07
3N258	312	800	60	1.74	1.34
3N259	312	1000	60	2.04	1.57
4 AMP RATING					
MDA970-1	117	50	100	$3.13	$2.65
MDA970-2	117	100	100	3.56	2.98
MDA970-3	117	200	100	3.99	3.38
MDA970-5	117	400	100	4.99	4.23
12 AMP RATING					
MDA980-1	309A	50	300	$3.64	$3.07
MDA980-2	309A	100	300	3.99	3.38
MDA980-3	309A	200	300	4.36	3.69
MDA980-5	309A	400	300	5.27	4.46
MDA980-6	309A	600	300	5.82	4.92
35 AMP RATING					
MDA3500	309A	50	400	$2.54	$2.20
MDA3501	309A	100	400	2.62	2.28
MDA3502	309A	200	400	2.70	2.35
MDA3504	309A	400	400	2.77	2.41
MDA3506	309A	600	400	3.77	3.28
MDA3508	309A	800	400	4.54	3.95
MDA3510	309A	1000	400	5.77	5.03

MULTI-CELL RECTIFIER DIODES

Motorola Type	Case	V_{RRM} Volts	I_{FSM} Amps	Net Each, Lots 1-24	Net Each, Lots 25-99
50 AMP RATING					
MR1205FL, R	100	300	800	$7.15	$6.15
MR1209FL, R	100	600	800	11.60	9.90
100 AMP RATING					
MR1215FL, R	167	300	2000	$8.75	$7.50
MR1219FL, R	167	600	2000	14.80	12.70
MR1815SL, R	189	300	2000	9.35	8.00
MR1819SL, R	189	600	2000	15.60	13.35
450 AMP RATING					
MR1245FL, R	128	300	8000	$32.25	$28.20
MR1249FL, R	128	600	8000	54.70	47.85
MR1245SL, R	135	300	8000	33.00	28.85
MR1249SL, R	135	600	8000	57.00	49.50
700 AMP RATING					
MR1265FL, R	136	300	12000	$62.00	$54.40
MR1269FL, R	136	600	12000	101.00	88.60

PRICES LISTED ARE FOR GUIDANCE ONLY

MOTOROLA Semiconductors SILICON POWER RECTIFIER ASSEMBLIES

Case 59

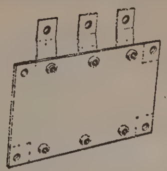
Case 41, Case 267

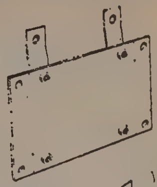
Case 60

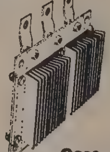
Case 245

Case 257

Case 169


Case 154


Case 154A


Case 156

Case 156A

HOT-CARRIER POWER RECTIFIERS

Utilize Schottky barrier principle in a large area metal-to-silicon diode. Multi-Cell combinations providing increased capability available on request.

Motorola Type	Case	V_{RRM}	I_O at T_C		V_F at I_F		Net Ea., Lots	
		V	A	°C	V	A	1-24	25-99
1N5817	59	20	1.0	......	0.6	1.0	$ 1.50	$1.15
1N5818	59	30	1.0	......	0.6	1.0	1.90	1.46
1N5819	59	40	1.0	......	0.6	1.0	3.40	2.60
MBR120P	59	20	1.0	......	0.65	1.0	1.20	.92
MBR130P	59	30	1.0	......	0.65	1.0	1.50	1.15
MBR135P	59	35	1.0	......	0.65	1.0	1.90	1.46
MBR140P	59	40	1.0	......	0.65	1.0	2.80	2.15
1N5820	267	20	3.0	......	0.53	3.0	2.80	2.15
1N5821	267	30	3.0	......	0.53	3.0	3.40	2.62
1N5822	267	40	3.0	......	0.53	3.0	6.00	4.65
MBR320P	267	20	3.0	......	0.6	3.0	2.50	1.92
MBR330P	267	30	3.0	......	0.6	3.0	2.80	2.15
MBR335P	267	35	3.0	......	0.6	3.0	3.40	2.62
MBR340P	267	40	3.0	......	0.6	3.0	4.50	3.50
MBR320M	60	20	3.0	......	0.45	5.0	4.00	3.08
MBR330M	60	30	3.0	......	0.45	5.0	5.00	3.85
MBR335M	60	35	3.0	......	0.45	5.0	5.60	4.31
MBR340M	60	40	3.0	......	0.45	5.0	6.80	5.25
1N5823	60	20	5.0	......	0.38	5.0	4.50	3.46
1N5824	60	30	5.0	......	0.38	5.0	5.60	4.31
1N5825	60	40	5.0	......	0.38	5.0	7.80	6.00
1N5826	245	20	15	85	0.5	15	5.50	4.23
1N5827	245	30	15	85	0.5	15	6.70	5.15
1N5828	245	40	15	85	0.5	15	9.00	6.93
MBR1520	245	20	15	80	0.55	15	5.00	3.85
MBR1530	245	30	15	80	0.55	15	6.20	4.77
MBR1535	245	35	15	80	0.55	15	6.90	5.30
MBR1540	245	40	15	80	0.55	15	8.50	6.54
1N5829	245	20	25	85	0.48	25	6.80	5.25
1N5830	245	30	25	85	0.48	25	7.90	6.05
1N5831	245	40	25	85	0.48	25	10.00	7.70
MBR2520	245	20	25	80	0.55	25	5.80	4.46
MBR2530	245	30	25	80	0.55	25	6.80	5.25
MBR2535	245	35	25	80	0.55	25	7.90	6.05
MBR2540	245	40	25	80	0.55	25	8.90	6.84
1N5832	257	20	40	75	0.59	40	9.50	7.30
1N5833	257	30	40	75	0.59	40	10.40	8.00
1N5834	257	40	40	75	0.59	40	12.50	9.62
MBR4020	257	20	40	70	0.63	40	8.10	6.25
MBR4030	257	30	40	70	0.63	40	9.50	7.30
MBR4035	257	35	40	70	0.63	40	10.40	8.00
MBR4040	257	40	40	70	0.63	40	11.60	8.92

HIGH VOLTAGE DIODES

Motorola Type	Case	V_{RRM} Volts	I_{FSM} Amps	Net Each, Lots of	
				1-24	25-99
250 mA RATING					
MR250-1	169	1000	15	$1.08	$0.83
MR250-2	169	2000	15	1.18	.91
MR250-3	169	3000	15	1.28	.99
MR250-4	169	4000	15	1.38	1.06
MR250-5	169	5000	15	1.48	1.14
1 AMP RATING					
MR1-1000	59	1000	30	$0.50	$0.39
MR1-1200	59	1200	30	.80	.62
MR1-1400	59	1400	30	1.10	.85
MR1-1600	59	1600	30	1.40	1.08

HIGH CURRENT RECTIFIER CIRCUITS

Single-phase and three-phase full wave bridge assemblies also available. I_O value given is at 1500 LFM; reverse polarity (suffix **R**).

SINGLE-PHASE FULL WAVE

Motorola Type	Case	I_O Amps	V_{RRM} Volts	Net Each, Lots of	
				1-24	25-99
MRA133B	154	300	300	$74.00	$60.50
MRA133, R	154A	300	300	33.45	27.20
MRA163B	156	600	300	109.00	88.60
MRA163, R	156A	600	300	52.00	42.00

THREE-PHASE FULL WAVE

Motorola Type	Case	I_O Amps	V_{RRM} Volts	Net Each, Lots of	
				1-24	25-99
MRA333B	154	300	300	$74.00	$60.00
MRA333, R	154A	300	300	34.80	28.30
MRA363B	156	650	300	112.00	91.25
MRA363, R	156A	650	300	53.40	43.00

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

WE CAN QUOTE ON NEEDS FOR MRO, R&D, AND PRODUCTION QUANTITIES IN BOTH THE SEMICONDUCTOR AND ELECTROMECHANICAL MARKETS.

MOTOROLA Semiconductors

SILICON CONTROLLED RECTIFIERS (THYRISTORS)

SILICON CONTROLLED RECTIFIERS (SCRs)—IN METAL CASE

Listed in order of on-state (rms) current.

Motorola Type	Case	V_{FOM} V_{ROM} V	I_T rms A	V_{GT} V	I_{GT} mA	Net Ea., Lots 1-99	Net Ea., Lots 100-999
MCR201	22	15	0.5	1.0	0.2	$ .65	$ .50
MCR202	22	30	0.5	1.0	0.2	.71	.55
MCR203	22	60	0.5	1.0	0.2	.84	.65
MCR204	22	100	0.5	1.0	0.2	.84	.65
MCR205	22	150	0.5	1.0	0.2	.97	.75
MCR206	22	200	0.5	1.0	0.2	1.04	.80
2N1595s	79	50	1.6	3.0	10	1.50	1.00
2N1596s	79	100	1.6	3.0	10	1.88	1.25
2N1597s	79	200	1.6	3.0	10	3.90	2.60
2N1598s	79	300	1.6	3.0	10	5.55	3.90
2N1599s	79	400	1.6	3.0	10	7.00	4.70
2N2322s	79	25	1.6	0.8	0.1	1.80	1.20
2N2323s	79	50	1.6	0.8	0.1	2.25	1.50
2N2324s	79	100	1.6	0.8	0.1	2.85	1.90
2N2325s	79	150	1.6	0.8	0.1	4.20	2.80
2N2326s	79	200	1.6	0.8	0.1	5.40	3.60
2N2327s	79	250	1.6	0.8	0.1	7.59	5.06
2N2328s	79	300	1.6	0.8	0.1	8.40	5.60
2N2329s	79	400	1.6	0.8	0.1	11.10	7.40
2N4212s	79	25	1.6	0.8	0.1	1.90	1.25
2N4213s	79	50	1.6	0.8	0.1	2.10	1.45
2N4214s	79	100	1.6	0.8	0.1	2.60	1.75
2N4215s	79	150	1.6	0.8	0.1	3.90	2.60
2N4216s	79	200	1.6	0.8	0.1	5.00	3.35
2N4217s	79	250	1.6	0.8	0.1	7.00	4.90
2N4218s	79	300	1.6	0.8	0.1	8.60	5.75
2N4219s	79	400	1.6	0.8	0.1	12.25	8.25
MCR1906-1	79	25	1.6	1.0	1.0	1.35	.90
MCR1906-2	79	50	1.6	1.0	1.0	1.43	.95
MCR1906-3	79	100	1.6	1.0	1.0	1.65	1.10
MCR1906-4	79	200	1.6	1.0	1.0	1.80	1.20
MCR1906-5	79	300	1.6	1.0	1.0	3.75	2.50
MCR1906-6	79	400	1.6	1.0	1.0	5.95	3.95
2N4167	86	25	8.0	1.5	30	2.31	1.83
2N4168	86	50	8.0	1.5	30	2.38	1.87
2N4169	86	100	8.0	1.5	30	2.44	1.93
2N4170	86	200	8.0	1.5	30	2.50	1.98
2N4171	86	300	8.0	1.5	30	2.85	2.27
2N4172	86	400	8.0	1.5	30	3.25	2.46
2N4173	86	500	8.0	1.5	30	4.84	3.23
2N4174	86	600	8.0	1.5	30	6.20	4.14
2N3668	54	100	12.5	2.0	40	2.39	1.74
2N3669	54	200	12.5	2.0	40	2.81	2.04
2N3670	54	400	12.5	2.0	40	3.80	2.76
2N4103	54	600	12.5	2.0	40	5.12	3.72
2N1842	263	25	16	2.0	80	2.90	1.90
2N1843	263	50	16	2.0	80	3.00	1.95
2N1844	263	100	16	2.0	80	3.25	2.35
2N1845	263	150	16	2.0	80	3.79	2.75
2N1846	263	200	16	2.0	80	4.41	3.20
2N1847	263	250	16	2.0	80	5.05	3.65
2N1848	263	300	16	2.0	80	5.46	3.95
2N1849	263	400	16	2.0	80	6.49	4.70
2N1850	263	500	16	2.0	80	7.51	5.45
2N1842A	263	25	16	2.0	80	2.95	1.95
2N1843A	263	50	16	2.0	80	3.05	2.00
2N1844A	263	100	16	2.0	80	3.30	2.40
2N1845A	263	150	16	2.0	80	3.84	2.80
2N1846A	263	200	16	2.0	80	4.46	3.25
2N1847A	263	250	16	2.0	80	5.10	3.70
2N1848A	263	300	16	2.0	80	5.51	4.00
2N1849A	263	400	16	2.0	80	6.54	4.75
2N1850A	263	500	16	2.0	80	7.56	5.50
2N5164	310	50	20	1.5	40	2.60	1.79
2N5165	310	200	20	1.5	40	2.85	2.07
2N5166	310	400	20	1.5	40	3.75	2.72
2N5167	310	600	20	1.5	40	4.95	3.60
2N5168	263	50	20	1.5	40	2.94	2.15
2N5169	263	200	20	1.5	40	3.23	2.35
2N5170	263	400	20	1.5	40	4.08	2.96
2N5171	263	600	20	1.5	40	5.28	3.84
2N4183	87L	25	8.0	1.5	30	2.22	1.75
2N4184	87L	50	8.0	1.5	30	2.29	1.79
2N4185	87L	100	8.0	1.5	30	2.36	1.85
2N4186	87L	200	8.0	1.5	30	2.38	1.89
2N4187	87L	300	8.0	1.5	30	2.40	1.91
2N4188	87L	400	8.0	1.5	30	2.71	2.06
2N4189	87L	500	8.0	1.5	30	4.04	2.69
2N4190	87L	600	8.0	1.6	30	5.22	3.48

Motorola Type	Case	V_{FOM} V_{ROM} V	I_T rms A	At 25° C		Net Ea., Lots	
				V_{GT} V	I_{GT} mA	1-99	100-999
2N6167	311	100	20	1.5	40	$ 3.83	$ 2.75
2N6168	311	200	20	1.5	40	3.96	2.88
2N6169	311	400	20	1.5	40	5.23	3.80
2N6170	311	600	20	1.5	40	6.44	4.68
MCR649AP-1	54	25	20	3.5	40	3.36	2.41
MCR649AP-2	54	50	20	3.5	40	4.09	3.87
MCR649AP-3	54	100	20	3.5	40	5.12	3.51
MCR649AP-4	54	200	20	3.5	40	5.46	4.20
MCR649AP-5	54	300	20	3.5	40	6.61	4.83
MCR649AP-6	54	400	20	3.5	40	7.78	5.61
MCR649AP-7	54	500	20	3.5	40	9.20	6.72
MCR649AP-8	54	600	20	3.5	40	10.58	7.53
MCR649AP-9	54	700	20	3.5	40	11.61	8.28
MCR649AP-10	54	800	20	3.5	40	12.14	8.66
MCR3818-1	174	25	20	1.5	40	2.17	1.44
MCR3818-2	174	50	20	1.5	40	2.26	1.56
MCR3818-3	174	100	20	1.5	40	2.34	1.70
MCR3818-4	174	200	20	1.5	40	2.48	1.80
MCR3818-5	174	300	20	1.5	40	3.15	2.28
MCR3818-6	174	400	20	1.5	40	3.75	2.72
MCR3818-7	174	500	20	1.5	40	4.50	3.26
MCR3818-8	174	600	20	1.5	40	4.95	3.60
MCR3818-9	174	700	20	1.5	40	5.70	4.13
MCR3818-10	174	800	20	1.5	40	7.00	5.08
MCR3918-1	175	25	20	1.5	40	2.50	1.80
MCR3918-2	175	50	20	1.5	40	2.56	1.87
MCR3918-3	175	100	20	1.5	40	2.67	1.94
MCR3918-4	175	200	20	1.5	40	2.81	2.04
MCR3918-5	175	300	20	1.5	40	3.47	2.53
MCR3918-6	175	400	20	1.5	40	4.08	2.96
MCR3918-7	175	500	20	1.5	40	4.82	3.52
MCR3918-8	175	600	20	1.5	40	5.28	3.84
MCR3918-9	175	700	20	1.5	40	6.11	4.46
MCR3918-10	175	800	20	1.5	40	7.42	5.42
2N2573	61	25	25	3.5	40	3.42	2.60
2N2574	61	50	25	3.5	40	4.06	3.00
2N2575	61	100	25	3.5	40	4.95	3.55
2N2576	61	200	25	3.5	40	5.25	4.15
2N2577	61	300	25	3.5	40	6.25	4.70
2N2578	61	400	25	3.5	40	7.27	5.38
2N2579	61	500	25	3.5	40	8.50	6.34
MCR649-8	61	600	25	3.5	40	10.73	7.40
MCR649-9	61	700	25	3.5	40	11.80	8.14
MCR649-10	61	800	25	3.5	40	12.34	8.51
2N681	263	25	25	3.0	40	2.34	1.70
2N682	263	50	25	3.0	40	2.82	2.05
2N683	263	100	25	3.0	40	3.57	2.60
2N684	263	150	25	3.0	40	4.19	3.05
2N685	263	200	25	3.0	40	4.81	3.50
2N686	263	250	25	3.0	40	5.36	3.90
2N687	263	300	25	3.0	40	5.77	4.20
2N688	263	400	25	3.0	40	6.74	4.90
2N689	263	500	25	3.0	40	8.05	5.85
2N690	263	600	25	3.0	40	8.67	6.30
2N691	263	700	25	3.0	40	11.80	7.85
2N692	263	800	25	3.0	40	13.50	9.00
MCR3835-1	174	25	35	1.6	40	2.80	1.80
MCR3835-2	174	50	35	1.6	40	3.07	2.04
2N3870	174	100	35	1.6	40	3.63	2.60
2N3871	174	200	35	1.6	40	4.54	3.30
MCR3835-5	174	300	35	1.6	40	5.50	4.00
2N3872	174	400	35	1.6	40	5.94	4.32
MCR3835-7	174	500	35	1.6	40	6.71	4.88
2N3873	174	600	35	1.6	40	7.34	5.34
MCR3935-1	175	25	35	1.6	40	3.00	2.17
MCR3935-2	175	50	35	1.6	40	3.32	2.41
2N3896	175	100	35	1.6	40	3.96	2.88
2N3897	175	200	35	1.6	40	4.87	3.54
MCR3935-5	175	300	35	1.6	40	5.90	4.28
2N3898	175	400	35	1.6	40	6.27	4.56
MCR3935-7	175	500	35	1.6	40	7.00	5.10
2N3899	175	600	35	1.6	40	7.67	5.58
2N6171	311	100	35	1.6	40	4.50	3.08
2N6172	311	200	35	1.6	40	5.54	3.75
2N6173	311	400	35	1.6	40	7.43	5.38
2N6174	311	600	35	1.6	40	8.85	6.42

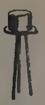
MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

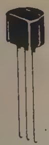
LARGER QUANTITY PRICES AVAILABLE ON REQUEST.

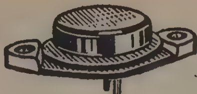
SEE FOLLOWING PAGES FOR CASE ILLUSTRATIONS.

MOTOROLA Semiconductors

SILICON CONTROLLED RECTIFIERS (THYRISTORS)


Case 22, TO-52


Case 29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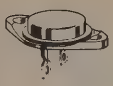
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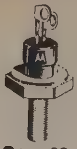
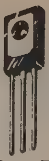

Case 63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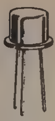
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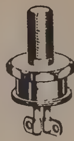
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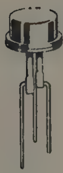
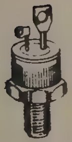
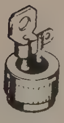

Case 87L


Case 263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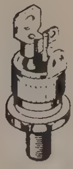
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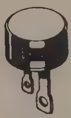
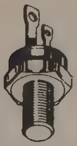
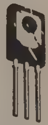
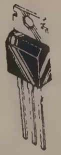
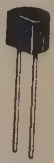

Case 174


Case 175


Case 90


Case 221


Case 182

SILICON CONTROLLED RECTIFIERS—IN PLASTIC CASE

Listed in order of on-state (rms) current.

Motorola Type	Case	V_{FOM} V_{ROM} V	I_T rms A	At 25° C V_{GT} V	I_{GT} mA	Net Ea., Lots 1-99	100-999
MCR101	29	15	0.8	0.8	0.2	$0.42	$0.28
MCR102	29	30	0.8	0.8	0.2	.63	.42
MCR103	29	60	0.8	0.8	0.2	.66	.44
MCR104	29	100	0.8	0.8	0.2	.75	.50
MCR115	29	150	0.8	0.8	0.2	.80	.53
MCR120	29	200	0.8	0.8	0.2	.84	.56
2N5060	29	30	0.8	0.8	0.2	.63	.42
2N5061	29	60	0.8	0.8	0.2	.66	.44
2N5062	29	100	0.8	0.8	0.2	.80	.53
2N5063	29	150	0.8	0.8	0.2	.75	.50
2N5064	29	200	0.8	0.8	0.2	.84	.56
2N6236	77	30	4.0	0.8	0.2	.73	.49
2N6237	77	50	4.0	0.8	0.2	.78	.52
2N6238	77	100	4.0	0.8	0.2	.81	.54
2N6239	77	200	4.0	0.8	0.2	.90	.60
2N6240	77	400	4.0	0.8	0.2	1.30	.87
2N6241	77	600	4.0	0.8	0.2	2.25	1.50
MCR106-1	77	30	4.0	1.0	0.5	.74	.49
MCR106-2	77	60	4.0	1.0	0.5	.78	.52
MCR106-3	77	100	4.0	1.0	0.5	.81	.54
MCR106-4	77	200	4.0	1.0	0.5	.90	.60
MCR106-5	77	300	4.0	1.0	0.5	1.13	.75
MCR106-6	77	400	4.0	1.0	0.5	1.31	.87
MCR106-7	77	500	4.0	1.0	0.5	2.10	1.44
MCR106-8	77	600	4.0	1.0	0.5	2.25	1.50
MCR106-9	77	700	4.0	1.0	0.5	2.47	1.65
MCR106-10	77	800	4.0	1.0	0.5	2.58	1.73
MCR3000-1	90	25	8.0	1.5	30.0	1.26	0.83
2N4441	90	50	8.0	1.5	30.0	1.88	1.33
MCR3000-3	90	100	8.0	1.5	30.0	2.15	1.52
2N4442	90	200	8.0	1.5	30.0	2.95	2.13
MCR3000-5	90	300	8.0	1.5	30.0	1.50	1.06
2N4443	90	400	8.0	1.5	30.0	1.88	1.33
MCR3000-7	90	500	8.0	1.5	30.0	2.15	1.52
2N4444	90	600	8.0	1.5	30.0	2.95	2.13
MCR3000-9	90	700	8.0	1.5	30.0	3.25	2.30
MCR3000-10	90	800	8.0	1.5	30.0	3.93	2.84

Motorola Type	Case	V_{FOM} V_{ROM} V	I_T rms A	At 25° C V_{GT} V	I_{GT} mA	Net Ea., Lots 1-99	100-999
C122F1	221	50	8.0	1.5	25.0	$0.96	$0.68
C122A1	221	100	8.0	1.5	25.0	1.08	.76
C122B1	221	200	8.0	1.5	25.0	1.20	.85
C122C1	221	300	8.0	1.5	25.0	1.50	1.06
C122D1	221	400	8.0	1.5	25.0	1.60	1.14
C122E1	221	500	8.0	1.5	25.0	2.40	1.70
C122M1	221	600	8.0	1.5	25.0	2.80	1.91
S2800A	221	100	8.0	1.5	25.0	1.07	.83
S2800B	221	200	8.0	1.5	25.0	1.20	.92
S2800D	221	400	8.0	1.5	25.0	1.62	1.25
S2800M	221	600	8.0	1.5	25.0	2.57	1.98
2N6394	221	50	12.0	1.5	30.0	1.30	.87
2N6395	221	100	12.0	1.5	30.0	1.34	.90
2N6396	221	200	12.0	1.5	30.0	1.40	1.00
2N6397	221	400	12.0	1.5	30.0	1.90	1.35
2N6398	221	600	12.0	1.5	30.0	2.97	2.15
2N6399	221	800	12.0	1.5	30.0	3.95	2.86
MCR220-5	221	300	12.0	1.5	30.0	1.65	1.18
MCR220-7	221	500	12.0	1.5	30.0	2.44	1.75
MCR220-8	221	700	12.0	1.5	30.0	3.45	2.50
2N6400	221	50	16.0	1.5	30.0	1.68	1.12
2N6401	221	100	16.0	1.5	30.0	1.78	1.18
2N6402	221	200	16.0	1.5	30.0	1.98	1.32
2N6403	221	400	16.0	1.5	30.0	2.57	1.72
2N6404	221	600	16.0	1.5	30.0	3.96	2.64
2N6405	221	800	16.0	1.5	30.0	5.94	3.96
MCR221-5	221	300	16.0	1.5	30.0	2.28	1.52
MCR221-7	221	500	16.0	1.5	30.0	3.27	2.18
MCR221-8	221	700	16.0	1.5	30.0	4.95	3.30
2N6504	221	50	25.0	1.5	40.0	1.97	1.43
2N6505	221	100	25.0	1.5	40.0	2.50	1.82
2N6506	221	200	25.0	1.5	40.0	3.37	2.45
2N6507	221	400	25.0	1.5	40.0	3.71	2.69
2N6508	221	600	25.0	1.5	40.0	4.77	3.46
2N6509	221	800	25.0	1.5	40.0	7.42	4.95

TRIGGER DEVICES

Ideal SCR or triac complements. Plastic case except Case 22, metal.

SILICON BIDIRECTIONAL SWITCH—SBS

Motorola Type	Case	V_S VDC	Maximum I_S µADC	I_H mADC	Net Ea., Lots 1-99	100-999
MBS4991	29	6.0–10	500	1.5	$0.68	$0.45
MBS4992	29	7.5–9	120	0.5	1.35	.90

SILICON UNIDIRECTIONAL SWITCH—SUS

$V_F = 1.5$ mA at $I_F = 150$ mA. $P_D = 300$ mW.

Motorola Type	Case	V_S V	I_S µA	I_H mA	Net Ea., Lots 1-99	100-999
MUS4987	29	6.0–10	500	1.5	$0.65	$0.43
MUS4988	29	7.5–9	150	0.5	1.23	.82

BILATERAL TRIGGER DIACS (CASE 182)

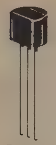
Specifications given are for both directions.

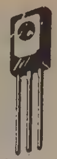
Motorola Type	Nom. V_S V	Max. I_S µA	Min. ΔV V	Max. I_B µA	Net Each, Lots of 1-99	100-999
1N5758	20 ± 4.0	100	5.0	10	$0.53	$0.35
1N5758A	20 ± 2.0	25	5.0	10	.58	.39
1N5759	24 ± 4.0	100	5.0	10	.53	.35
1N5759A	24 ± 2.0	25	5.0	10	.58	.39
1N5760	28 ± 4.0	100	7.0	10	.53	.35
1N5760A	28 ± 2.0	25	7.0	10	.58	.39
1N5761	32 ± 4.0	100	7.0	10	.53	.35
1N5761A	32 ± 2.0	25	7.0	10	.58	.39
1N5762	36 ± 4.0	100	7.0	10	.53	.35
1N5762A	36 ± 2.0	25	7.0	10	.58	.39

LARGER QUANTITY PRICES AVAILABLE ON REQUEST.

MOTOROLA
Semiconductors

SILICON THYRISTORS, PULSE MODULATOR SCRs


Case 29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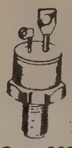
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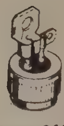
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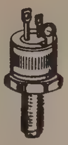
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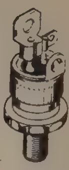
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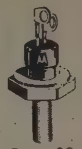
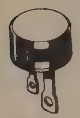

Case 63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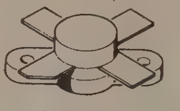
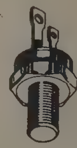

Case 211-01


Case 175

SILICON BIDIRECTIONAL THYRISTORS (TRIACS)

PLASTIC CASE

Motorola Type	Case	V_{BOM} V	I_T rms A	At 25° C		Net Ea., Lots	
				I_{GT} mA	V_{GT} V	1-99	100-999
MAC92-1	29	30	0.6	5	2.0	$0.75	$0.50
MAC92-2	29	60	0.6	5	2.0	.80	.55
MAC92-3	29	100	0.6	5	2.0	1.05	.86
MAC92-4	29	200	0.6	5	2.0	1.15	.90
2N6068	77	25	4.0	60	2.5*	.63	.42
2N6069	77	50	4.0	60	2.5*	.71	.47
2N6070	77	100	4.0	60	2.5*	.80	.53
2N6071	77	200	4.0	60	2.5*	.88	.58
2N6072	77	300	4.0	60	2.5*	.92	.61
2N6073	77	400	4.0	60	2.5*	.96	.63
2N6074	77	500	4.0	60	2.5*	1.23	.97
2N6075	77	600	4.0	60	2.5*	1.38	1.16
2N6068A	77	25	4.0	5	2.0	.90	.59
2N6069A	77	50	4.0	5	2.0	.98	.65
2N6070A	77	100	4.0	5	2.0	1.10	.73
2N6071A	77	200	4.0	5	2.0	1.22	.81
2N6072A	77	300	4.0	5	2.0	1.28	.85
2N6073A	77	400	4.0	5	2.0	1.32	.88
2N6074A	77	500	4.0	5	2.0	2.00	1.35
2N6075A	77	600	4.0	5	2.0	2.55	1.70
2N6069B	77	50	4.0	3	2.5	.98	.65
2N6070B	77	100	4.0	3	2.5	1.13	.75
2N6071B	77	200	4.0	3	2.5	1.28	.85
2N6072B	77	300	4.0	3	2.5	1.37	.91
2N6073B	77	400	4.0	3	2.5	1.50	1.00
2N6074B	77	500	4.0	3	2.5	2.25	1.50
2N6075B	77	600	4.0	3	2.5	2.92	1.95
SC141B	221	200	6.0	50	2.5	1.50	1.00
SC141D	221	400	6.0	50	2.5	1.74	1.16
SC141E	221	500	6.0	50	2.5	2.49	1.66
SC141M	221	600	6.0	50	2.5	3.24	2.16
T2500B	221	200	6.0	50	2.5	1.29	.94
T2500D	221	400	6.0	50	2.5	1.55	1.13
MAC220-2	221	50	8.0	......	......	.95	.86
MAC220-3	221	100	8.0	......	......	1.00	.88
MAC220-5	221	300	8.0	......	......	1.25	1.00
MAC220-7	221	500	8.0	......	......	1.60	1.15
MAC220-9	221	700	8.0	......	......	2.80	1.86
MAC221-2	221	50	8.0	......	......	1.04	.88
MAC221-3	221	100	8.0	......	......	1.10	.90
MAC221-5	221	300	8.0	......	......	1.38	1.10
MAC221-7	221	500	8.0	......	......	1.68	1.20
MAC221-9	221	700	8.0	......	......	3.00	2.00
2N6342	221	200	8.0	50	2.0	1.10	.95
2N6343	221	400	8.0	50	2.0	1.45	1.15
2N6344	221	600	8.0	50	2.0	2.00	1.60
2N6345	221	800	8.0	50	2.0	3.80	3.05
2N6346	221	200	8.0	75	2.5	1.30	1.05
2N6347	221	400	8.0	75	2.5	1.55	1.25
2N6348	221	600	8.0	75	2.5	2.10	1.75
2N6349	221	800	8.0	75	2.5	4.00	3.25
2N6342A	221	200	12.0	50	2.0	1.40	1.10
2N6343A	221	400	12.0	50	2.0	1.70	1.35
2N6344A	221	600	12.0	50	2.0	2.30	1.85
2N6345A	221	800	12.0	50	2.0	4.25	3.40
2N6346A	221	200	12.0	75	2.5	1.50	1.20
2N6347A	221	400	12.0	75	2.5	1.80	1.45
2N6348A	221	600	12.0	75	2.5	2.50	2.00
2N6349A	221	800	12.0	75	2.5	4.50	3.60

†I_{GT}=75 mA, V_{GT}=2.5 V.

METAL CASE

Motorola Type	Case	V_{BOM} V	I_T rms A	At 25° C		Net Ea., Lots	
				I_{GT} mA	V_{GT} V	1-99	100-999
2N5567	174	200	10.0	40	2.5	$3.05	$2.22
2N5568	174	400	10.0	40	2.5	3.66	2.66
2N5569	175	200	10.0	40	2.5	3.38	2.46
2N5570	175	400	10.0	40	2.5	3.99	2.90
SC245M	175	600	10.0	40	2.5	4.73	3.19
T4121B	235	200	10.0	40	2.5	3.63	2.80
T4121D	235	400	10.0	40	2.5	4.12	3.17
T4121M	235	600	10.0	40	2.5	4.85	3.75
2N5571	174	200	15.0	50†	2.5†	3.25	2.36
2N5572	174	400	15.0	50†	2.5†	3.89	2.83
SC251M	174	600	15.0	50†	2.5†	4.87	3.54
2N5573	175	200	15.0	50†	2.5†	3.58	2.60
2N5574	175	400	15.0	50†	2.5†	4.22	3.07
SC250M	175	600	15.0	50†	2.5†	5.20	3.78
2N6145	311	200	15.0	50†	2.5†	4.73	3.44
2N6146	311	400	15.0	50†	2.5†	5.37	3.91
2N6147	311	600	15.0	50†	2.5†	6.35	4.62
2N6157	310	200	30.0	60§	2.0§	3.29	2.74
2N6158	310	400	30.0	60§	2.0§	3.94	3.28
2N6159	310	600	30.0	60§	2.0§	5.00	4.17
2N6160	263	200	30.0	60§	2.0§	4.85	3.53
2N6161	263	400	30.0	60§	2.0§	5.74	4.18
2N6162	263	600	30.0	60§	2.0§	7.09	5.16
2N6163	311	200	30.0	60§	2.0§	6.00	4.37
2N6164	311	400	30.0	60§	2.0§	6.90	5.02
2N6165	311	600	30.0	60§	2.0§	8.25	6.00
2N5441	310	200	40.0	70•	2.0•	5.64	4.10
2N5442	310	400	40.0	70•	2.0•	6.77	4.92
2N5443	310	600	40.0	70•	2.0•	8.46	6.16
2N5444	263	200	40.0	70•	2.0•	5.97	4.34
2N5445	263	400	40.0	70•	2.0•	7.10	5.16
2N5446	263	600	40.0	70•	2.0•	8.79	6.40
T6420B	311	200	40.0	70•	2.0•	7.13	5.18
T6420D	311	400	40.0	70•	2.0•	8.25	6.00
T6420M	311	600	40.0	70•	2.0•	9.95	7.24

†I_{GT}=80 mA, V_{GT}=2.5 V. §I_{GT}=70 mA, V_{GT}=2.1 V; I_{GT}=100 mA, V_{GT}=2.5 V. •I_{GT}=100 mA, V_{GT}=2.5 V.

PULSE MODULATOR SCRs

I_{GT}=50 mA, V_{GT}=1.5 volts at 25° C.

100 A (PULSE)—CASE 63

Motorola Type	Case	V_{FOM} V_{ROM} V	At 25°C	Net Each, Lots of		
			I_H mA	1-24	25-99	100-249
2N4199*	63	300	3†	$29.30	$27.45	$21.56
2N4200*	63	400	3†	41.36	37.08	28.75
2N4201*	63	500	3†	46.71	43.07	32.33
2N4202*	63	600	3†	63.61	55.20	42.40
2N4203*	63	700	3†	74.38	64.76	49.58
2N4204*	63	800	3†	91.63	80.06	61.08
MCR729-5	63	300	25‡	26.95	26.95	17.96
MCR729-6	63	400	25‡	37.73	37.73	25.15
MCR729-7	63	500	25‡	43.12	43.12	28.75
MCR729-8	63	600	25‡	58.21	58.21	38.81
MCR729-9	63	700	25‡	69.46	69.46	46.00
MCR729-10	63	800	25‡	86.25	86.25	57.50

1000 A (PULSE)

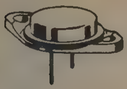
Motorola Type	Case	V_{FOM} V_{ROM} V	At 25°C	Net Each, Lots of		
			I mA	1-24	25-99	100-999
MCR1718-5	263	300	15‡	$29.32	$25.99	$19.55
MCR1718-6	263	400	15‡	34.50	30.59	23.00
MCR1718-7	263	500	15‡	43.12	38.24	28.75
MCR1718-8	263	600	15‡	51.75	45.88	34.50

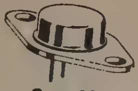
*JAN type available. †Minimum. ‡Typical.

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

MOTOROLA
Semiconductors

SILICON POWER TRANSISTORS


Case 11
Case 197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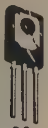
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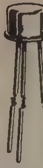
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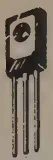
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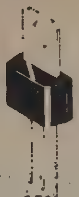
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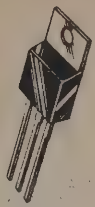
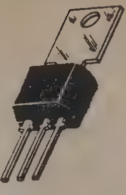

Case 221A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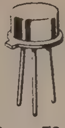
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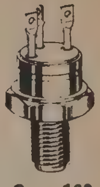

Case 160

SILICON POWER TRANSISTORS

Listed in order of I_C Cont. and BV_{CEO}. P_D at 25° C.

Motorola Type	Case	h_{FE} at I_C		BV_{CEO} Volts	P_D W	Max. I_C Cont. Amps	Net Each	
		Min.-Max.	A				1-99	100-999
				NPN				
D40P1	306	40 min.	0.08	120	10	0.3	.87	.58
MJE3440	77	40–160	0.02	250	15	0.3	.56	.44
MJE3449	77	40–160	0.02	350	15	0.3	.72	.55
MJE341	77	25–200	0.05	150	20.8	0.5	.68	.51
2N6591	306	40–200	0.1	150	10	0.5	.88	.58
D40P3	306	40 min.	0.08	180	10	0.5	.97	.63
MJE344	77	30–300	0.05	200	20.8	0.5	.71	.54
2N6592	306	30–200	0.01	200	10	0.5	.98	.60
D40P5	306	40 min.	0.08	225	10	0.5	1.20	.78
2N5655	77	30–250	0.1	225	20	0.5	.73	.58
2N6557	306	40–180	0.03	250	10	0.5	.80	.50
D40N1	306	20 min.	0.04	250	10	0.5	.78	.51
D40N2	306	30 min.	0.04	250	10	0.5	.79	.52
2N6593	306	30–200	0.1	250	10	0.5	1.05	.63
MPSU10	152	30 min.	0.03	300	10	0.5	.70	.52
2N6558	306	40–180	0.03	300	10	0.5	.85	.55
D40N3	306	20 min.	0.04	300	10	0.5	.85	.57
D40N4	306	30 min.	0.04	300	10	0.5	.87	.58
MJE340	77	30–240	0.05	300	20.8	0.5	.85	.67
2N5656	77	30–250	0.1	300	20	0.5	12.00	9.50
2N6559	306	40–180	0.03	350	10	0.5	1.00	.70
2N5657	77	30–250	0.1	350	20	0.5	10.00	8.00
MPSU02	152	30 min.	0.5	40	10	0.8	.58	.43
MJE520	77	20–100	0.5	30	......	1.0	.55	.41
D40D1	306	10 min.	1.0	30	10	1.0	.57	.39
D40D2	306	20 min.	1.0	30	10	1.0	.73	.49
D40D3	306	10 min.	1.0	30	10	1.0	.76	.51
D40E1	306	10 min.	1.0	30	10	1.0	.63	.42
MJE29	77	40 min.	0.2	40	10	1.0	.55	.41
2N4921	77	20–100	0.5	40	30	1.0	.70	.56
D40D4	306	10 min.	1.0	45	10	1.0	.70	.47
D40D5	306	10 min.	1.0	45	10	1.0	.85	.57
MJE29A	77	40 min.	0.2	60	30	1.0	.61	.45
2N4922	77	20–100	0.5	60	30	1.0	.85	.68
2N6551	306	25 min.	0.5	60	10	1.0	.65	.45
D40D7	306	10 min.	1.0	60	10	1.0	.77	.51
D40D8	306	10 min.	1.0	60	10	1.0	.97	.64
D40E5	306	10 min.	1.0	60	10	1.0	.77	.55
D40D13	306	50–150	0.1	75	10	1.0	.77	.51
D40D14	306	50–150	0.1	75	10	1.0	.97	.64
D40D10	306	10 min.	1.0	75	10	1.0	.92	.61
D40D11	306	10 min.	1.0	75	10	1.0	1.07	.71
MJE29B	77	40 min.	0.2	80	30	1.0	.70	.52
2N4923	77	20–100	0.5	80	30	1.0	.99	.79
2N6552	306	25 min.	0.5	80	10	1.0	.70	.50
D40E7	306	10 min.	1.0	80	10	1.0	1.02	.67
MJE29C	77	40 min.	0.2	100	30	1.0	.81	.60
2N6553	306	25 min.	0.5	100	10	1.0	.75	.55
MPSU03	152	40 min.	0.01	120	10	1.0	.67	.50
2N3583	80	40–200	0.5	175	35	1.0	1.09	.81
MPSU04	152	40 min.	0.01	180	10	1.0	.72	.53
2N3738	80	40–200	0.1	225	10	1.0	1.54	1.14
2N3739	80	40–200	0.1	300	20	1.0	1.82	1.35
MJE13002	77	5–25	1.0	300	40	1.5	1.01	.75
MJE13003	77	5–25	1.0	400	40	1.5	1.28	.95
D40C1	306	10K-60K	0.2	30	10	1.5	.61	.40
D40C2	306	40K min.	0.2	30	10	1.5	.84	.56
MDS01	306	50 min.	1.0	30	10	1.5	.57	.42
MPSU01	152	50 min.	1.0	30	10	1.5	.54	.40
D40K1	306	1K min.	1.5	30	10	1.5	.97	.64
D40C4	306	10K–60K	0.2	40	10	1.5	.57	.46
D40C5	306	40K min.	0.2	40	10	2.0	.97	.64
2N6548	306	5K min.	1.0	40	10	2.0	.90	.65
2N6549	306	3K min.	1.0	40	10	2.0	.80	.55
MDS01A	306	50 min.	1.0	40	10	2.0	.63	.47
MPSU01A	152	50 min.	1.0	40	10	2.0	.61	.45
MPSU05	152	60 min.	0.25	60	10	2.0	.54	.40
MPSU06	152	60 min.	0.25	80	10	2.0	.61	.45
MPSU07	152	30 min.	0.25	100	10	2.0	.67	.50
2N5050	80	25–100	0.75	120	10	2.0	2.36	1.75
2N5051	80	25–100	0.75	150	10	2.0	3.04	2.25
2N5052	80	25–100	0.75	200	10	2.0	3.38	2.50
2N3584	80	25–100	1.0	250	35	2.0	1.60	1.17
2N4240	80	30–150	0.75	300	35	2.0	1.70	1.27
2N3585	80	25–100	1.0	300	35	2.0	1.65	1.22
MJE180	77	50–250	0.1	40	12.5	3.0	.47	.40
MJE31	77	25 min.	1.0	40	40	3.0	.63	.47
TIP31	221A	25 min.	1.0	60	40	3.0	.63	.47
MJE181	77	50–250	0.1	60	12.5	3.0	.52	.42
MJE31A	77	25 min.	1.0	60	40	3.0	.69	.51
TIP31A	221A	25 min.	1.0	60	40	3.0	.63	.47
MDS1678	306	10 min.	1.5	65	10	3.0	.92	.68
MJE182	77	50–250	0.1	80	12.5	3.0	.61	.47

Motorola Type	Case	h_{FE} at I_C		BV_{CEO} Volts	P_D W	Max. I_C Cont. Amps	Net Each	
		Min.-Max.	A				1-99	100-999
				NPN CONTINUED				
MJE31B	77	25 min.	1.0	80	40	3.0	.80	.59
TIP31B	221A	25 min.	1.0	80	40	3.0	.72	.54
MJE31C	77	25 min.	1.0	100	40	3.0	.97	.72
TIP31C	221A	25 min.	1.0	100	40	3.0	.78	.58
2N3902	11	30–90	1.0	325	100	3.5	5.75	4.25
2N5157	11	30–90	1.0	400	100	3.5	10.80	8.00
2N4910	80	20–100	0.5	40	25	4.0	1.15	.85
MJE3300	77	1K min.	1.0	40	15	4.0	.95	.70
2N5190	77	25–100	1.5	40	40	4.0	.81	.65
2N6121	221A	25–100	1.5	45	40	4.0	.67	.50
2N4911	80	20–100	0.5	60	25	4.0	1.22	.90
2N3054	80	25–100	0.5	60	75	4.0	.90	.67
2N3766	80	40–160	0.5	60	20	4.0	1.49	1.10
MJE3301	77	1K min.	1.0	60	15	4.0	1.09	.86
2N5191	77	25–100	1.5	60	40	4.0	.98	.78
MJE800	77	750 min.	1.5	60	40	4.0	.94	.75
2N6122	221A	25–100	1.5	60	40	4.0	.74	.55
2N6294	80	750–18K	2.0	60	50	4.0	1.35	1.00
2N6037	77	750–18K	2.0	60	40	4.0	1.22	.90
2N4877	79	20–100	4.0	60	10	4.0	3.50	2.58
MJE241	77	40–120	0.2	80	15	4.0	1.07	.79
2N4912	80	20–100	0.5	80	25	4.0	1.28	.95
2N3767	80	40–160	0.5	80	20	4.0	1.70	1.25
MJE3302	77	1K min.	1.0	80	15	4.0	1.23	.98
2N5192	77	25–100	1.5	80	40	4.0	1.16	.93
MJE802	77	750 min.	1.5	80	40	4.0	1.10	.82
2N6123	221A	20–80	1.5	80	40	4.0	.79	.59
2N6038	77	750–18K	2.0	80	40	4.0	1.36	1.01
2N6295	80	750–18K	2.0	80	50	4.0	1.47	1.09
MJE243	77	40–120	0.2	100	15	4.0	1.22	.90
2N6039	77	750–18K	2.0	100	40	4.0	1.60	1.19
MJE200	77	45–180	2.0	25	15	5.0	.78	.58
2N5067	11	20–180	1.0	40	87.5	5.0	1.28	.95
2N4231A	80	25–100	1.5	40	75	5.0	1.11	.82
2N5977	90	20–120	2.5	40	75	5.0	1.40	1.05
2N4904	11	25–100	2.5	40	87.5	5.0	1.90	1.42
MJE205	90	25–100	2.0	50	65	5.0	1.70	1.25
2N5068	11	20–180	1.0	60	87.5	5.0	1.49	1.10
2N4232A	80	25–100	1.5	60	75	5.0	1.28	.95
2N5978	90	25–100	2.5	60	75	5.0	1.65	1.22
2N4914	11	25–100	2.5	60	87.5	5.0	1.60	1.20
MJE1100	90	750 min.	3.0	60	70	5.0	1.80	1.33
MJE1101	90	750 min.	4.0	60	70	5.0	1.95	1.45
2N5069	11	20–180	1.0	80	87.5	5.0	1.70	1.25
2N4233A	80	25–100	1.5	80	75	5.0	1.60	1.20
2N5336	79	30–120	2.0	80	10	5.0	4.20	3.10
2N5337	79	60–240	2.0	80	10	5.0	4.75	3.50
2N5979	90	20–120	2.5	80	75	5.0	2.05	1.50
2N4915	11	25–100	2.5	80	87.5	5.0	1.75	1.30
MJE1102	90	750 min.	3.0	80	70	5.0	2.20	1.62
MJE1103	90	750 min.	4.0	80	70	5.0	2.40	1.79
2N5338	79	30–120	2.0	100	10	5.0	5.35	3.95
2N5339	79	60–240	2.0	100	10	5.0	5.75	4.25
MJ410	11	30–90	1.0	200	100	5.0	2.50	1.85
2N6233	80	25–125	1.0	225	50	5.0	5.15	3.81
2N6234	80	25–125	1.0	250	50	5.0	5.35	3.97
MJ3029	11	30 min.	0.4	250	125	5.0	2.45	1.81
MJ1800	11	40–120	0.4	250	100	5.0	3.00	2.23
2N5838	11	8–40	3.0	250	100	5.0	2.30	1.70
2N5839	11	10–50	2.0	275	100	5.0	2.50	1.85
MJ411	11	30–90	1.0	300	100	5.0	2.75	2.05
2N6542	11	7–35	3.0	300	100	5.0	3.05	2.25
2N6235	80	25–125	1.0	325	50	5.0	5.55	4.12
MJ3030	11	4 min.	3.0	325	125	5.0	3.75	2.76
2N5241	11	15–35	2.5	325	125	5.0	13.50	10.00
2N5840	11	10–50	2.0	350	100	5.0	2.70	2.00
2N6543	11	7–35	3.0	400	100	5.0	3.85	2.85
BU207	11	2 min.	4.5	600	125	5.0	3.78	2.80
BU208	11	2 min.	4 5	700	125	5.0	5.20	3.85
TIP41	221A	15–75	3.0	40	65	6.0	.81	.60
TIP41A	221A	15–75	3.0	60	65	6.0	.88	.65
TIP41B	221A	15–75	3.0	80	65	6.0	.92	.68
TIP41C	221A	15–75	3.0	100	65	6.0	1.07	.79
2N5758	11	25–100	3.0	100	150	6.0	3.50	2.60
2N5759	11	20–80	3.0	120	150	6.0	4.00	2.98
2N5760	11	15–60	3.0	140	150	6.0	4.85	3.60
2N6288	221A	30–150	3.0	30	65	7.0	.69	.51
2N6290	221A	30–150	2.5	50	65	7.0	.73	.54
2N6315	80	20–100	2.5	60	90	7.0	1.20	.89
2N6292	221A	30–150	2.0	70	65	7.0	.73	.54
2N5427	80	30–120	2.0	80	40	7.0	2.57	1.90
2N5346	160	30–120	2.0	80	40	7.0	26.75	19.80

POWER TRANSISTOR LISTING CONTINUED ON NEXT PAGE

SILICON POWER TRANSISTORS (Cont'd)

For illustrations, see previous page.

Motorola Type	Case	h_{FE} at I_C Min.-Max.	h_{FE} at I_C A	BV_{CEO} Volts	P_D W	Max. I_C Cont. Amps	Net Each 1-99	Net Each 100-999
NPN (CONTINUED)								
2N5428	80	60–240	2.0	80	40	7.0	$ 2.63	$ 1.95
2N5347	160	60–240	2.0	80	60	7.0	31.40	23.25
2N6316	80	20–100	2.5	80	90	7.0	1.34	.99
2N5429	80	30–120	2.0	100	40	7.0	2.70	2.00
2N5348	160	30–120	2.0	100	60	7.0	29.70	22.00
2N5430	80	60–240	2.0	100	40	7.0	2.84	2.10
2N5349	160	60–240	2.0	100	60	7.0	36.20	26.20
MJ3040	11	100 min.	2.5	300	100	7.0	5.25	3.90
MJ3041	11	250 min.	2.5	300	100	7.0	6.70	4.95
MJ3042	11	250 min.	2.5	350	100	7.0	8.25	6.10
2N3445	11	20–60	3.0	60	115	7.5	7.45	5.50
2N3447	11	40–120	5.0	60	115	7.5	10.80	7.98
2N3446	11	20–60	3.0	80	115	7.5	10.40	7.70
2N3448	11	40–120	5.0	80	115	7.5	11.90	8.80
2N5983	90	20–120	4.0	40	90	8.0	1.55	1.13
MJ1000	11	1K min.	3.0	60	90	8.0	2.10	1.57
TIP120	221A	1K min.	3.0	60	65	8.0	1.16	.86
2N5984	90	20–120	4.0	60	90	8.0	1.75	1.30
2N6300	80	750–18K	4.0	60	75	8.0	1.59	1.18
2N6055	11	750–18K	4.0	60	100	8.0	1.38	1.02
MJE6043	90	1K–20K	4.0	60	75	8.0	1.55	1.15
MJ1001	11	1K min.	3.0	80	90	8.0	2.90	2.14
TIP121	221A	1K min.	3.0	80	65	8.0	1.30	.96
2N5985	90	20–120	4.0	80	90	8.0	2.20	1.64
2N6301	80	750–1K	4.0	80	75	8.0	1.71	1.27
2N6056	11	750–1K	4.0	80	100	8.0	1.55	1.12
MJE6044	90	1K–20K	4.0	80	75	8.0	1.80	1.32
MJE6045	90	1K–20K	4.0	100	75	8.0	2.05	1.53
TIP122	221A	1K min.	3.0	100	75	8.0	1.49	1.10
2N6306	11	15–75	3.0	250	125	8.0	3.60	2.65
2N6307	11	15–75	3.0	300	125	8.0	4.05	3.00
2N6544	11	7–35	5.0	300	125	8.0	5.05	3.75
MJ7160	11	25–100	3.0	300	140	8.0	9.10	6.75
MJE-13006	221A	6–30	5.0	300	80	8.0	2.63	1.95
2N6308	11	12–60	3.0	350	125	8.0	5.80	4.30
MJE-13007	221A	6–30	5.0	400	80	8.0	3.51	2.60
2N6545	11	7–35	5.0	400	125	8.0	6.40	4.75
MJ7161	11	25–100	3.0	400	140	8.0	11.80	8.75
MJE2801	90	25–100	3.0	60	90	10	1.55	1.13
2N3713	11	15 min.	3.0	60	150	10	1.55	1.15
2N3715	11	30 min.	3.0	60	150	10	1.90	1.40
MJE3055	90	20–70	4.0	60	90	10	1.55	1.13
2N5877	11	20–100	4.0	60	150	10	1.28	.95
MJ3000	11	1K min.	5.0	60	150	10	3.05	2.27
2N3714	11	15 min.	3.0	80	150	10	1.60	1.20
2N3716	11	30 min.	3.0	80	150	10	2.55	1.90
2N5878	11	20–100	4.0	80	150	10	1.75	1.29
MJ3001	11	1K min.	5.0	80	150	10	3.60	2.65
2N6495	80	10–60	10	80	70	10	2.85	2.10
2N5632	11	25–100	5.0	100	150	10	3.25	2.40
2N5633	11	20–80	5.0	120	150	10	4.40	3.25
2N5634	11	15–60	5.0	140	150	10	5.40	4.00
MJ413	11	20–80	0.5	325	125	10	2.55	1.87
MJ423	11	30–90	1.0	325	125	10	4.15	3.06
MJ431	11	15–35	2.5	325	125	10	5.35	3.95
MJ9000	11	4 min.	6.0	325	125	10	7.30	5.40
MJ10002	11	30–300	5.0	350	150	10	5.35	3.95
MJ10006	11	30–300	5.0	350	150	10	6.10	4.50
MJ10003	11	30–300	5.0	400	150	10	6.90	5.10
MJ10007	11	30–300	5.0	400	150	10	9.10	6.75
2N6569	11	15–200	4.0	40	100	12	1.00	.70
2N5989	90	20–120	6.0	40	100	12	2.15	1.60
2N5990	90	20–120	6.0	60	100	12	2.45	1.80
2N6057	11	750–18K	6.0	60	150	12	1.89	1.40
2N5991	90	20–120	6.0	80	100	12	2.70	2.00
2N6058	11	750–18K	6.0	80	150	12	2.09	1.55
2N6059	11	750–18K	6.0	100	150	12	2.43	1.80
MJE-13008	221A	6–30	8.0	300	100	12	4.45	3.30
MJE-13009	221A	6–30	8.0	400	100	12	5.33	3.95
MJE1660	90	20–100	5.0	40	90	15	2.05	1.53
2N3055	11	20–70	4.0	60	115	15	1.20	.90
2N6576	11	2K–20K	4.0	60	120	15	1.23	.91
MJE1661	90	20–100	5.0	60	90	15	2.35	1.75
2N5881	11	20–100	6.0	60	160	15	2.25	1.90
2N5882	11	20–100	6.0	80	160	15	2.90	2.15
2N6577	11	2K–20K	4.0	90	120	15	1.35	1.00
2N6578	11	2K–20K	4.0	120	120	15	1.55	1.13
MJ15001	11	25–150	4.0	140	200	15	3.30	2.45
2N6249	11	10–50	10	200	175	15	4.98	3.75
2N6250	11	8–50	10	275	175	15	5.90	4.38
MJ7260	11	25–100	5.0	300	175	15	18.55	13.75
2N6546	11	6–30	10	300	175	15	8.80	6.50
2N6251	11	6–50	10	350	175	15	.65	.45
2N6547	11	6–30	10	400	175	15	10.80	8.00
MJ7261	11	25–100	5.0	400	175	15	22.30	16.50
MJ4033	11	1K min.	10	60	150	16	5.60	4.15
MJ4034	11	1K min.	10	80	150	16	6.15	4.55
2N5629	11	25–100	8.0	100	200	16	4.60	3.40
MJ4035	11	1K min.	10	100	150	16	6.90	5.10
2N5630	11	20–80	8.0	120	200	16	5.25	3.90
2N3773	11	15–60	8.0	140	150	16	3.50	2.59
2N5631	11	15–60	8.0	140	200	16	6.15	4.55
2N6282	11	750–18K	10	60	160	20	2.57	1.90
MJ5039	11	20–100	10	75	115	20	4.05	3.00
NPN (CONTINUED)								
2N5303	11	15–60	10	80	200	20	$ 5.60	$ 4.15
2N6283	11	750–18K	10	80	160	20	2.90	2.15
MJ5038	11	20–100	12	.90	115	20	4.60	3.40
2N6284	11	750–18K	10	100	160	20	3.38	2.50
MJ15003	11	25–150	5.0	140	250	20	4.30	3.20
MJ1000	11	40–400	10	350	175	20	6.75	5.00
MJ10004	11	40–400	10	350	175	20	9.50	7.00
MJ10001	11	40–400	10	400	175	20	8.10	6.00
MJ10005	11	40–400	10	400	175	20	11.50	8.50
2N5885	11	20–100	10	60	200	25	3.65	2.70
2N5886	11	20–100	10	80	200	25	4.20	3.10
2N6338	11	30–120	10	100	200	25	9.65	7.15
2N6339	11	30–120	10	120	200	25	10.45	7.75
2N6340	11	30–120	10	140	200	25	11.80	8.75
2N6341	11	30–120	10	150	200	25	13.50	10.00
MJ11012	11	1K min.	20	60	200	30	5.55	4.10
MJ11014	11	1K min.	20	90	200	30	6.20	4.60
MJ802	11	25–100	7.5	100	200	30	5.50	4.08
MJ11016	11	1K min.	20	120	200	30	7.10	5.25
2N5685	197	15–60	25	60	300	50	12.70	9.40
2N5686	197	15–60	25	80	300	50	15.75	11.65
2N6274	197	30–120	20	100	250	50	18.90	14.00
2N6275	197	30–120	20	120	250	50	22.30	16.50
2N6276	197	30–120	20	140	250	50	27.00	20.00
2N6277	197	30–120	20	150	250	50	29.70	22.00
PNP								
MJ4645	79	20 min.	0.5	200	5	0.5	$9.00	$6.65
MPSU60	152	30 min.	0.03	300	10	0.5	1.65	1.10
MDS60	306	30 min.	0.03	300	10	0.5	1.55	1.15
MJE350	77	30–240	0.05	300	20.8	0.5	1.32	.98
MJ4646	79	20 min.	0.5	300	5	0.5	9.80	7.25
MJ4647	79	20 min.	0.5	400	5	0.5	12.15	9.00
MPSU52	77	20–100	0.5	30	......	0.8	.61	.45
MJE370	306	10 min.	1.0	30	10	1.0	.74	.59
D41D1	306	20 min.	1.0	30	10	1.0	.63	.42
D41D2	306	10 min.	1.0	30	10	1.0	.82	.55
D41E1	306	10 min.	1.0	30	10	1.0	.68	.46
MJE30	77	40 min.	0.2	40	30	1.0	.62	.46
2N4918	77	20–100	0.5	40	30	1.0	.83	.66
D41D4	306	10 min.	1.0	45	10	1.0	.75	.50
D41D5	306	10 min.	1.0	45	10	1.0	.95	.62
MJE30A	77	40 min.	0.2	60	30	1.0	.66	.49
2N4919	77	20–100	0.5	60	30	1.0	.99	.79
2N6554	306	25 min.	0.5	60	10	1.0	.65	.45
D41D7	306	10 min.	1.0	60	10	1.0	.82	.55
D41D8	306	10 min.	1.0	60	10	1.0	1.08	.71
D41E5	306	10 min.	1.0	60	10	1.0	.87	.58
D41D13	306	50–150	0.1	75	10	1.0	.82	.56
D41D14	306	50–150	0.1	75	10	1.0	1.05	.69
D41D10	306	10 min.	1.0	75	10	1.0	.99	.66
D41D11	306	10 min.	1.0	75	10	1.0	1.15	.75
MJE30B	77	40 min.	0.2	80	30	1.0	.73	.54
2N4920	77	20–100	0.5	80	30	1.0	1.16	.93
2N6555	306	25 min.	0.5	80	1.0	1.0	.70	.50
D41E7	306	10 min.	1.0	80	10	1.0	1.10	.73
MJE30C	77	40 min.	0.2	100	30	1.0	.86	.64
2N6556	306	25 min.	0.5	100	10	1.0	.75	.55
2N6420	80	40–200	0.5	175	35	1.0	1.09	.81
2N6424	80	40–200	0.1	225	20	1.0	1.55	1.14
2N5344	80	25–100	0.5	250	40	1.0	5.40	4.00
2N6425	80	40–200	0.1	300	20	1.0	1.80	1.35
2N5345	80	25–100	0.5	300	40	1.0	6.75	5.00
D41K3	306	1K min.	1.0	30	10	1.5	.88	.59
MDS51	306	50 min.	1.0	30	10	1.5	.59	.44
MPSU51	152	50 min.	1.0	30	10	1.5	.57	.42
D41K1	306	1K min.	1.5	30	10	1.5	1.03	.69
MDS51A	306	50 min.	1.0	40	10	2.0	.66	.49
MPSU51A	152	50 min.	1.0	40	10	2.0	.63	.47
MPSU55	152	60 min.	0.25	60	10	2.0	.79	.40
MPSU56	152	60 min.	0.25	80	10	2.0	.80	.45
MPSU57	152	30 min.	0.25	100	10	2.0	.87	.50
2N6421	80	25–100	1.0	250	35	2.0	1.58	1.17
2N6423	80	30–150	0.75	300	35	2.0	1.71	1.27
2N6422	80	25–100	1.0	300	35	2.0	1.65	1.22
MJE170	77	50–250	0.1	40	12.5	3.0	.50	.41
MJE32	77	25 min.	1.0	40	40	3.0	.70	.52
TIP32	221A	25 min.	1.0	40	40	3.0	.67	.50
2N3719	31	25–180	2.0	40	6.0	3.0	4.20	3.10
2N3867	31	40–200	2.0	40	6.0	3.0	8.00	5.90
MJE171	77	50–250	0.1	60	12.5	3.0	.57	.43
MJE32A	77	25 min.	1.0	60	40	3.0	.74	.55
TIP32A	221A	25 min.	1.0	60	40	3.0	.71	.53
2N3720	31	25–180	2.0	60	60	3.0	5.75	4.25
2N3868	31	30–150	2.0	60	60	3.0	8.65	6.40
MJE172	77	50–240	0.1	80	12.5	3.0	.66	.49
MJE32B	77	25 min.	1.0	80	40	3.0	.82	.61
TIP32B	221A	25 min.	1.0	80	40	3.0	.78	.58
2N6303	31	30–150	2.0	80	6.0	3.0	11.75	8.70
MJE32C	77	25 min.	1.0	100	40	3.0	.96	.71
TIP32C	221A	25 min.	1.0	100	40	3.0	.82	.61
2N4898	80	20–100	0.5	40	25	4.0	1.28	.95
MJE3310	77	1K min.	1.0	40	15	4.0	1.01	.75
2N5193	77	25–100	1.5	40	40	4.0	.91	.73
2N6124	221A	25–100	1.5	45	40	4.0	.72	.55
2N3740	80	30–100	0.25	60	25	4.0	1.42	1.05
2N4899	80	20–100	0.5	60	25	4.0	1.42	1.05
2N6049	80	25–100	0.5	60	75	4.0	1.60	1.20

POWER TRANSISTOR LISTING CONTINUED ON NEXT PAGE

MOTOROLA Semiconductors

Silicon Transistors

SILICON POWER TRANSISTORS (Cont'd)

For illustrations, see a previous page.

Motorola Type	Case	h_{FE} at I_C Min.-Max.	h_{FE} at I_C A	BV_{CEO} Volts	P_D W	Max. I_C Cont. Amps	Net Each 1-99	Net Each 100-999
PNP (CONTINUED)								
MJE3311	80	1K min.	1.0	60	15	4.0	**1.15**	**.85**
2N5194	77	25–100	1.5	60	40	4.0	**1.08**	**.86**
MJE700	77	750 min.	1.5	60	40	4.0	**1.10**	**.88**
2N6125	77	25–100	1.5	60	40	4.0	**.79**	**.59**
2N6296	80	750–18K	2.0	60	50	4.0	**1.35**	**1.00**
2N6034	77	750–18K	2.0	60	40	4.0	**1.42**	**1.01**
MJE251	77	40–120	0.2	80	15	4.0	**1.24**	**.87**
2N3741	80	30–100	0.25	80	25	4.0	**1.60**	**1.20**
2N4900	80	20–100	0.5	80	25	4.0	**1.60**	**1.20**
MJE3312	77	1K min.	1.0	80	15	4.0	**1.28**	**.95**
2N5195	77	25–100	1.5	80	40	4.0	**1.31**	**1.05**
MJE702	77	750 min.	1.5	80	40	4.0	**1.30**	**1.04**
2N6126	221A	20–80	1.5	80	40	4.0	**.85**	**.63**
2N6035	77	750–18K	2.0	80	40	4.0	**1.60**	**1.19**
MJE253	77	40–120	0.2	100	15	4.0	**1.34**	**.99**
MJE210	77	45–180	2.0	25	15	5.0	**.89**	**.66**
2N6312	80	25–100	1.5	40	75	5.0	**1.11**	**.82**
2N5974	90	20–120	2.5	40	75	5.0	**1.60**	**1.17**
2N4913	11	25–100	2.5	40	87.5	5.0	**1.49**	**1.10**
MJE105	90	25–100	2.0	50	65	5.0	**2.09**	**1.55**
2N4902	11	20–180	1.0	60	87.5	5.0	**2.30**	**1.70**
2N6313	80	25–100	1.5	60	75	5.0	**1.28**	**.95**
MJ8100	79	25–180	2.0	60	10	5.0	**8.50**	**6.30**
2N5975	90	25–100	2.5	60	75	5.0	**1.80**	**1.34**
2N4905	11	25–100	2.5	60	87.5	5.0	**2.55**	**1.90**
MJE1090	90	750 min.	3.0	60	70	5.0	**2.65**	**1.95**
MJE1091	90	750 min.	4.0	60	70	5.0	**2.85**	**2.12**
2N4903	11	20–180	1.0	80	87.5	5.0	**2.70**	**2.00**
2N6314	80	25–100	1.5	80	75	5.0	**1.62**	**1.20**
2N6190	79	30–120	2.0	80	10	5.0	**7.55**	**5.60**
2N6191	79	60–240	2.0	80	10	5.0	**11.50**	**8.50**
2N5976	90	20–120	2.5	80	75	5.0	**2.30**	**1.62**
2N4906	11	25–100	2.5	80	87.5	5.0	**3.20**	**2.35**
MJE1092	90	750 min.	3.0	80	70	5.0	**3.10**	**2.28**
MJE1093	90	750 min.	4.0	80	70	5.0	**3.40**	**2.52**
2N6192	79	30–120	2.0	100	10	5.0	**10.15**	**7.50**
2N6193	79	60–240	2.0	100	10	5.0	**13.25**	**9.80**
TIP42	221A	15–75	3.0	40	65	6.0	**.89**	**.66**
TIP42A	221A	15–75	3.0	60	65	6.0	**.99**	**.73**
TIP42B	221A	15–75	3.0	80	65	6.0	**1.07**	**.79**
TIP42C	221A	15–75	3.0	100	65	6.0	**1.20**	**.89**
2N6266	11	25–100	3.0	100	150	6.0	**3.95**	**2.92**
2N6227	11	20–80	3.0	120	150	6.0	**4.65**	**3.43**
2N6228	11	15–60	3.0	140	150	6.0	**5.80**	**4.28**
2N6111	221A	30–150	3.0	30	65	7.0	**.73**	**.54**
2N6109	221A	30–150	2.5	50	65	7.0	**.78**	**.58**
2N6317	80	20–100	2.5	60	90	7.0	**1.35**	**1.00**
2N6107	221A	30–150	2.0	70	65	7.0	**.78**	**.58**
2N6186	160	30–120	2.0	80	60	7.0	**32.35**	**23.95**
2N6187	160	60–240	2.0	80	60	7.0	**37.65**	**27.90**
2N6318	80	20–100	2.5	80	90	7.0	**1.49**	**1.10**
2N6188	160	30–120	2.0	100	60	7.0	**35.65**	**26.40**
2N6189	160	60–240	2.0	100	60	7.0	**43.50**	**32.20**
2N5980	90	20–120	4.0	40	90	8.0	**2.10**	**1.56**
MJ900	11	1K min.	3.0	60	90	8.0	**3.10**	**2.28**
TIP125	221A	1K min.	3.0	60	65	8.0	**1.24**	**.92**
2N5981	90	20–120	4.0	60	90	8.0	**2.45**	**1.80**
2N6298	80	750–18K	4.0	60	75	8.0	**1.59**	**1.18**
2N6053	11	750–18K	4.0	60	100	8.0	**1.42**	**1.05**
MJE6040	90	1K–20K	4.0	60	75	8.0	**1.80**	**1.35**
MJ901	11	1K min.	3.0	80	90	8.0	**3.65**	**2.71**
TIP126	221A	1K min.	3.0	80	65	8.0	**1.39**	**1.03**
2N5982	90	20–120	4.0	80	90	8.0	**2.95**	**2.18**
2N6299	80	750–1K	4.0	80	75	8.0	**1.71**	**1.27**
2N6054	11	750–1K	4.0	80	100	8.0	**1.82**	**1.35**
MJE6041	90	1K–20K	4.0	80	75	8.0	**2.10**	**1.55**
MJE6042	90	1K–20K	4.0	100	75	8.0	**2.45**	**1.81**
TIP127	221A	1K min.	3.0	100	75	8.10	**1.59**	**1.18**
MJ6700	160	25–180	2.0	60	60	10	**27.70**	**20.50**
MJE2901	90	25–100	3.0	60	90	10	**2.25**	**1.65**
2N3789	11	15 min.	3.0	60	150	10	**3.10**	**2.30**
2N3791	11	30 min.	3.0	60	150	10	**3.60**	**2.65**
MJE2955	90	20–70	4.0	60	90	10	**2.25**	**1.65**
2N5875	11	20–100	4.0	60	150	10	**1.85**	**1.37**
MJ2500	11	1K min.	5.0	60	150	10	**4.15**	**3.07**
2N3790	11	15 min.	3.0	80	150	10	**3.60**	**2.65**
2N3792	11	30 min.	3.0	80	150	10	**4.00**	**2.95**
2N5876	11	20–100	4.0	80	150	10	**2.25**	**1.65**
MJ2501	11	1K min.	5.0	80	150	10	**4.70**	**3.48**
2N6229	11	25–100	5.0	100	150	10	**4.05**	**3.00**
2N6230	11	20–80	5.0	120	150	10	**4.95**	**3.65**
2N6231	11	15–60	5.0	140	150	10	**5.95**	**4.40**
2N6594	11	15–200	4.0	40	100	12	**.88**	**.65**
2N5986	90	20–120	6.0	40	100	12	**2.30**	**1.70**
2N5987	90	20–120	6.0	60	100	12	**2.55**	**1.90**
2N6050	11	750–18K	6.0	60	150	12	**1.89**	**1.40**
2N5988	90	20–120	6.0	80	100	12	**2.85**	**2.10**
2N6051	11	750–18K	6.0	80	150	12	**2.09**	**1.55**
2N6052	11	750–18K	6.0	100	150	12	**2.43**	**1.80**
MJE1290	90	20–100	5.0	40	90	15	**2.45**	**1.80**
MJ2955	11	20–70	4.0	60	115	15	**1.20**	**.90**
MJE1291	90	20–100	5.0	60	90	15	**2.90**	**2.15**
2N5879	11	20–100	6.0	60	160	15	**2.70**	**2.01**
2N5880	11	20–100	6.0	80	160	15	**3.45**	**2.54**
MJ15002	11	25–150	4.0	140	200	15	**3.60**	**2.65**
MJ4030	11	1K min.	10	60	150	16	**5.90**	**4.35**
MJ4031	11	1K min.	10	80	150	16	**6.55**	**4.85**
2N6029	11	25–100	8.0	100	200	16	**5.05**	**3.75**
MJ4032	11	1K min.	10	100	150	16	**7.20**	**5.35**

SMALL-SIGNAL, METAL-PACKAGED TRANSISTORS

For illustrations, see following page.

SWITCHING TRANSISTORS

Motorola Type	Case	h_{FE} at I_C Min.	h_{FE} at I_C mA	Min. BV_{CEO} Volts	Max. I_C A	Min. f_T MHz	Net Each 1-99	Net Each 100-999
NPN								
2N2206	TO-46	40	10	12	0.2	200	**$1.88**	**$1.25**
2N2369A	TO-18	40	10	15	0.2	500	**.45**	**.27**
2N3647	TO-46	30	150	15	0.5	450	**2.25**	**1.60**
2N3648	TO-46	30	150	15	0.5	450	**2.70**	**1.90**
2N2369	TO-18	20	100	15	0.5	500	**.43**	**.25**
2N3227	TO-18	30	100	20	0.5	500	**2.40**	**1.60**
2N3508	TO-46	40	10	20	0.5	500	**5.40**	**3.85**
2N3509	TO-46	100	10	20	0.5	500	**5.40**	**3.85**
2N4013	TO-18	35	500	30	1.0	300	**1.80**	**1.15**
2N4014	TO-18	35	500	50	1.0	300	**1.90**	**1.25**
2N3736	TO-46	30	1000	30	1.5	250	**4.95**	**3.25**
2N3737	TO-46	20	1000	50	1.5	250	**4.95**	**3.20**
2N3734	TO-39	30	1000	50	1.5	250	**2.45**	**1.55**
2N3735	TO-39	20	1000	75	1.5	250	**4.20**	**2.95**
2N3724	TO-39	35	500	30	2.0	300	**1.05**	**.70**
2N5859	TO-39	15	1000	40	2.0	250	**.90**	**.65**
2N3725	TO-39	35	500	50	2.0	300	**1.10**	**.75**
MM5262	TO-39	25	1000	50	2.0	350	**1.85**	**1.35**
2N5861	TO-39	25	500	50	2.0	200	**1.35**	**1.00**
2N3506	TO-39	40	1500	40	3.0	60	**11.55**	**8.20**
2N3507	TO-39	30	1500	50	3.0	60	**13.20**	**9.30**
2N2539	TO-18	50	150	30	......	250	**4.95**	**3.30**
2N2540	TO-18	100	150	30	......	250	**5.85**	**3.90**
2N2845	TO-18	30	150	30	......	250	**4.95**	**3.30**
PNP								
MM4257	TO-18	30	10	6.0	0.08	500	**$ 1.65**	**$ 1.05**
2N3546	TO-18	25	50	12	......	700	**2.50**	**1.65**
MM4258	TO-18	30	10	12	0.08	700	**1.80**	**1.18**
2N4208	TO-18	30	10	12	0.2	700	**2.25**	**1.70**
2N3012	TO-18	30	30	12	0.2	400	**1.75**	**1.20**
2N2894	TO-18	40	30	12	0.2	400	**1.95**	**1.40**
2N869A	TO-18	40	30	18	0.2	700	**1.00**	**.75**
2N3762	TO-39	30	1000	40	1.5	180	**5.00**	**3.50**
2N3467	TO-39	40	500	40	0.1	175	**2.25**	**1.60**
MM4037	TO-39	50	150	40	1.0	60	**1.30**	**.98**
2N3244	TO-39	50	500	40	1.0	175	**15.75**	**10.50**
MM3726	TO-39	15	1000	50	1.5	200	**6.75**	**4.50**
2N3468	TO-39	25	500	50	1.0	150	**2.40**	**1.65**
2N3245	TO-39	30	500	50	1.0	150	**15.75**	**10.50**
2N3763	TO-39	20	1000	60	1.5	150	**10.50**	**7.25**
MM4030	TO-39	25	500	60	1.0	100	**.98**	**.65**
MM4032	TO-39	70	500	60	1.0	150	**1.10**	**.79**
MM4036	TO-39	40	150	65	1.0	60	**1.60**	**1.15**
2N4406	TO-39	10	1000	80	2.0	150	**11.25**	**7.95**
2N4407	TO-39	15	1000	80	2.0	150	**12.75**	**9.00**
2N4404	TO-39	15	500	80	1.0	200	**8.25**	**5.85**
2N4405	TO-39	25	500	80	1.0	200	**9.75**	**6.90**
MM4031	TO-39	25	500	80	1.0	100	**1.38**	**.99**
MM4033	TO-39	70	500	80	1.0	150	**1.38**	**.98**
2N3634	TO-39	50	50	140	1.0	150	**13.20**	**8.80**
2N3635	TO-39	100	50	140	1.0	200	**14.40**	**9.60**
2N3636	TO-39	50	50	175	1.0	150	**19.40**	**12.95**

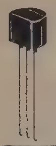
HIGH-GAIN, LOW-NOISE TRANSISTORS

Motorola Type	Case	h_{FE} at I_C Min.	h_{FE} at I_C mA	Min. BV_{CEO} Volts	Max. I_C A	Max. NF dB	Net Each 1-99	Net Each 100-999
NPN								
MM6427	TO-18	5K	.....	40	300	.....	**$1.14**	**$0.88**
2N929	TO-18	40	120	45	30	4.0	**2.25**	**1.60**
2N930	TO-18	100	300	45	30	3.0	**.45**	**.28**
2N930A	TO-18	100	300	45	30	3.0	**1.80**	**1.09**
2N2483	TO-18	40	120	60	50	8.0	**.82**	**.55**
2N2484	TO-18	100	500	60	50	8.0	**.49**	**.28**
PNP								
2N3798	TO-18	150	450	60	50	3.5	**$3.20**	**$2.15**
2N3799	TO-18	300	900	60	50	2.5	**3.50**	**2.35**

UHF/VHF AMPLIFIERS/OSCILLATORS

Motorola Type	Case	h_{FE} at I_C Min.	h_{FE} at I_C mA	Min. BV_{CEO} Volts	Max. NF at f dB	Max. NF at f MHz	Net Each 1-99	Net Each 100-999
NPN								
2N917	TO-72	20	3.0	15	6.0	60	**$0.70**	**$0.45**
2N918	TO-72	20	3.0	15	6.0	60	**.73**	**.40**
MM1941	TO-18	25	10	20	.....	.....	**1.95**	**1.40**
2N3544	TO-19	25	10	25	.....	.....	**7.50**	**5.40**
PNP								
2N4260	TO-72	30	10	15	.....	.....	**$12.35**	**$ 8.75**
2N4261	TO-72	30	10	15	.....	.....	**14.60**	**10.30**
2N3307	TO-18	40	2.0	35	4.5	200	**10.50**	**7.45**

Silicon Transistors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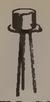
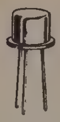
TO-92


TO-52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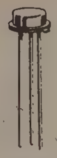
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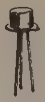
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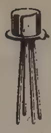
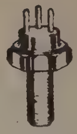
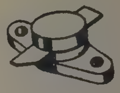
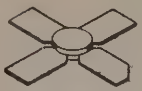
TO-18


TO-72


TO-60


Case 215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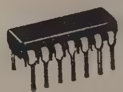
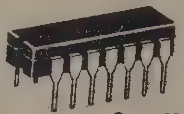

Case 646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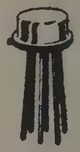
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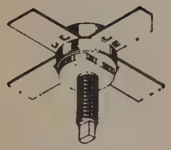
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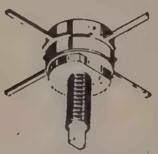
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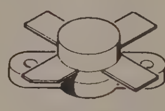
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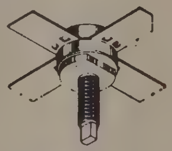
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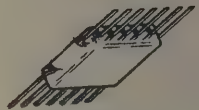

Case 607

SMALL-SIGNAL, METAL-PACKAGED TRANSISTORS (Cont'd)

HIGH-VOLTAGE, HIGH-CURRENT TRANSISTORS

Motorola Type	Case	h_{FE} at I_C		Min. BV_{CEO} Volts	Max. I_C A	Min. f_T MHz	Net Each	
		Min.	mA				1-99	100-999
				NPN				
2N4237	TO-39	30	250	40	0.25	2.0	$1.15	$1.00
2N4238	TO-39	30	250	60	3.0	2.0	1.32	1.15
MM3005	TO-39	50	150	60	2.5	50	1.65	1.12
2N4239	TO-39	30	250	80	3.0	2.0	1.44	1.25
MM3006	TO-39	50	200	80	2.5	50	1.95	1.35
2N1990	TO-39	20	30	100	1.0	.....	2.25	1.50
2N657	TO-39	30	200	100	......	.....	1.60	1.26
2N5681	TO-39	40	250	100	1.0	30	.99	.86
2N3498	TO-39	40	150	100	0.5	150	6.60	4.40
2N4924	TO-39	40	150	100	0.2	100	2.00	1.35
MM3007	TO-39	50	250	100	2.5	50	2.60	1.80
2N3499	TO-39	100	150	100	0.5	150	7.40	4.95
2N5682	TO-39	40	250	120	1.0	30	1.32	1.15
MM3008	TO-39	40	10	100	0.4	50	3.90	2.85
MM2258	TO-39	50	10	120	0.5	150	3.90	2.85
MM3001	TO-39	20	10	150	0.2	150	1.45	.98
2N3114	TO-39	30	30	150	0.2	40	6.00	4.00
2N3712	TO-39	30	30	150	0.2	40	2.25	1.50
2N3500	TO-39	40	150	150	0.3	150	11.25	7.50
2N3501	TO-39	100	150	150	0.3	150	12.60	8.40
MM2259	TO-39	35	10	175	0.3	150	4.10	3.10
MM3009	TO-39	40	10	180	0.4	50	1.80	1.25
MM3002	TO-39	20	10	200	0.05	150	1.70	1.15
2N4926	TO-39	20	30	200	0.05	30	2.95	2.10
MM3003	TO-39	20	10	250	0.05	150	1.95	1.30
2N4927	TO-39	20	30	250	0.05	30	3.15	2.25
MM420	TO-39	25	30	250	1.0	15	.68	.65
2N5059	TO-39	30	30	250	0.15	30	2.75	1.50
2N3440	TO-39	40	20	250	1.0	15	.79	.75
2N3742	TO-39	20	30	300	0.05	30	12.60	8.40
2N5058	TO-39	35	30	300	0.15	30	3.00	1.70
MM421	TO-39	25	30	325	1.0	15	.76	.72
2N3439	TO-39	40	20	350	1.0	15	1.09	.85
				PNP				
2N4234	TO-39	30	250	40	3.0	3.0	$1.38	$1.20
2N4235	TO-39	30	250	60	3.0	3.0	1.61	1.40
2N4236	TO-39	30	250	80	3.0	3.0	1.73	1.50
2N3496	TO-18	40	10	80	0.1	200	9.75	6.90
2N3494	TO-39	40	10	80	0.1	200	9.75	6.50
MM4000	TO-39	20	10	100	0.1	.....	1.28	.99
2N4928	TO-39	25	10	100	0.1	100	4.05	2.70
2N5679	TO-39	40	250	100	1.0	30	1.32	1.15
2N3495	TO-39	40	10	120	0.1	150	12.75	8.50
2N3497	TO-18	40	10	120	0.1	150	12.75	9.00
2N5680	TO-39	40	250	120	1.0	30	1.52	1.32
2N3634	TO-39	50	50	140	1.0	150	13.20	8.80
2N3655	TO-39	100	50	140	1.0	200	14.40	9.60
MM4001	TO-39	20	10	150	0.5	.....	1.48	1.08
2N4929	TO-39	25	10	150	0.5	100	4.95	3.30
2N3636	TO-39	50	50	175	1.0	150	19.40	12.95
2N3637	TO-39	100	50	175	1.0	200	21.30	14.20
MM4002	TO-39	20	10	200	0.5	.....	1.75	1.24
2N4930	TO-39	20	20	200	0.5	20	5.90	3.95
MM5415	TO-39	30	50	200	1.0	15	1.09	.99
MM4003	TO-39	20	10	250	0.5	.....	1.95	1.42
2N4931	TO-39	20	20	250	0.5	20	6.75	4.50
2N3743	TO-39	25	30	300	0.05	30	12.60	8.40
MM5416	TO-39	30	50	300	1.0	15	1.22	1.16

GENERAL PURPOSE TRANSISTORS

Motorola Type	Case	h_{FE} at I_C		Min. BV_{CEO} Volts	Max. I_C A	Min. f_T MHz	Net Each	
		Min.	mA				1-99	100-999
				NPN				
2N916	TO-18	50	10	25	......	300	$0.85	$0.60
2N2218	TO-39	40	150	30	0.8	250	.65	.33
2N2219	TO-39	100	150	30	0.8	250	.70	.33
2N2222	TO-18	100	150	30	0.8	250	.48	.25
2N3300	TO-39	100	150	30	0.5	250	1.05	.70
2N3302	TO-18	100	150	30	0.5	250	1.05	.75
2N4450	TO-46	100	150	30	0.5	250	2.65	1.75
2N697	TO-39	40	150	40	......	50	.52	.40
2N718	TO-18	40	150	40	......	50	.46	.35
2N2218A	TO-39	40	150	40	0.8	250	.69	.37
2N2221A	TO-18	40	150	40	0.8	250	.55	.29
2N3110	TO-39	40	150	40	1.0	600	1.12	.75
2N5581	TO-46	40	150	40	0.8	250	3.00	2.00
2N3053	TO-39	50	150	40	0.7	100	.55	.39
2N3946	TO-18	50	10	40	0.2	300	2.40	1.70
MM3903	TO-52	50	10	40	0.2	250	1.40	.90
2N2219A	TO-39	100	150	40	0.8	300	.73	.36
2N2222A	TO-18	100	150	40	0.8	300	.52	.28
2N3947	TO-18	100	10	40	0.2	300	2.75	1.95
2N5582	TO-46	100	150	40	0.8	300	3.50	2.30
MM3904	TO-52	100	10	40	0.2	300	1.50	.95
2N2270	TO-39	50	150	45	1.0	100	.78	.51
2N956	TO-18	40	150	50	......	70	.85	.65
2N1613	TO-39	49	150	50	0.5	60	.65	.38
2N2193A	TO-39	40	150	50	1.0	50	3.15	2.10
2N915	TO-18	50	10	50	......	250	1.05	.84
2N656	TO-39	30	200	60	......	......	1.50	1.05
2N3020	TO-39	40	150	80	1.0	80	2.85	2.20
2N1711	TO-39	100	150	80	......	70	.71	.38
2N3019	TO-39	100	150	80	1.0	100	.55	.48
				PNP				
2N1132	TO-39	60	150	35	0.6	60	$0.71	$0.55
2N1131A	TO-39	30	150	40	0.6	50	1.43	1.10
2N1132A	TO-39	30	150	40	0.6	60	1.75	1.35
2N2904	TO-39	40	150	40	0.6	200	.65	.33
2N2906	TO-18	40	150	40	0.6	200	.44	.24
2N3250	TO-18	50	10	40	0.2	250	.65	.42
MM3905	TO-52	50	10	40	0.2	200	1.40	.90
MM4037	TO-39	50	150	40	1.0	60	1.30	.98
MM3906	TO-52	100	10	40	0.2	200	1.50	.95
2N2907	TO-18	100	150	40	0.6	200	.47	.26
2N3251	TO-18	100	10	40	0.2	300	1.05	.70
2N3486	TO-46	100	150	40	0.6	200	5.50	4.20
2N3673	TO-46	75	150	50	0.6	200	5.20	3.55
2N2904A	TO-39	40	150	60	0.6	200	.69	.36
2N2906A	TO-18	40	150	60	0.6	200	.46	.25
2N3485A	TO-46	40	150	60	0.6	200	5.00	3.80
2N3250A	TO-18	50	10	60	0.2	250	.85	.54
MM5005	TO-39	50	150	60	2.0	30	1.12	.75
2N2905A	TO-39	100	150	60	0.6	200	.71	.39
2N2907A	TO-18	100	150	60	0.6	200	.49	.29
2N3251A	TO-18	100	10	60	0.2	300	1.10	.74
2N3486A	TO-46	100	150	60	0.6	200	6.00	4.60
2N4404	TO-39	40	150	80	1.0	200	8.25	5.85
MM5006	TO-39	50	200	80	2.0	30	1.35	.90
2N4405	TO-39	50	250	100	2.0	30	1.73	1.15
MM5007	TO-39	50	250	100	2.0	30	1.73	1.15

MOTOROLA Semiconductors

Silicon Transistors

SMALL-SIGNAL, PLASTIC-PACKAGED TRANSISTORS

GENERAL PURPOSE TRANSISTORS

Motorola Type	Case	h_{FE} at I_C		Min. BV$_{CEO}$ Volts	Max. I_C A	Min. f_T MHz	Net Each	
		Min.	mA				1-99	100-999
				NPN				
MPS6560	TO-92	50	500	25	0.5	60	$0.48	$0.32
MPS6514	TO-92	50	10	25	0.2	200	.46	.33
MPS5172	TO-92	100	10	25	0.1	.....	.19	.12
2N4124	TO-92	120	2.0	25	0.3	300	.35	.23
MPS6515	TO-92	250	2.0	25	0.1	480	.44	.32
2N4123	TO-92	50	2.0	30	0.2	250	.34	.20
MPS6513	TO-92	90	2.0	30	0.1	330	.44	.32
MPS2222	TO-92	100	150	30	0.6	250	.32	.20
MPS3704	TO-92	100	50	30	0.6	100	.34	.29
MPSA20	TO-92	40	5.0	40	0.1	125	.26	.16
2N4400	TO-92	50	150	40	0.6	200	.56	.36
2N3903	TO-92	50	10	40	0.2	250	.47	.30
MPS6531	TO-92	100	150	40	0.6	.....	.52	.37
2N4401	TO-92	100	150	40	0.6	250	.72	.46
2N3904	TO-92	100	10	40	0.2	300	.49	.35
MPSA05	TO-92	50	100	60	0.5	100	.48	.28
MPS8098	TO-92	100	1.0	60	0.2	150	.35	.25
MPSA06	TO-92	50	100	80	0.5	100	.50	.29
MPS8099	TO-92	100	1.0	80	0.2	150	.39	.27
				PNP				
MPS6562	TO-92	50	500	25	0.5	60	$0.54	$0.36
MPS6518	TO-92	50	10	25	0.2	200	.59	.36
2N4126	TO-92	120	2.0	25	0.3	300	.35	.23
MPS6519	TO-92	250	2.0	25	0.1	480	.71	.45
2N4125	TO-92	50	2.0	30	0.2	250	.34	.21
MPS6517	TO-92	90	2.0	30	0.1	330	.54	.35
MPS2907	TO-92	100	150	30	0.6	250	.39	.23
MPS3702	TO-92	100	50	30	0.6	100	.34	.28
MPSA70	TO-92	50	5.0	40	0.1	125	.30	.19
2N4402	TO-92	50	150	40	0.6	200	.56	.36
2N3905	TO-92	50	10	40	0.2	250	.50	.32
MPS6534	TO-92	100	150	40	0.6	.....	.55	.39
2N4403	TO-92	100	150	40	0.6	250	.72	.46
2N3906	TO-92	100	10	40	0.2	300	.52	.37
MPSA55	TO-92	50	100	60	0.5	100	.52	.33
MPS8598	TO-92	100	300	60	0.2	150	.37	.26
MPSA56	TO-92	50	100	80	0.5	100	.60	.37
MPS8599	TO-92	100	1.0	80	0.2	150	.41	.28

LOW-NOISE TRANSISTORS

Motorola Type	Case	h_{FE} at I_C		Min. BV$_{CEO}$ Volts	Typ. NF dB	Max. f_T MHz	Net Each	
		Min.	mA				1-99	100-999
				NPN				
2N5210	TO-92	250	10	5.0	2.0	30	$0.72	$0.48
2N4124	TO-92	120	2.0	25	5.0	300	.35	.23
MPS6520	TO-92	200	2.0	25	3.0	390	.49	.36
MPS6521	TO-92	300	2.0	25	3.0	390	.54	.38
2N5089	TO-92	400	10	25	2.0	50	.72	.46
2N4123	TO-92	50	2.0	30	6.0	250	.34	.20
2N5088	TO-92	100	300	30	3.0	50	.50	.36
MPS8097	TO-92	250	0.1	40	2.0	200	.72	.46
MPSA18	TO-92	500	10	45	1.5	100	.72	.46
MPSA09	TO-92	100	0.1	50	1.4	30	.54	.36
2N5209	TO-92	150	10	50	3.0	30	.66	.44
				PNP				
2N4126	TO-92	120	2.0	25	4.0	250	$0.35	$0.23
MPS6522	TO-92	200	2.0	25	3.0	340	.52	.37
MPS6523	TO-92	300	2.0	25	3.0	340	.58	.39
2N4125	TO-92	50	2.0	30	5.0	200	.34	.21
MPS4250	TO-92	250	10	40	2.0	250	.30	.21
2N5086	TO-92	100	150	50	3.0	40	.50	.36
2N5087	TO-92	250	10	50	2.0	40	.60	.40
MPS4249	TO-92	100	10	60	3.0	100	.25	.18
MPS4250A	TO-92	250	0.1	60	2.0	250	.32	.23

HIGH-SPEED, SATURATED-SWITCHING TRANSISTORS

Motorola Type	Case	Min. BV$_{CEO}$ Volts	h_{FE} at I_C		Maximum V_{CE} (sat) @ I_C		Net Each	
			Min.	mA	Volts	mA	1-99	100-999
				NPN				
2N4265	TO-92	12	100	10	0.22	10	$0.54	$0.36
MPS3013	TO-92	15	15	300	0.5	300	.41	.27
MPS706	TO-92	15	20	10	0.6	10	.45	.30
MPS706A	TO-92	15	20	10	0.6	10	.63	.42
MPS3646	TO-92	15	30	30	0.2	30	.28	.17
2N4264	TO-92	15	40	10	0.22	10	.48	.32
MPS2369	TO-92	15	40	10	0.25	10	.53	.35
MPS835	TO-92	....	20	10	0.3	10	.60	.40
MPS834	TO-92	....	25	10	0.25	10	.52	.35
				PNP				
2N5228	TO-92	5.0	30	10	0.4	10	$0.28	$0.19
MPS4257	TO-92	6.0	30	50	0.15	10	.37	.23
MPS3639	TO-92	6.0	30	10	0.16	10	.26	.16
MPS3640	TO-92	12	30	10	0.2	10	.29	.18
MPS4258	TO-92	12	30	50	0.15	10	.35	.22
2N5771	TO-92	15	50	10	0.18	10	.43	.27

UHF/VHF AMPLIFIERS

Motorola Type	Case	Min. BV$_{CEO}$ Volts	Max. NF at f		Max. C_{cb} pF	Min. f_T MHz	Net Each	
			dB	MHz			1-99	100-999
				NPN				
MPS3563	TO-92	12	.....	.....	1.7	600	$0.28	$0.17
2N5222	TO-92	15	.....	.....	1.3	450	.24	.16
MPS918	TO-92	15	6	60	1.7	600	.83	.55
MPSH17	TO-92	15	6	200	0.9	800	.68	.45
MPSH31	TO-92	20	6	45	0.65	300	.51	.34
MPSH30	TO-92	20	6	45	0.65	300	.51	.34
MPS6539	TO-92	20	4.5	100	0.7	500	.60	.40
MPS8001	TO-92	25	.....	.....	0.65#	100	.45	.25
MPSH19	TO-92	25	.....	.....	0.65	300	.45	.31
MPS6546	TO-92	25	.....	.....	0.35#	600	1.24	.83
MPS6547	TO-92	25	.....	.....	0.35#	600	1.35	.90
MPSH10	TO-92	25	.....	.....	0.65‡	650	.49	.33
MPSH11	TO-92	25	.....	.....	0.7	650	.54	.36
MPS6543	TO-92	25	.....	.....	1.0	750	1.32	.88
MPSH32	TO-92	30	3.3	45	0.22#	300	.63	.42
MPS6540	TO-92	30	.....	.....	0.65	350	.63	.42
MPSH20	TO-92	30	.....	.....	0.65	400	.59	.39
MPSH24	TO-92	30	.....	.....	0.36	400	.62	.41
MPSH07	TO-92	30	3.2	100	0.3‡	400	.68	.46
MPSH08	TO-92	30	3.5	200	0.3‡	500	.73	.51
MPSH33	TO-92	30	6.5	850	0.3‡	600	.95	.65
MPSH37	TO-92	40	.....	.....	0.7#	300	.51	.34
MPS3693	TO-92	45	.....	.....	0.2#	200	.31	.20
MPS3694	TO-92	45	4.0	1	0.2#	200	.35	.22
MPSH34	TO-92	45	.....	.....	0.32	500	.65	.44
MPSH04	TO-92	80	2.0	1	1.6	80	.38	.24
MPSH05	TO-92	80	2.0	1	1.6	80	.32	.21
				PNP				
MPSH81	TO-92	20	.....	.....	0.65‡	600	$0.45	$0.30
2N5208	TO-92	25	3.0	100	1.0	300	.54	.36
MPSH85	TO-92	30	6.5	200	0.2‡	350	1.05	.70
MPSH83	TO-92	30	6.5	850	0.3‡	600	1.15	.75
MPSH54	TO-92	80	2.0	1	1.6	80	.40	.27
MPSH55	TO-92	80	.....	.....	1.6	80	.38	.25

#Typical. ‡C_{ce}.

HIGH-VOLTAGE TRANSISTORS

Motorola Type	Case	h_{FE} at I_C		Min. BV$_{CEO}$ Volts	Max. I_C A	Min. f_T MHz	Net Each	
		Min.	mA				1-99	100-999
				NPN				
MPSL01	TO-92	20	30	100	0.05	40	$0.54	$0.33
MPSD03	TO-92	50	10	100	0.05	60	.84	.40
MPSD02	TO-92	20	30	140	0.05	40	.86	.41
2N5550	TO-92	60	10	140	0.6	100	.58	.36
2N5551	TO-92	80	10	160	0.6	100	.62	.38
MPSD01	TO-92	20	30	200	0.1	40	.97	.46
MPSA43	TO-92	40	10	200	0.5	50	.68	.42
2N6515	TO-92	50	30	250	0.5	40	.65	.44
MPSA42	TO-92	40	10	300	0.5	50	.76	.46
2N6516	TO-92	45	30	300	0.5	40	.68	.45
2N6517	TO-92	40	30	350	0.5	40	.72	.47
				PNP				
MPSD53	TO-92	20	30	100	0.05	40	$0.84	$0.40
MPSL51	TO-92	40	50	100	0.6	60	.61	.42
2N5400	TO-92	40	10	120	0.6	100	.75	.50
MPSD52	TO-92	20	30	140	0.05	40	.88	.42
2N5401	TO-92	60	10	150	0.6	100	.89	.60
MPSD51	TO-92	20	30	200	0.1	40	.99	.47
MPSA93	TO-92	40	10	200	0.5	50	.53	.35
2N6518	TO-92	50	30	250	0.15	40	.68	.45
MPSA92	TO-92	40	10	300	0.5	50	.58	.38
2N6519	TO-92	45	30	300	0.5	40	.72	.47
2N6520	TO-92	30	30	350	0.5	40	.76	.49

DARLINGTON TRANSISTORS

Motorola Type	Case	Min. BV$_{CEO}$ Volts	h_{FE} at I_C		Min. f_T MHz	Max. I_C mZ	Net Each	
			Min.	mA			1-99	100-999
				NPN				
MPSA12	TO-92	20	20K	10	......	500	$0.58	$0.35
MPSD04	TO-92	25	1K	100	100	300	.88	.42
MPSA13	TO-92	30	10K	100	125	500	.42	.29
MPSA14	TO-92	30	20K	100	125	500	.51	.31
				PNP				
MPSA62	TO-92	20	20K	10	......	500	$0.58	$0.36
MPSD54	TO-92	25	1K	100	100	300	.99	.47
MPSA63	TO-92	30	10K	100	125	500	.42	.30
MPSA64	TO-93	30	20K	100	125	500	.51	.32
MPSA65	TO-92	30	50K	10	100	300	.57	.38

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

CURRENT PRICES WILL APPLY ON ALL LINES

SMALL SIGNAL HERMETIC TRANSISTORS

SILICON DUAL TRANSISTORS

Devices listed in descending order of magnitude of h$_{FE}$.

LOW NOISE—HIGH GAIN AMPLIFIERS

Motorola Type	Case	Polarity	BV$_{CEO}$ V	DC Current Gain Ratio h$_{FE}$^{1}/h$_{FE}$^{2}	Net Ea., Lots 1-99	100-999
2N2919	654	NPN	60	0.9/1.0 10%	$4.70	$3.60
2N2920*	654	NPN	60		5.25	3.50
2N3810	654	PNP	60		8.60	6.60
2N3811	654	PNP	60		9.45	7.25
2N2639	654	NPN	40	0.9/1.0 10%	2.60	2.00
2N2642	654	NPN	40		3.55	2.75
2N2915	654	NPN	40		7.05	4.70
2N2916	654	NPN	40		7.15	5.50
2N3808	654	PNP	60	0.8/1.0 20%	6.25	4.80
2N3809	654	PNP	60		6.75	5.20
2N2913	654	NPN	40	0.8/1.0 > or unmatched 20%	2.70	1.80
2N2914	654	NPN	40		3.00	2.00
2N3806	654	PNP	60		5.20	4.00
2N3807	654	PNP	60		5.75	4.40

GENERAL PURPOSE AMPLIFIERS AND SWITCHES

Motorola Type	Case	Polarity	BV$_{CEO}$ V	DC Current Gain Ratio h$_{FE}$^{1}/h$_{FE}$^{2}	Net Ea., Lots 1-99	100-999
2N2060*	654	NPN	60	0.9/1.0 10%	$4.10	$2.75
2N2903A	654	NPN	30		7.20	4.80
MD3250A†	654	PNP	40		8.45	6.50
MD3251A†	654	PNP	40		8.45	6.50
2N2480A	654	NPN	40	0.8/1.0 20%	5.70	3.80
2N2652	654	NPN	60		6.10	4.70
2N2903	654	NPN	30		5.85	3.90
2N4938	654	PNP	40		5.70	3.80
MD2218†	654	NPN	30	0.8/1.0 > or unmatched 20%	6.75	4.50
MD2219†	654	NPN	30		7.95	5.30
MD2905†	654	PNP	40		7.95	5.30
MD3251†	654	PNP	40		7.50	5.75
2N5793	654	NPN	40		5.65	3.25
2N5794	654	NPN	40		6.60	4.40
2N5795	654	PNP	60		5.65	3.25
2N5796	654	PNP	60		6.60	4.40
2N4854*	654	‡	40	....	6.50	5.00
MD6001†	654	‡	30	....	7.15	5.50
MD6002†	654	‡	30	....	7.80	6.00

HIGH SPEED SWITCHES, HIGH FREQUENCY OSCILLATORS

Motorola Type	Case	Polarity	BV$_{CEO}$ V	DC Current Gain Ratio h$_{FE}$^{1}/h$_{FE}$^{2}	Net Ea., Lots 1-99	100-999
MD708A†	654	NPN	15	0.9/1.0 10%	$5.59	$4.35
MD918A†	654	NPN	15		8.45	6.50
MD2369A†	654	NPN	15		7.15	5.50
MD708B†	654	NPN	15	0.8/1.0 20%	4.80	3.20
MD918B	654	NPN	15		6.50	5.00
MD708†	654	NPN	15	0.8/1.0 > or unmatched 20%	3.38	2.60
MD918†	654	NPN	15		5.20	4.00
MD2369†	654	NPN	15		5.85	3.90

*JAN and JANTX types available. †For Case 610, add suffix F; prices on request. ‡Complementary pairs; one NPN/one PNP.

UNIJUNCTION TRANSISTORS—UJT

Motorola Type	Case	Intrinsic Standoff Ratio	Max. I$_P$ μA	Min. I$_V$ mA	Max. P$_D$ mW	Net Ea., Lots 1-99	100-999
MU10	29	0.50–0.85	5.0	1.0	300	$0.40	$0.30
MU20	22	0.56–0.85	2.0	1.0	300	.50	.35
2N2646	22	0.56–0.75	5.0	4.0	300	1.00	.67
2N2647	22	0.68–0.82	2.0	8.0	300	1.90	1.26
2N3980	22	0.68–0.82	2.0	0.01	360	3.40	2.25
2N4851	22	0.56–0.75	2.0	2.0	300	.97	.65
2N4852	22	0.70–0.85	2.0	4.0	300	.97	.65
2N4853	22	0.70–0.85	0.4	6.0	300	2.25	1.50
2N4870	29	0.56–0.75	5.0	2.0	300	.75	.50
2N4871	29	0.70–0.85	5.0	4.0	300	.68	.45
MU4891	29	0.55–0.82	5.0	2.0	300	.90	.60
MU4892	29	0.51–0.69	2.0	2.0	300	1.15	.77
MU4893	29	0.55–0.82	2.0	2.0	300	.96	.64
MU4894	29	0.74–0.86	1.0	2.0	300	1.05	.70
2N4948*	22	0.55–0.82	2.0	2.0	360	.85	.57
2N4949*	22	0.74–0.86	1.0	2.0	360	2.40	1.60
2N5431†	22	0.72–0.80	0.4	2.0	300	3.50	2.35

*JAN and JANTX types available. †JAN type available.

PROGRAMMABLE UNIJUNCTION TRANSISTORS—PUT

I$_P$ and I$_V$ at R$_G$ = 1 meg. V$_O$ = 6.0 V min. V$_F$ = 1.5 V at I$_F$ = 50 mA. t$_r$ = 80 nsec. T$_J$ = −50° C to +100° C except as otherwise noted.

Motorola Type	Case	Maximum I$_P$ μA	I$_V$ μA	P$_D$ mW	I$_T$ (pulse) A	Net Ea., Lots 1-99	100-999
MPU131	29	2.0	50	375	2.0	$0.71	$0.47
MPU132	29	0.3	50	375	2.0	.84	.53
MPU133	29	0.15	25	375	2.0	.90	.58
2N6027	29	2.0	50	375	5.0	.79	.53
2N6028	29	0.15	25	375	5.0	1.00	.65
2N6116*	22	2.0	50	250	2.0	1.35	.90
2N6117*	22	0.3	50	250	2.0	2.16	1.44
2N6118*	22	0.15	25	250	2.0	2.78	1.85

*T$_J$ = −50° C to +125° C.

NPN-PNP SILICON QUAD TRANSISTORS

Each quad transistor contains four similar transistors that can be used to reduce space requirements. Listed in order of decreasing BV$_{CEO}$ (min.). NPN except as otherwise noted.

PLASTIC DUAL-IN-LINE (CASE 646)

Motorola Type	BV$_{CEO}$ V	h$_{FE}$ at I$_C$ Min.	mA	Maximum t$_{on}$ ns	t$_{off}$ ns	Min. f$_T$ MHz	Net Ea., Lots 1-99	100-999
MPQ3799*	60	300	0.1	....	......	60	$2.95	$2.20
MPQ3467*	40	20	500	40	90	250	3.80	2.85
MPQ3725	40	25	500	35	60	250	3.70	2.75
MPQ2483	40	150	1.0	......	......	50	2.70	2.00
MPQ3798*	40	150	0.1	......	......	60	2.80	2.10
MPQ2484	40	300	1.0	......	......	50	2.80	2.10
MPQ6001†	30	40	150	30‡	225‡	200	3.60	2.50
MPQ6002†	30	100	150	30‡	225‡	200	3.80	2.65
MPQ3303	12	40	300	15	20	400	4.50	3.75

CERAMIC DUAL-IN-LINE (CASE 632)

Motorola Type	BV$_{CEO}$ V	h$_{FE}$ at I$_C$ Min.	mA	Maximum t$_{on}$ ns	t$_{off}$ ns	Min. f$_T$ MHz	Net Ea., Lots 1-99	100-999
MHQ2907*	60	100	150	30‡	100‡	350	$ 7.80	$6.00
MHQ3799*	60	300	0.1	....	......	325	8.80	6.75
MHQ2906*	40	40	150	30‡	100‡	350	7.15	5.50
MHQ2221	40	40	150	30	225	350	7.15	5.50
MHQ2222	40	100	150	25	250	350	7.80	6.00
MHQ3798*	40	150	0.1	......	......	325	8.15	6.25
MHQ6100†	40	75	1.0	......	......	175§	8.15	6.25
MHQ3467*	40	20	500	40	120	......	10.40	8.00
MHQ6001†	30	40	150	......	......	400	7.15	5.50
MHQ6002†	30	100	150	......	......	400	7.80	6.00
MHQ2483	25	150	1.0	......	......	175	9.40	7.25
MHQ2369	15	40	10	9‡	15‡	550	7.45	5.75
MHQ3546*	12	25	50	15‡	25‡	1000	8.45	6.50

FLAT PACK (CASE 607)

Motorola Type	BV$_{CEO}$ V	h$_{FE}$ at I$_C$ Min.	mA	Maximum t$_{on}$ ns	t$_{off}$ ns	Min. f$_T$ MHz	Net Ea., Lots 1-99	100-999
MQ2905A*	60	100	150	45	130	225	$27.75	18.50*
MQ3799*	60	300	0.1	......	......	130	27.75	18.50*
MQ930	45	150	1.0	......	......	70	24.00	14.00*
2N5146*	40	20	1000	40	120	200	26.25	17.50*
MQ3467*	40	20	500	40	120	200	27.75	18.50*
MQ3725	40	30	500	45	75	300	25.50	19.00*
MQ2219A	40	100	150	60	350	270	27.75	18.50*
MQ2904*	40	40	150	......	130	225	24.75	16.50*
MQ3251*	40	100	10	......	......	350	26.25	17.50*
MQ2218	30	40	150	60	350	220	24.00	16.00*

*PNP; all other types NPN. †Complementary. ‡Typical. §NPN; 130 MHz, PNP. *100–499 Quantity; 500–999 prices on request.

NPN-PNP SILICON RF TRANSISTORS

For communications and general amplifier applications. Listed in order of increasing test frequency; then in order of increasing output power rating, within each price break-out tables.

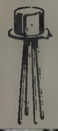
NPN RF POWER AMPLIFIERS

Motorola Type	Case	Test Conditions f at V$_{CC}$ MHz	V	Min. P$_{out}$ W	Min. BV$_{CBO}$ V	Net Each, Lots of 1-99	100-499
MRF8004	TO-39	27	12.5	3.5	60	$ 1.90	$1.65
2N6367	211-01	30	12.5	9.0*	18	9.75	8.50
2N6370	211-01	30	28	10.0*	65	8.00	7.00
2N5847	145A-01	50	12.5	8.0	36	9.70	8.45
2N6255	TO-39	175	12.5	3.0	36	2.75	2.40*
2N5589	144B-03	175	13.6	3.0	36	4.60	4.00
2N6080	145A-01	175	12.5	4.0	36	5.45	4.75
2N5641	144B-03	175	28	7.0	65	4.90	4.25
2N5590	145A-01	175	13.6	10	36	6.30	5.50
2N6081	145A-01	175	12.5	15	36	8.60	7.50
2N3948	TO-39	400	13.6	1.0	36	2.00	1.75*
2N5635	144B-03	400	28	2.5	60	4.95	4.30
2N6256	249-01	470	12.5	0.5	36	3.57	3.10
2N5644	145A-01	470	12.5	1.0	36	7.20	6.25*
2N5944	244-01	470	12.5	2.0	36	7.50	6.50
MM8009♯	TO-39	1000	28	0.9	55	2.30	2.00
2N5070	TO-60	30	28	25*	65	13.80	12.00
2N6368	211-01	30	12.5	40*	36	24.75	21.50
2N5941	211-01	30	28	40*	65	16.70	14.50
2N5848	145A-01	50	12.5	20	48	13.80	12.00
2N5849	145A-01	50	12.5	40	48	19.50	17.00
2N5642	145A-01	175	28	20	65	12.00	10.40
2N6082	145A-01	175	12.5	25	36	11.25	9.80
2N5591	145A-01	175	13.6	25	36	10.35	9.00
2N6083	145A-01	175	12.5	30	36	12.95	11.25
2N5643	145A-01	175	28	40	65	20.70	18.00
2N6084	145A-01	175	12.5	40	36	13.75	12.65*
MRF208	145A-01	220	12.5	10	36	10.20	8.85
MRF209	145A-01	220	12.5	25	36	12.35	10.75
2N5636	144B-03	400	28	7.5	60	11.95	10.40
2N5637	145A-01	400	28	20	60	20.70	18.00
MRF5177	215	400	28	30	60	20.00	17.50
2N5945	244-01	470	12.5	4.0	36	10.90	9.50
2N5946	244-01	470	12.5	10	36	13.20	11.50

*PEP. §Tripler. ♯Also UHF and Microwave oscillators.
*100-999 Quantity.

MOTOROLA Semiconductors

FIELD EFFECT TRANSISTORS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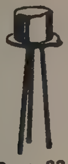
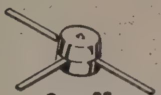

Case 22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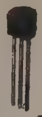
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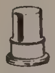
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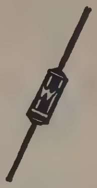
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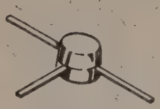
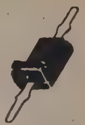

Case 176


Case 226

RF AMPLIFIERS AND MIXERS

Listed in order of decreasing specified test frequency; increasing power gain and noise figure.

N-CHANNEL J FETs DEPLETION

Motorola Type	Case	f_T MHz	Minimum		Max. C_{rss} pF	Net Ea., Lots	
			G_{ps} dB	NF dB		1-99	100-999
2N4416	20	400	10	4.0	0.8	$1.05	$0.72
MFE2000	20	400	10	4.0	1.0	.90	.60
MFE2001	20	400	10	4.0	1.0	1.00	.70
2N4223	20	200	10	5.0	2.0	1.05	.75
2N4224	20	200	......	......	2.0	1.05	.75
2N3823*	20	100	......	2.5	2.0	1.10	.80

PLASTIC N-CHANNEL J FETs DEPLETION

Motorola Type	Case	f_T MHz	G_{ps} dB	NF dB	Max. C_{rss} pF	1-99	100-999
2N5486†‡	29	400	10	4.0	1.0	$0.51	$0.35
2N5485†‡	29	400	10	4.0	1.0	.51	.35
2N5484‡	29	100	16	3.0	1.0	.50	.34
2N5668	29	100	16	2.5	3.0	.90	.61
2N5669	29	100	16	2.5	3.0	.84	.56
2N5670	29	100	16	2.5	3.0	.90	.61
MPF102‡	29	100	......	......	3.0	.45	.30
MPF108	29	100	......	3.0	2.5	.97	.65

N-CHANNEL MOS FETs DEPLETION/ENHANCEMENT

Motorola Type	Case	f_T MHz	G_{ps} dB	NF dB	Max. C_{rss} pF	1-99	100-999
MFE3005	20	400	10	4.5	0.2	$6.75	$4.50
3N140†	20	200	16	4.5	0.03	1.45	.95
MFE3004	20	200	16	4.5	0.2	1.80	1.20

*JAN type available. †Dual gate. ‡Also general purpose amplifier.

CHOPPERS

Listed in order of decreasing $V_{(BR)GSS}$, increasing $r_{ds(on)}$, then in order of increasing C_{rss} and I_{DSS}.

N-CHANNEL J FETs DEPLETION (CASE 22)

Motorola Type	Min. $V_{(BR)GSS}$ V	Maximum		Min. I_{DSS} mA	Net Ea., Lots	
		$r_{ds(on)}$ Ohms	C_{rss} pF		1-99	100-999
2N4856A	−40	25	4.0	50	$1.40	$0.90
2N4856	−40	25	8.0	50	1.30	.85
2N4391	−40	30	3.5	50	1.05	.75
2N4091	−40	30	5.0	30	1.05	.75
2N3970	−40	30	6.0	50	1.50	1.05
2N4857A	−40	40	3.5	20	1.40	.90
2N4857	−40	40	8.0	20	1.30	.85
2N4092	−40	50	5.0	15	1.05	.70
2N4392	−40	60	3.5	25	1.05	.75
2N4858A	−40	60	3.5	8	1.40	.90
2N3971	−40	60	6.0	25	1.35	.90
2N4858	−40	60	8.0	8	1.30	.85
2N4093	−40	80	5.0	8	1.10	.75
2N4393	−40	100	3.5	5	1.15	.80
2N3972	−40	100	6.0	5	1.35	.90
2N4859A	−30	25	4.0	50	1.40	.90
2N4859	−30	25	8.0	50	1.30	.85
2N4860A	−30	40	3.5	20	1.40	.90
2N4860	−30	40	8.0	20	1.30	.85
MFE2005	−30	50	5.0	15	1.85	1.25
2N4861A	−30	60	3.5	8	1.40	.90
2N4861	−30	60	8.0	8	1.30	.85
MFE2004	−30	80	5.0	8	2.25	1.50
MFE2012	−25	10	20.0	100	6.00	4.00
MFE2011	−25	15	20.0	40	5.25	3.50
MFE2010	−25	25	20.0	15	4.50	3.00
MPF4391♯	−30	30	3.5	60	.80	.56
2N5638♯	−30	30	4.0	50	.53	.43
2N5653♯	−30	50	3.5	40	.50	.40
MPF4392♯	−30	60	3.5	25	.70	.50
2N5639♯	−30	60	4.0	25	.48	.38
MPF4393♯	−30	100	3.5	5	.80	.56
2N5654♯	−30	100	3.5	15	.48	.38
2N5640♯	−30	100	4.0	5	.53	.43
2N5555*♯	−25	150	1.2	15	.90	.65

*High speed, $t_{(on)} = 10$ ns max. ♯Plastic, Case 29.

GENERAL PURPOSE AMPLIFIERS

Listed in order of increasing gate-source breakdown voltage, decreasing zero-gate voltage drain current, and forward transfer admittance.

N-CHANNEL J FETs DEPLETION

Motorola Type	Case	Min. V♯	Minimum-Maximum		Net Ea., Lots	
			I_{DSS} mA	y_{fs} µmhos	1-99	100-999
2N4222*	20	30	5.0–14	2500–6000	$ 0.95	$0.68
2N4222A*	20	30	5.0–15	2500–6000	1.05	.75
2N4221*	20	30	2.0–6.0	2000–5000	.95	.68
2N4221A*	20	30	2.0–6.0	2000–5000	1.05	.75
2N4220*	20	30	0.5–3.0	1000–4000	.90	.65
2N4220A*	20	30	0.5–3.0	1000–4000	1.05	.75
3N126†	20	50	3.0–9.0	1200–3600	3.00	2.00
3N125†	20	50	1.5–4.5	800–2400	3.00	2.00
3N124†	20	50	0.2–2.0	500–2000	3.00	2.00

PLASTIC N-CHANNEL J FETs DEPLETION

Motorola Type	Case	Min. V♯	Minimum-Maximum		Net Each, Lots of		
			I_{DSS} mA	y_{fs} µmhos	1-99	100-999	1000-4999
2N5459	29	25	4.0–16	2000–6000	$0.50	$0.33	......
2N5458	29	25	2.0–9.0	1500–5500	.45	.30	......
2N5457	29	25	1.0–5.0	1000–5000	.45	.30	......
2N3797	22	±30	2.0–6.0	1500–3000	3.45	2.30	......
MFE3001	20	±30	0.5–6.0	700–3500	2.25	1.50	......
2N3796	22	±30	0.5–3.0	900–1800	3.45	2.30	......

N-CHANNEL MOS FETs DEPLETION/ENHANCEMENT

Motorola Type	Case	Min. V♯	I_{DSS} mA	y_{fs} µmhos	1-99	100-999	1000-4999
3N128	20	−50	5.0–25	5000–12000	$1.35	$0.90	......

P-CHANNEL J FETs DEPLETION

Motorola Type	Case	Min. V♯	I_{DSS} mA	y_{fs} µmhos	1-99	100-999	1000-4999
2N3909A	20	20	1.0–15	2200–5000	$1.50	$1.00	......
2N3909	20	20	0.3–15	1000–5000	1.00	.75	......
2N3330‡	20	25	0.3–15	1500–3000	.85	.65	......
2N3993	20	25	10 min.	6000–12000	2.90	2.05	......
2N3994	20	25	2.0 min.	4000–10000	2.60	1.90	......
MFE4012	20	40	7.0–14	2500–5000	3.20	2.15	......
MFE4011	20	40	4.0–8.0	2200–4500	2.90	1.95	......
MFE4008	20	40	0.8–1.6	1000–3000	3.20	2.15	......
MFE4007	20	40	0.5–1.0	900–2700	4.05	2.70	......
2N5270	20	60	7.0–14	2500–5000	3.75	2.50	......
2N5269	20	60	4.0–8.0	2200–4500	3.45	2.30	......
2N5268	20	60	2.5–5.0	2000–4000	3.30	2.20	......
2N5267	20	60	1.5–3.0	1500–3500	3.45	2.30	......
2N5266	20	60	0.8–1.6	1000–3000	3.75	2.50	......
2N5265	20	60	0.5–1.0	900–2700	4.65	3.10	......

*Also General-Purpose Switches. †Tetrode connected; also General-Purpose Switches. ‡JAN type available. ♯$V_{(BR)GSS}$.

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

YOU NEED ONLY ONE TELEPHONE NUMBER FOR YOUR ELECTRONICS NEEDS.

MOTOROLA Semiconductors

MICROWAVE DEVICES, TRANSISTORS AND DIODES

DUAL EPICAP TUNING DIODE

C_T diode capacitance at $V_R = 3.0$ V, f = 1.0 MHz. C_R capacitance ratio C_3/C_{30}, f = 1.0 MHz. Q at 3.0 V, 100 MHz.

Motorola Type	Case	C_T ±10% pF	Cap. Ratio	Q Min.	Net Ea., Lots of 1-99	Net Ea., Lots of 100-999
MV104	29	36	2.5	100	$0.89	$0.61
MV104G	29	40	2.5	100	.89	.61
MV109	226	29	5.0	280#	1.15	.75
MV209	226	29	5.0	200#	1.10	.70
BB105B	226	2.2*	4.5	225	1.13	.90
BB105G	226	2.3*	4.0	150	.78	.50
BB105A	226	2.6*	4.0	225	1.05	.85

*At 25 volts. #At 50 MHz.

EPICAP TUNING DIODES

C_T at $V_R = 4.0$ V, f = 1.0 MHz. Q at $V_R = 4.0$ V, f = 50 MHz.

Nom. C_T pF	Motorola Type	Cap. Ratio Min.	Q Min.	Max. V_R VDC	Motorola Type	Cap. Ratio Min.	Q Min.	Max. V_R VDC
	Case 51				**Case 45**			
1.0	**MVI-2097**	2.0	325†	30	**MV1858D**	2.1	350†	60
2.2	**MVI-2098**	2.0	325†	30	**MV1860D**	2.5	350†	60
3.3	**MVI-2099**	2.2	300†	30	**MV1862D**	2.6	300†	60
4.7	**MVI-2100**	2.4	275†	30	**MV1863D**	2.6	300†	60
6.8	**MVI-2101**	2.7	275†	30	**MV1864D**	2.7	300†	60
8.2	**MVI-2102**	2.8	275†	30	**MV1865D**	2.7	300†	60
10	**MVI-2103**	2.8	275†	30	**MV1866D**	2.8	250†	60
12	**MVI-2104**	2.8	275†	30	**MV1868D**	2.8	200†	60
15	**MVI-2105**	2.9	275†	30	**MV1870D**	2.8	200†	60
18	**MVI-2106**	2.9	250†	30				
22	**MVI-2107**	2.9	200†	30				
27	**MVI-2108**	2.7	200†	30				
33	**MVI-2109**	2.7	200†	30				
	Case 51				**Case 51**			
6.8	**1N5139, A**	2.7	350	60				
10	**1N5140, A**	2.8	300	60	**MV1866**	3.0	500	60
12	**1N5141, A**	2.8	300	60	**MV1868**	3.0	500	60
15	**1N5142, A**	2.8	250	60	**MV1870**	3.0	400	60
18	**1N5143, A**	2.8	250	60	**MV1871**	3.0	400	60
22	**1N5144, A**	3.2	200	60	**MV1872**	3.2	400	60
27	**1N5145, A**	3.2	200	60	**MV1874**	3.2	300	60
33	**1N5146, A**	3.2	200	60	**MV1876**	3.2	300	60
39	**1N5147, A**	3.2	200	60	**MV1877**	3.2	300	60
47	**1N5148, A**	3.2	200	60	**MV1878**	3.2	300	60
	Case 51				**Case 51**			
6.8	**1N5461A**	2.7	600	30	**1N5441A**	2.5	450	30
8.2	**1N5462A**	2.8	600	30	**1N5442A**	2.5	450	30
10	**1N5463A**	2.8	550	30	**1N5443A**	2.6	400	30
12	**1N5464A**	2.8	550	30	**1N5444A**	2.6	400	30
15	**1N5465A**	2.8	550	30	**1N5445A**	2.6	400	30
18	**1N5466A**	2.9	500	30	**1N5446A**	2.6	350	30
20	**1N5467A**	2.9	500	30	**1N5447A**	2.6	350	30
22	**1N5468A**	2.9	500	30	**1N5448A**	2.6	350	30
27	**1N5469A**	2.9	500	30	**1N5449A**	2.6	350	30
33	**1N5470A**	2.9	500	30	**1N5450A**	2.6	350	30
39	**1N5471A**	2.9	450	30	**1N5451A**	2.6	300	30
47	**1N5472A**	2.9	400	30	**1N5452A**	2.6	250	30
56	**1N5473A**	2.9	300	30	**1N5453A**	2.6	200	30
68	**1N5474A**	2.9	250	30	**1N5454A**	2.7	175	30
82	**1N5475A**	2.9	225	30	**1N5455A**	2.7	175	30
100	**1N5476A**	2.9	200	30	**1N5456A**	2.7	175	30
	Case 51				**Case 51**			
6.8	**MV1620**	2.0	300	20	**MV2101**	2.5	450	30
8.2	**MV1622**	2.0	300	20	**MV2102**	2.5	450	30
10	**MV1624**	2.0	300	20	**MV2103**	2.5	400	30
12	**MV1626**	2.0	300	20	**MV2104**	2.5	400	30
15	**MV1628**	2.0	250	20	**MV2105**	2.5	400	30
18	**MV1630**	2.0	250	20	**MV2106**	2.5	350	30
20	**MV1632**	2.0	250	20				
22	**MV1634**	2.0	250	20	**MV2107**	2.5	350	30
27	**MV1636**	2.0	200	20	**MV2108**	2.5	300	30
33	**MV1638**	2.0	200	20	**MV2109**	2.5	200	30
39	**MV1640**	2.0	200	20	**MV2110**	2.5	150	30
47	**MV1642**	2.0	200	20	**MV2111**	2.5	150	30
56	**MV1644**	2.0	150	20	**MV2112**	2.6	150	30
68	**MV1646**	2.0	150	20	**MV2113**	2.6	150	30
82	**MV1648**	2.0	150	20	**MV2114**	2.6	100	30
100	**MV1650**	2.0	150	20	**MV2115**	2.6	100	30
	Case 51				**Case 51**			
15	**MV830**	1.8	30	30				
18	**MV831**	1.8	25	30				
22	**MV832**	1.8	25	30				
27	**MV833**	1.8	25	30				
33	**MV834**	1.9	20	30				
39	**MV835**	1.9	20	30				
47	**MV836**	1.9	15	30				
56	**MV837**	1.9	15	30				
68	**MV838**	2.0	15	30				
82	**MV839**	2.0	10	30				
100	**MV840**	2.0	10	30				
	Case 51				**Case 146**			
120	**MV1404**	10	200#	12	**MV1652**	2.6	250*	20
150	**MV1403**	10	200#	12	**MV1654**	2.6	250*	20
180					**MV1656**	2.6	200*	20
200					**MV1658**	2.6	200*	20
220					**MV1660**	2.6	150*	20
250	**MV1405**	10	200#	12	**MV1662**	2.3	150*	20
270					**MV1664**	2.3	100*	20
330					**MV1666**	2.3	100*	20
550	**MV1401**	14	200#	12				

†At 100 MHz. *At 20 MHz. #At 1 MHz.

NPN-PNP MICRO-T PLASTIC TRANSISTORS (CASE 28)

Micro-T package 0.085″ dia. injection-molded plastic package for applications requiring high component mounting density. More detailed information available on request.

GENERAL PURPOSE AND SWITCHING TRANSISTORS

Motorola Type	Max. V_{CEO} V	Oper. h_{FE} Range	Typ. f_T MHz	Typ. t_{on} @ I_C nsec	Typ. t_{on} @ I_C mA	Net Ea., Lots 1-99	Net Ea., Lots 100-999
			NPN				
MMT76	40	100 μA to 100 mA	300	40*	10	$0.49	$0.39
MMT3903						1.13	.90
MMCM3903•						7.70	5.70
MMT3904						1.25	.90
MMCM3904•						7.85	5.80
MMY2222	60	100 μA to 500 mA	300	25†	150	1.19	.95
MMCM2222•						7.50	5.80
			PNP				
MMT75	40	100 μA to 100 mA	350	45‡	10	$0.58	$0.46
MMT3905						1.13	.90
MMCM3905•						8.15	6.05
MMT3906						1.25	1.00
MMCM3906•						8.30	6.15
MMT2907	60	100 μA to 500 mA	350	30§	150	1.44	1.15
MMCM2907•						7.65	5.85

•Case 176 hermetically sealed ceramic. *$t_{off} = 140$ nsec. †$t_{off} = 250$ nsec. ‡$t_{off} = 160$ nsec. §$t_{off} = 100$ nsec.

RF AMPLIFIER AND SWITCHING TRANSISTORS

			NPN				
MMT3960	3	1–30 mA	2250	3	10	$4.06	$3.25
MMT8006	8	.01–10 mA	2200			4.75	4.15
MMT8007						4.35	3.95
MMT8008						4.00	3.40
MMT5031	14	1–5 mA	2000			3.00	2.50
MMT5031A						3.75	3.25
MMT2857	15	1–20 mA	1400			1.80	1.43
MMT2857A						2.50	2.00
			PNP				
MMT918	15	3	600			$1.25	$1.00
MMT4261	15	10	1000			5.00	4.00

LOW CURRENT SWITCHING

			NPN				
MMT72	20	10 mA to 100 mA	650	2	10	$0.61	$0.49
MMT3014						1.90	1.52
MMT2369	15	10 mA to 100 mA	650	2	10	1.38	1.10
MMCM2369						7.40	5.70
			PNP				
MMT3546	12	10 mA	850	15	50	$2.25	$1.80

LOW NOISE/HIGH GAIN TRANSISTORS

Motorola Type	Max. V_{CEO} V	Oper. h_{FE} Range	Typ. f_T MHz	Typical NF at I_C dB	Typical NF at I_C μA	Net Ea., Lots 1-99	Net Ea., Lots 100-999
			NPN				
MMT70	60	100 μA to 10 mA	90	2.0	10	$0.50	$0.40
MMT930						.94	.75
MMCM930•						7.38	5.70
MMT2484						1.06	.85
MMCM2484•						7.49	5.75
			PNP				
MMT71	60	10 μA to 10 mA	140	1.5	100	$0.54	$0.43
MMT3798						1.88	1.50
MMCM3798•						8.25	6.10
MMT3799						2.19	1.75
MMCM3799•						8.40	6.20

•Case 176 hermetically sealed ceramic.

EPICAP PRICES

Motorola Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999	Motorola Type	Net Ea., Lots 1-99	Net Ea., Lots 100-999
1N5139 — 1N5148	$3.60	$2.50	**MV830 — MV840**	$1.35	$0.95
1N5139A— 1N5148A	4.25	3.00	**MV1401— MV1405**	8.95	6.30
1N5441A— 1N5456A	3.10	2.00	**MV1620— MV1650**	1.42	1.00
1N5441B— 1N5456B	3.75	2.70	**MV1652— MV1666**	3.60	2.55
1N5441C— 1N5456C	4.50	3.30	**MV1866— MV1878**	10.40	8.00
1N5461A— 1N5476A	6.00	4.40	**MV1858D— MV1870D**	10.40	8.00
1N5461B— 1N5476B	7.80	5.20	**MV2101— MV2115**	.90	.60
1N5461C— 1N5476C	10.00	7.20	**MVI-2097— MVI-2109**	1.44	.96

MOTOROLA Semiconductors OPTOELECTRONIC DEVICES

Case 81A

Case 82
TO-18

Case 209

Case 210

Case 29
TO-92

Case 673

Case 234
Actual Size

OPTOELECTRONIC DEVICES

OPTICAL COUPLERS/ISOLATORS

Motorola Type	Case	Isol. Volts	Trans. Ratio % Min.	Min. BV_{CEO} Volts	Net Ea., Lots 1-99	Net Ea., Lots 100-999
TRANSISTOR OUTPUT						
4N25	673	2500	20	30	**$1.75**	**$1.30**
4N25A	673	2500	20	30	**1.85**	**1.40**
4N26	673	1500	20	30	**1.25**	**.95**
4N27	673	1500	10	30	**1.15**	**.90**
4N28	673	500	10	30	**1.00**	**.75**
4N38	673	1500	20	80	**1.60**	**1.30**
4N38A	673	2500	20	80	**1.75**	**1.40**
MOC1005	673	5000	20	30	**1.60**	**1.30**
MOC1006	673	5000	10	30	**1.30**	**1.05**
DARLINGTON TRANSISTOR OUTPUT						
4N29	673	2500	100	30	**$1.75**	**$1.30**
4N29A	673	2500	100	30	**1.85**	**1.40**
4N30	673	1500	100	....	**1.50**	**1.25**
4N31	673	1500	50	30	**1.30**	**1.05**
4N32	673	2500	500	30	**1.80**	**1.50**
4N32A	673	2500	500	30	**2.00**	**1.65**
4N33	673	1500	500	30	**1.75**	**1.30**
MOC119	673	1500	300	30	**1.00**	**.75**
MOC8030	673	1500	300	80	**1.75**	**1.30**
MOC8050	673	1500	500	80	**1.75**	**1.30**

INFRARED EMITTING DIODES

Infrared (900 nM typ. peak emission wavelength) gallium arsenide emitters provide high power output in light modulators, shaft or position encoders, punched card and tape readers, optical switching and logic circuits. They are spectrally matched for use with silicon detectors.

Motorola Type	Case	Power Output at I_F µW (Typ.)	Power Output at I_F mA	Forward Voltage V_F(Typ.)	Net Ea., Lots 1-99	Net Ea., Lots 100-999
MLED60	234	550	50	1.2	**$0.62**	**$0.51**
MLED92	29	150	50	1.2	**.38**	**.31**
MLED90	234	350	50	1.2	**.58**	**.47**
MLED910	81A	150	50	1.2	**3.60**	**2.50**
MLED930	209	650	100	1.2	**3.50**	**2.40**

AS NEW MOTOROLA TYPES ARE DEVELOPED WE WILL HAVE THEM IN STOCK FOR IMMEDIATE DELIVERY

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

PIN SILICON PHOTODIODES

Designed for application in laser detection, light demodulation, detection of radiation from visible and near infrared LEDs, shaft or position encoders, switching and logic circuits or any design requiring radiation sensitivity and stable characteristics. High speed devices with response time of less than 1.0 ns typical. Dark current = 2.0 nA max. at $V_R = 20$ V; response time = 1.0 ns typ.

Motorola Type	Case	Lens	H = 2.0 mW/cm² Sensitivity µA/mW/cm²	H = 2.0 mW/cm² Light Current	Net Ea., Lots 1-99	Net Ea., Lots 100-999
MRD500	209	Convex	1.2 min.	6.0 µA min.	**$10.90**	**$7.55**
MRD510	210	Flat	0.3 min.	1.5 µA min.	**9.90**	**6.85**

NPN SILICON PHOTOTRANSISTORS

H is radiation flux density emitted from a tungsten source at 2870 K.

HIGH DENSITY PHOTOTRANSISTORS

Subminiature NPN silicon phototransistors designed for use in card and tape readers, pattern and character recognition equipment, shaft encoders or any design requiring radiation sensitivity, stable characteristics and high stability. Light current at H = 20 mW/cm².

Motorola Type	Case	Min. Light Current mA	Max. Dark Current nA	Typ. t_s µs	Net Each, Lots of 1-99	Net Each, Lots of 100-999
MRD601	81A	0.5	25	4.8	**$3.45**	**$2.30**
MRD602	81A	2.0	25	4.8	**3.60**	**2.40**
MRD603	81A	4.0	25	4.8	**3.80**	**2.60**
MRD604	81A	7.0	25	4.8	**4.10**	**2.75**

*At H = 5.0 mW/cm²; sensitivity = 0.04 mA/mW/cm² at H = 5.0 mW/cm². †V_{CC} = 20 V; all others V_{CC} = 30 V. ‡Maximum.

LOW DENSITY PHOTOTRANSISTORS

NPN silicon phototransistors designed for use in industrial inspection, processing and control systems, counters, sorters, switching and logic circuits or any design requiring radiation sensitivity, stable characteristics and moderate mounting density in arrays or single device applications. Sensitivity and light current at H = 5.0 mW/cm²; dark current at V_{CC} = 20 V.

Motorola Type	Case	Sensitivity mA/mW/cm⁵ Min.	Dark Current nA Max.	Light Current mA Min.	Net Ea., Lots 1-99	Net Ea., Lots 100-999
MRD300*	82	0.8	25	4.0	**$2.50**	**$1.75**
MRD310*	82	0.2	25	1.0	**2.25**	**1.50**
MRD3050‡	82	0.02	100	0.1	**1.20**	**.80**
MRD3051‡	82	0.04	100	0.2	**1.35**	**.90**
MRD3054‡	82	0.125–0.5	100	.625–2.5	**1.95**	**1.35**
MRD3055‡	82	0.3	100	1.5	**1.45**	**.95**
MRD3056‡	82	0.4	100	2.0	**1.65**	**1.10**

*Maximum Switching Time: 6.5 µs; †11 µs; ‡5.5 µs typical.

SILICON PHOTO DARLINGTON AMPLIFIERS

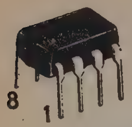
Designed for use where extremely high sensitivity is required. Plastic side reading devices are the most economical detectors available. Sensitivity and light current at H = 2.0 mW/cm²; dark current at H = 0. Switching time, 400 µsec.

Motorola Type	Case	Sensitivity mA/mW/cm² Typ.	Dark Current nA Max.	Light Current mA Typ.	Net Ea., Lots 1-99	Net Ea., Lots 100-999
2N5777	29	2.0	100	4.0	**$0.60**	**$0.50**
2N5778	29	2.0	100	4.0	**.70**	**.55**
2N5779	29	4.0	100	8.0	**1.00**	**.70**
2N5780	29	4.0	100	8.0	**1.20**	**.80**
MRD14B	29	1.0	100	2.0	**.55**	**.40**
MRD360	82	....	100	20	**3.35**	**2.25**
MRD370	82	....	100	10	**2.95**	**1.95**

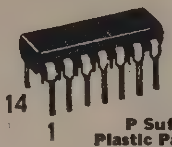
MOTOROLA Semiconductors

CMOS Integrated Circuits

McMOS™ MC14000 SERIES COMPLEMENTARY MOS

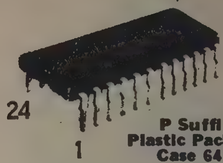


**P Suffix
Plastic Package
CASE 626**

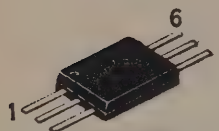


**P Suffix
Plastic Package
Case 646**

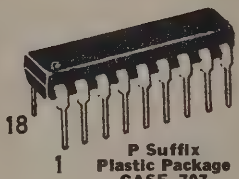
**P Suffix
Plastic Package
Case 648**



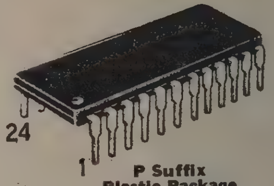
**P Suffix
Plastic Package
Case 649**



**P Suffix
Plastic Package
CASE 704**



**P Suffix
Plastic Package
CASE 707**



**P Suffix
Plastic Package
CASE 709**

Output logic excursion is independent of fan out; diode protection on all inputs. Temperature, voltage and package descriptions are given in table below. All devices are available in chip form. Types with **B** in part number conform to the JEDEC B-Series specifications. Listed units in ceramic packages are in Case 620 unless otherwise noted; plastic packages are in Case 648 unless otherwise noted.

SUFFIX LETTER DESIGNATORS

Suffix	Description	Suffix	Description
AL	3 to 18 V, −55° C to +125° C, ceramic package	**EFL**	3 to 18 V, −55° C to +125° C, ceramic package
CL	3 to 18 V, −40° C to +85° C, ceramic package	**FL**	3 to 18 V, −40° C to +85° C, ceramic package
CP	3 to 18 V, −40° C to +85° C, plastic package	**FP**	3 to 18 V, −40° C to +85° C, plastic package
L	Limited voltage range, limited temperature range, ceramic package	**EVL**	3 to 6 V, −55° C to +125° C, ceramic package
P	Limited voltage range, limited temperature range, plastic package	**VL**	3 to 6 V, −40° C to +85° C, ceramic package
		VP	3 to 6 V, −40° C to +85° C, plastic package
		Z	Limited voltage range, limited temperature range, leadless ceramic package

Motorola Type	Function	Suffix	Net Each, Lots of			Suffix	Net Each, Lots of			Suffix	Net Each, Lots of		
			1-24	25-99	100-999		1-24	25-99	100-999		1-24	25-99	100-999
MC14000	Dual 3-input NOR gate/inverter	-AL†	$0.68	$0.56	$0.47	-CL†	$0.57	$0.47	$0.39	-CP▲	$0.38	$0.31	$0.26
MC14001	Quad 2-input NOR gate	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14001B		-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14002	Dual 4-input NOR gate	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14002B		-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14006	18-bit static shift register	-AL†	3.26	2.70	2.25	-CL†	2.72	2.25	1.88	-CP▲	1.81	1.50	1.25
MC14006B		-AL†	3.26	2.70	2.25	-CL†	2.72	2.25	1.88	-CP▲	1.81	1.50	1.25
MC14007	Dual comp. pair plus inverter	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14007B		-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14008	4-bit full adder	-AL	2.66	2.20	1.84	-CL	2.22	1.84	1.53	-CP	1.48	1.22	1.02
MC14008B		-AL	2.66	2.20	1.84	-CL	2.22	1.84	1.53	-CP	1.48	1.22	1.02
MC14011	Quad 2-input NAND gate	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14011B		-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14012	Dual 4-input NAND gate	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14012B		-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14013B	Dual D flip-flop	-AL†	1.57	1.30	1.08	-CL†	1.30	1.08	.90	-CP▲	.87	.72	.60
MC14014B	8-bit static shift register	-AL	2.90	2.39	2.00	-CL	2.41	2.00	1.66	-CP	1.61	1.33	1.11
MC14015B	Dual 4-bit static shift register	-AL	2.90	2.39	2.00	-CL	2.41	2.00	1.66	-CP	1.61	1.33	1.11
MC14016B	Quad ana. switch/multiplexer	-AL†	1.57	1.30	1.08	-CL†	1.30	1.08	.90	-CP▲	.87	.72	.60
MC14017B	Decade counter/divider	-AL	2.90	2.39	2.00	-CL	2.41	2.00	1.66	-CP	1.61	1.33	1.11
MC14018B	Preset. divide by N counter	-AL	2.90	2.39	2.00	-CL	2.41	2.00	1.66	-CP	1.61	1.33	1.11
MC14020B	14-bit binary counter	-AL	3.08	2.56	2.12	-CL	2.57	2.12	1.77	-CP	1.71	1.42	1.18
MC14021B	8-bit static shift register	-AL	2.90	2.39	2.00	-CL	2.41	2.00	1.66	-CP	1.61	1.33	1.11
MC14022B	Octal counter/divider	-AL	2.72	2.25	1.87	-CL	2.26	1.87	1.56	-CP	1.51	1.25	1.04
MC14023	Triple 3-input NAND gate	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14023B		-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14024B	7-stage ripple counter	-AL†	2.16	1.80	1.49	-CL†	1.81	1.49	1.24	-CP▲	1.20	1.00	.83
MC14025	Triple 3-input NOR gate	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14025B		-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14027B	Dual J-K flip-flop	-AL	1.57	1.30	1.08	-CL	1.30	1.08	.90	-CP	.87	.72	.60
MC14028B	BCD-to-decimal decoder	-AL	2.56	2.14	1.76	-CL	2.13	1.76	1.47	-CP	1.42	1.18	.98
MC14032B	Triple serial adder (+ logic)	-AL	3.44	2.84	2.38	-CL	2.87	2.38	1.98	-CP	1.91	1.58	1.32
MC14034B	8-bit univ. bus register	-AL‡	6.34	5.26	4.37	-CL‡	5.29	4.37	3.65	-CP•	3.52	2.92	2.43
MC14035B	4-bit shift register	-AL	3.44	2.84	2.38	-CL	2.87	2.38	1.98	-CP	1.91	1.58	1.32
MC14038B	Triple serial adder (− logic)	-AL	3.44	2.84	2.38	-CL	2.87	2.38	1.98	-CP	1.91	1.58	1.32
MC14040B	12-bit binary counter	-AL	2.90	2.39	2.00	-CL	2.41	2.00	1.66	-CP	1.61	1.33	1.11
MC14042B	Quad latch	-AL	2.34	1.94	1.62	-CL	1.96	1.62	1.35	-CP	1.30	1.08	.90
MC14043B	Quad NOR R-S latch	-AL	2.90	2.39	2.00	-CL	2.41	2.00	1.66	-CP	1.61	1.33	1.11
MC14044B	Quad NAND R-S latch	-AL	2.72	2.25	1.87	-CL	2.26	1.87	1.56	-CP	1.51	1.25	1.04
MC14046B	Phase locked loop	-AL	4.18	3.46	2.88	-CL	3.48	2.88	2.40	-CP	2.32	1.92	1.60
MC14049B	Hex inverter/buffer	-AL	1.62	1.33	1.12	-CL	1.35	1.12	.93	-CP	.90	.74	.62
MC14050B	Hex buffer	-AL	1.62	1.33	1.12	-CL	1.35	1.12	.93	-CP	.90	.74	.62
MC14051B	8-channel analog multiplexer	-AL	2.16	1.80	1.48	-CL	1.81	1.49	1.24	-CP	1.20	1.00	.83
MC14052B	Dual 4-ch. analog multiplexer	-AL	2.16	1.80	1.48	-CL	1.81	1.49	1.24	-CP	1.20	1.00	.83
MC14053B	Triple 2-ch. analog multiplexer	-AL	2.16	1.80	1.48	-CL	1.81	1.49	1.24	-CP	1.20	1.00	.83
MC14066	Quad analog switch	-AL	1.82	1.51	1.26	-CL	1.52	1.26	1.05	-CP	1.01	.84	.70
MC14066B		-AL†	1.82	1.51	1.26	-CL†	1.52	1.26	1.05	-CP▲	1.01	.84	.70

COMPLEMENTARY CMOS LISTING CONTINUED ON FOLLOWING PAGE

MOTOROLA Semiconductors

CMOS Integrated Circuits

McMOS™ MC 14000 SERIES COMPLEMENTARY MOS (Cont'd)

Motorola Type	Function	Suffix	Net Each, Lots of			Suffix	Net Each, Lots of			Suffix	Net Each, Lots of		
			1-24	25-99	100-999		1-24	25-99	100-999		1-24	25-99	100-999
MC14068B	8-input NAND gate	-AL†	$0.68	$0.56	$0.47	-CL†	$0.57	$0.47	$0.39	-CP▲	$0.38	$0.31	$0.26
MC14069B	Hex inverter	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14070B	Quad Exclusive-OR gate	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14071	Quad 2-input OR gate	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14071B		-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC10072B	Dual 4-input OR gate	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14073B	Triple 3-input AND gate	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14075B	Triple 3-input OR gate	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14076B	Quad D type register	-AL	3.26	2.70	2.25	-CL	2.72	2.25	1.88	-CP	1.81	1.50	1.25
MC14077B	Quad Exclusive-NOR gate	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14078B	8-input NOR gate	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14081	Quad 2-input AND gate	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14081B		-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14082B	Dual 4-input AND gate	-AL†	.68	.56	.47	-CL†	.57	.47	.39	-CP▲	.38	.31	.26
MC14093B	Quad 2-in. NAND Schmitt trig.	-AL†	1.37	1.15	.94	-CL†	1.14	.96	.78	-CP▲	.76	.64	.52
MC14160B	Decade counter (asyn. clear)	-AL	3.08	2.56	2.12	-CL	2.57	2.12	1.77	-CP	1.71	1.42	1.18
MC14161B	Binary counter (asyn. clear)	-AL	3.08	2.56	2.12	-CL	2.57	2.12	1.77	-CP	1.71	1.42	1.18
MC14162B	Decade counter (syn. clear)	-AL	3.08	2.56	2.12	-CL	2.57	2.12	1.77	-CP	1.71	1.42	1.18
MC14163B	Binary counter (syn. clear)	-AL	3.08	2.56	2.12	-CL	2.57	2.12	1.77	-CP	1.71	1.42	1.18
MC14174B	Hex D flip-flop	-AL	3.12	2.59	2.16	-CL	2.61	2.16	1.80	-CP	1.74	1.44	1.20
MC14175B	Quad D flip-flop	-AL	2.88	2.38	1.98	-CL	2.39	1.98	1.65	-CP	1.60	1.32	1.10
MC14194B	4-bit univ. shift register	-AL	3.26	2.70	2.25	-CL	2.72	2.25	1.88	-CP	1.81	1.50	1.25
MC14408	Binary-to-phone pulse conv.	-L	15.09	12.50	10.41	-P	10.06	8.33	6.94	......	......	......	......
MC14409	Binary-to-phone pulse conv.	-L	15.09	12.50	10.41	-P	10.06	8.33	6.94	......	......	......	......
MC14410	2-of-8 tone encoder	-L	13.92	11.52	9.60	-P	9.28	7.68	6.40	......	......	......	......
MC14411	Bit rate generator	-L‡	17.40	14.40	12.00	-P•	11.60	9.60	8.00	......	......	......	......
MC14412	Low speed MODEM	-FL	27.57	22.89	19.31	-FP	18.38	15.26	12.87	-VL	21.21	17.61	14.85
		-VP	14.14	11.74	9.90	......	......	......	......	......	......	......	......
MC14415	Quad timer/driver	-EFL	18.27	15.12	12.60	-FL	15.22	14.18	10.50	-FP	10.15	8.40	7.00
		-EVL	13.70	11.34	9.45	-VL	11.42	9.45	7.87	-VP	7.61	6.30	5.25
MC14419	2-of-8 keypad-to-binary enc.	-L	4.89	4.05	3.38	-P	3.26	2.70	2.25	......	......	......	......
MC14422	Remote control transmitter	-P	8.67*	7.17	6.10	......	......	......	......	......	......	......	......
MC14433	3½ digit A/D converter	-L‡	21.37	17.73	14.95	-P•	14.25	11.82	9.97	......	......	......	......
MC14435	3½ digit A/D logic subsystem	-EFL	14.27	11.81	9.85	-FL	11.90	9.84	8.21	-FP	7.93	6.56	5.47
		-EVL	10.71	8.86	7.38	-VL	8.93	7.38	6.15	-VP	5.95	4.92	4.10
MC14440	LCD watch/clock circuit	-L§	19.86	15.60	13.00	-Z⌶	14.50	12.00	10.00	......	......	......	......
MC14450	Oscillator 2^{16} divider	-L#	5.43	4.50	3.75	-P■	3.62	3.00	2.50	......	......	......	......
MC14451	Oscillator/divider/buffer	-L	5.43	4.50	3.75	-P	3.62	3.00	2.50	......	......	......	......
MC14490	Hex contact bounce eliminator	-EFL	11.74	9.72	8.10	-FL	9.78	8.10	6.75	-FP	6.52	5.40	4.50
		-EVL	8.80	7.29	6.07	-VL	7.34	6.08	5.01	-VP	4.89	4.05	3.37
MC14501	Triple gate	-AL	.68	.56	.47	-CL	.57	.47	.39	-CP	.38	.31	.26
MC14502B	Strobed hex inverter/buffer	-AL	3.08	2.56	2.12	-CL	2.57	2.12	1.77	-CP	1.71	1.42	1.18
MC14503B	Hex 3-state buffer	-AL	2.09	1.73	1.44	-CL	1.74	1.44	1.20	-CP	1.16	.96	.80
MC14506B	Dual exp. AND/OR/invert gate	-AL	1.28	1.06	.88	-CL	1.07	.88	.74	-CP	.71	.59	.49
MC14507	Quad Exclusive-OR gate	-AL†	1.78	1.50	1.22	-CL†	1.48	1.22	1.02	-CP▲	.99	.82	.68
MC14508B	Dual 4-bit latch	-AL§	7.70	6.37	5.31	-CL§	6.42	5.31	4.42	-CP•	4.28	3.54	2.95
MC14510B	BCD up/down counter	-AL	3.08	2.56	2.12	-CL	2.57	2.12	1.77	-CP	1.71	1.42	1.18
MC14511B	BCD-7-seg. latch/dec./driver	-AL	4.36	3.60	3.01	-CL	3.63	3.01	2.51	-CP	2.42	2.00	1.67
MC14512	8-channel data selector	-AL	2.56	2.14	1.76	-CL	2.13	1.76	1.47	-CP	1.42	1.18	.98
MC14513B	BCD-7-seg. latch/dec./driver	-AL♦	6.52	5.40	4.50	-CL♦	5.44	4.50	3.75	-CP⁑	3.62	3.00	2.50
MC14514B	4/16 line decoder (high)	-AL§	9.12	7.56	6.30	-CL§	7.61	6.30	5.25	......	......	......	......
MC14515B	4/16 line decoder (low)	-AL§	9.12	7.56	6.30	-CL§	7.61	6.30	5.25	-CP•	5.07	4.20	3.50
MC14516B	Binary up/down counter	-AL	3.08	2.56	2.12	-CL	2.57	2.12	1.77	-CP	1.71	1.42	1.18
MC14517B	Dual 64-bit static shift reg.	-AL	15.59	12.89	10.75	-CL	12.98	10.75	8.95	-CP	8.66	7.16	5.97
MC14518B	Dual BCD up counter	-AL	3.08	2.56	2.12	-CL	2.57	2.12	1.77	-CP	1.71	1.42	1.18
MC14519B	4-bit AND/OR selector	-AL	1.64	1.37	1.13	-CL	1.37	1.13	.94	-CP	.91	.76	.63
MC14520B	Dual binary up counter	-AL	3.08	2.56	2.12	-CL	2.57	2.12	1.77	-CP	1.71	1.42	1.18
MC14521B	24-stage frequency divider	-AL	5.62	4.55	3.87	-CL	4.68	3.87	3.22	-CP	3.12	2.53	2.15
MC14522B	BCD divide by N counter	-AL	3.08	2.56	2.12	-CL	2.57	2.12	1.77	-CP	1.71	1.42	1.18
MC14526B	Binary divide by N counter	-AL	3.08	2.56	2.12	-CL	2.57	2.12	1.77	-CP	1.71	1.42	1.18
MC14527B	BCD rate multiplier	-AL	5.62	4.55	3.87	-CL	4.68	3.87	3.22	-CP	3.12	2.53	2.15
MC14528B	Dual monostable multivibrator	-AL	3.26	2.70	2.25	-CL	2.72	2.25	1.88	-CP	1.81	1.50	1.25
MC14529B	Dual 4-channel multiplexer	-AL	3.62	3.01	2.50	-CL	3.02	2.50	2.09	-CP	2.02	1.67	1.39
MC14530B	Dual 5-input maj. logic gate	-AL	1.62	1.33	1.12	-CL	1.35	1.12	.93	-CP	.90	.74	.62
MC14531B	12-bit parity tree	-AL	2.90	2.39	2.00	-CL	2.41	2.00	1.66	-CP	1.61	1.33	1.11
MC14532B	8-bit parity encoder	-AL	4.54	3.76	3.13	-CL	3.78	3.13	2.61	-CP	2.52	2.09	1.74
MC14534B	Real time 5-decade counter	-AL§	16.31	13.50	11.25	-CL§	13.59	11.22	9.38	-CP•	9.06	7.50	6.25
MC14536B	Programmable timer	-AL	10.85	8.98	7.48	-CL	9.05	7.49	6.24	-CP	6.03	4.99	4.16
MC14538B	Dual monostable multivibrator	-AL	4.00	3.33	2.75	-CL	3.33	2.75	2.29	-CP	2.22	1.84	1.53
MC14539B	Dual 4-channel multiplexer	-AL	2.90	2.39	2.00	-CL	2.41	2.00	1.66	-CP	1.61	1.33	1.11
MC14541B	Oscillator/timer	-AL†	3.62	3.01	2.50	-CL†	3.02	2.50	2.09	-CP▲	2.02	1.67	1.39
MC14543B	BCD-7-seg. latch/dec./driver	-AL	5.06	4.19	3.49	-CL	4.22	3.49	2.91	-CP	2.81	2.33	1.94
MC14549B	Succ. approximation register	-AL	11.73	9.72	8.10	-CL	9.79	8.10	6.75	-CP	6.52	5.40	4.50
MC14553B	3-digit BCD counter	-AL	12.31	10.19	8.50	-CL	10.29	8.50	7.08	-CP	6.84	5.66	4.72
MC14554B	2 x 2 bit par. bin. multiplier	-AL	3.82	3.15	2.63	-CL	3.18	2.63	2.19	-CP	2.12	1.75	1.46
MC14555B	Dual binary to 1-of-4 decoder	-AL	1.81	1.51	1.26	-CL	1.52	1.26	1.05	-CP	1.01	.84	.70
MC14556B	Dual bin. to 1-of-4 dec. inv.	-AL	1.81	1.51	1.26	-CL	1.52	1.26	1.05	-CP	1.01	.84	.70
MC14557B	1-to-64 bit shift register	-AL	12.37	10.24	8.53	-CL	10.31	8.53	7.11	-CP	6.87	5.69	4.74
MC14558B	BCD-to-7-segment decoder	-AL	3.62	3.01	2.50	-CL	3.02	2.50	2.09	-CP	2.02	1.67	1.39
MC14559B	Succ. approximation register	-AL	11.73	9.72	8.10	-CL	9.79	8.10	6.75	-CP	6.52	5.40	4.50
MC14560B	NBCD adder	-AL	5.87	4.86	4.05	-CL	4.89	4.05	3.37	-CP	3.26	2.70	2.25
MC14561B	9's complementer	-AL†	2.03	1.69	1.40	-CL†	1.70	1.40	1.17	-CP▲	1.13	.94	.78
MC14562B	128-bit static shift register	-AL†	16.31	13.50	11.25	-CL†	13.59	11.25	9.33	-CP▲	9.06	7.50	6.25
MC14566B	Ind. time base generator	-AL	4.82	4.00	3.33	-CL	4.02	3.33	2.78	-CP	2.68	2.22	1.85
MC14568B	Phase comp./programmable counter	-AL	6.80	5.63	4.70	-CL	5.68	4.70	3.91	-CP	3.78	3.13	2.61
MC14572	Hex gate	-AL	.97	.79	.67	-CL	.80	.67	.56	-CP	.54	.44	.37
MC14580B	4 x 4 multiport register	-AL§	17.76	14.71	12.26	-CL§	14.81	12.26	10.22	-CP•	9.87	8.17	6.81
MC14581B	4-bit arith. logic unit	-AL§	7.43	6.16	5.13	-CL§	6.20	5.13	4.28	-CP•	4.13	3.42	2.95
MC14582B	Lookahead carry block	-AL	2.90	2.39	2.00	-CL	2.41	2.00	1.66	-CP	1.61	1.33	1.11
MC14583B	Schmitt trigger	-AL	2.54	2.09	1.74	-CL	2.11	1.75	1.45	-CP	1.41	1.16	.97
MC14584B	Hex Schmitt trigger	-AL†	1.37	1.15	.94	-CL†	1.14	.96	.78	-CP▲	.76	.64	.52
MC14585B	4-bit magnitude comparator	-AL	3.60	3.00	2.48	-CL	3.00	2.48	2.07	-CP	2.00	1.66	1.38

Minimum order quantity of 12. †Case 632. ‡Case 716. §Case 715. #Case 698. •Case 709. ■Case 704. ▲Case 646. ⌶Case 703. ♦Case 680. ⁑Case 707.

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MECL 10,000™ MC10,000 SERIES

Provides non-saturated switching for very high speed operation. MECL III™ is directly compatible with MECL 10,000 and can be used to extend the speed capability of the MECL 10,000 Series. Temperature −30° C to +85° C (MC10,000/MC10,200); −55° C to +125° C (MC10,500/MC10,600). $V_{CC}=0$ V; $V_{EE}= -5.2$ V; $T_A=25°$ C. **L** suffix denotes dual inline ceramic package (Case 620); most units also available in 648 and/or 650 package.

	Typical		−30° C to +85° C				−55° C to +125° C			
				Net Each, Lots of				Net Each, Lots of		
Function	t_{pd} nsec	P_D mW	**Motorola Type**	**1-24**	**25-99**	**100-999**	**Motorola Type**	**1-24**	**25-99**	**100-999**
Quad 2-input NOR w/strobe	.....	.....	MC10100L	$ 0.56	$ 0.52	$ 0.45	MC10500L	$ 2.70	$ 2.30	$ 2.00
Quad gate	2.0	100	MC10101L	.56	.52	.45	MC10501L	2.70	2.30	2.00
Quad 2-input gate	2.0	100	MC10102L	.56	.52	.45	MC10502L	2.70	2.30	2.00
Quad 2-input OR gate	.....	.....	MC10103L	.56	.52	.45	MC10503L	2.70	2.30	2.00
Quad AND gate	2.7	140	MC10104L	.56	.52	.45	MC10504L	2.70	2.30	2.00
Triple 2-3-2-input gate	2.0	75	MC10105L	.56	.52	.45	MC10505L	2.70	2.30	2.00
Triple 4-3-3-input gate	2.0	75	MC10106L	.56	.52	.45	MC10506L	2.70	2.30	2.00
Triple 2-input exclusive-OR/exclusive-NOR	2.5	110	MC10107L	.61	.56	.49	MC10507L	3.38	2.88	2.50
Dual 4-5-input OR-NOR gate	2.0	50	MC10109L	.56	.52	.45	MC10509L	2.70	2.30	2.00
Dual 3-input 3-output OR gate	2.4	150	MC10110L	.61	.56	.49	.....	.....	.....	.....
Dual 3-input 3-output NOR gate	2.4	150	MC10111L	.61	.56	.49	.....	.....	.....	.....
Quad exclusive-OR gate	.....	.....	MC10113L	.61	.56	.49	MC10513L	3.38	2.88	2.50
Triple line receiver	2.4	145	MC10114L	.61	.56	.49	MC10514L	3.38	2.88	2.50
Quad line receiver	2.0	100	MC10115L	.56	.52	.45	MC10515L	2.70	2.30	2.00
Triple line receiver	2.0	75	MC10116L	.56	.52	.45	MC10516L	2.70	2.30	2.00
Dual 2-wide 2-3-input OR-AND/ OR-AND-INVERT gate	2.3	100	MC10117L	.61	.56	.49	MC10517L	3.38 3.38	2.88 2.88	2.50 2.50
Dual 2-wide 3-input OR-AND gate	2.3	100	MC10118L	.61	.56	.49	MC10518L	3.38	2.88	2.50
4-wide 4-3-3-3-input OR-AND gate	2.3	100	MC10119L	.61	.56	.49	MC10519L	3.38	2.88	2.50
4-wide OR-AND/OR-AND-INVERT gate	2.3	100	MC10121L	.61	.56	.49	MC10521L	5.21	4.45	3.86
Triple 4-3-3 bus driver	.....	.....	MC10123L	1.24	1.14	.99	.....	.....	.....	.....
MTTL to MECL translator	5.0	340	MC10124L	2.41	2.22	1.93	MC10524L	5.21	4.45	3.86
MECL to MTTL translator	5.0	360	MC10125L	2.41	2.22	1.93	MC10525L	4.89	4.17	3.62
Bus driver	12.0	700	MC10128L	5.69	5.23	4.55	.....	.....	.....	.....
Bus receiver	10.0	725	MC10129L	5.69	5.23	4.55	.....	.....	.....	.....
Dual latch	2.5	160	MC10130L	2.26	2.08	1 81	MC10530L	6.72	5.73	4.98
Dual type D master-slave flip-flop	*	225	MC10131L	3.11	2.86	2.49	MC10531L	7.97	6.80	5.90
Dual multiplexer with latch and common reset	3.0	225	MC10132L	3.11	2.86	2.49	.....	.....	.....	.....
Quad latch	4.0	300	MC10133L	3.69	3.39	2.95	MC10533L	7.97	6.80	5.90
Multiplexer with latch	3.0	225	MC10134L	3.11	2.86	2.49	.....	.....	.....	.....
Dual J-K master-slave flip-flop	†	250	MC10135L	3.69	3.39	2.95	MC10535L	22.60	19.25	16.74
Universal hexadecimal counter	‡	585	MC10136L	10.46	9.63	8.37	MC10536L	22.60	19.25	16.74
Universal decade counter	‡	585	MC10137L	10.46	9.63	8.37	MC10537L	20.00	17.05	14.82
Bi-quinary counter	.....	.....	MC10138L	5.69	5.23	4.55	MC10538L	12.29	10.47	9.10
Four-bit universal shift register	§	400	MC10141L	9.26	8.52	7.41	MC10541L	7.91	6.74	5.86
8 x 2 multiport RAM	.....	.....	MCM10143L•	12.40	10.90	9.90	.....	.....	.....	.....
256-bit RAM	.....	.....	MCM10144L	11.15	9.80	8.90	.....	.....	.....	.....
64-bit RAM	.....	.....	MCM10145L	7.40	6.50	5.90	.....	.....	.....	.....
1024-bit RAM	.....	.....	MCM10146L	19.50	17.95	15.60	.....	.....	.....	.....
128-bit RAM	.....	.....	MCM10147L	11.50	10.15	9.20	.....	.....	.....	.....
1024-bit PROM	.....	.....	MCM10149L	27.50	24.20	22.00	.....	.....	.....	.....
Quad latch	.....	.....	MC10153L	3.66	3.37	2.93	MC10553L	7.91	6.74	5.86
Quad 2-input multiplexer	.....	.....	MC10158L	3.66	3.37	2.93	MC10558L	7.91	6.74	5.86
Quad 2-input multiplexer	.....	.....	MC10159L	3.66	3.37	2.93	.....	.....	.....	.....
12-bit parity generator checker	4.0	320	MC10160L	3.66	3.37	2.93	MC10560L	7.91	6.74	5.86
Binary to 1-of-8 decoder (low)	4.0	315	MC10161L	3.66	3.37	2.93	MC10561L	7.91	6.74	5.86
Binary to 1-of-8 decoder (high)	4.0	315	MC10162L	3.66	3.37	2.93	MC10562L	7.91	6.74	5.86
IBM code error detector	.....	.....	MC10163L	5.91	5.44	4.73	MC10563L	12.77	10.88	9.46
8-line multiplexer	3.0	300	MC10164L	3.66	3.37	2.93	MC10564L	7.91	6.74	5.86
8-input priority encoder	7.0	580	MC10165L	7.43	6.83	5.94	.....	.....	.....	.....
5-bit magnitude comparator	.....	.....	MC10166L	7.89	7.26	6.31	.....	.....	.....	.....
Quad latch	.....	.....	MC10168L	3.95	3.63	3.16	MC10568L	8.53	7.27	6.32
9 + 2-bit parity generator	.....	.....	MC10170L	3.66	3.37	2.93	MC10570L	7.91	6.74	5.86
Binary to 1-of-4 decoder	4.0	340	MC10171L	3.66	3.37	2.93	MC10571L			
Dual binary to 1-4 decoder	.....	.....	MC10172L	3.66	3.37	2.93	MC10572L	7.91	6.74	5.86
Quad 2-input multiplexer/latch	2.5	260	MC10173L	4.33	3.69	3.21	.....	.....	.....	.....
Dual 4-to-1 multiplexer	3.5	325	MC10174L	3.66	3.37	2.93	MC10574L	7.91	6.74	5.86
Quint latch	2.5	385	MC10175L	4.33	3.69	3.21	MC10575L	8.67	7.39	6.42
Hex D master-slave flip-flop	.....	.....	MC10176L	5.88	5.41	4.70	MC10576L	12.69	10.81	9.40
Triple MECL-NMO's translator	.....	.....	MC10177L	7.89	7.26	6.31	.....	.....	.....	.....
Binary counter	.....	.....	MC10178L	4.94	4.54	3.95	MC10578L	10.67	9.10	7.90
Look-ahead carry block	.....	285	MC10179L	4.13	3.80	3.30	.....	.....	.....	.....
Dual high speed adder/subtractor	4.5	340	MC10180L	11.10	10.21	8.88	MC10580L	23.98	20.43	17.76
4-bit ALU/function generator	.....	575	MC10181L•	18.51	17.03	14.87	MC10581L	40.15	34.20	29.74
2-bit arithmetic logic unit	.....	.....	MC10182L	15.88	13.52	11.76	MC10582L	31.75	27.05	23.52
4 x 2 multiplier	.....	.....	MC10183L•	30.84	28.37	24.67	.....	.....	.....	.....
Hex D master-slave flip-flop	.....	.....	MC10186L	8.63	7.94	6.90	MC10586L	18.63	15.87	13.80
Quad MST to MECL-10,000 gen.	.....	.....	MC10190L	4.20	3.86	3.36	MC10590L	9.07	7.73	6.72
Hex MECL-10,000 to MST gen.	.....	.....	MC10191L	4.20	3.86	3.36	MC10591L	9.07	7.73	6.72
Motorola code error detector	.....	.....	MC10193L	5.91	5.44	4.73	MC10593L	12.77	10.88	9.46
Dual simul. bus transceiver	.....	.....	MC10194L	2.59	2.21	1.92	MC10594L	6.08	5.18	4.50
Hex inverter/buffer	.....	.....	MC10195L	1.69	1.43	1.24	MC10595L	6.08	5.18	4.50
Hex AND gate	.....	.....	MC10197L	1.69	1.43	1.24	MC10597L	6.08	5.18	4.50
Dual 3-input 3-output OR gate	1.5	150	MC10210L	1.68	1.54	1.34	.....	.....	.....	.....
Dual 3-input 3-output NOR gate	1.5	150	MC10211L	1.68	1.54	1.34	.....	.....	.....	.....
Triple line receiver	1.8	100	MC10216L	1.68	1.54	1.34	MC10616L	4.39	3.74	3.25
Dual type D master-slave flip-flop	▲	285	MC10231L	4.82	4.45	3.86	MC10631L	10.42	8.88	7.72

*f = 160 MHz; †f = 140 MHz. ‡f = 150 MHz. §f = 200 MHz. #Access time = 10. •In dual inline ceramic package (Case 623); also available in dual inline plastic package (Case 649). ▲f = 225 MHz.

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

SEE OTHER MOTOROLA IC PAGES FOR CASE ILLUSTRATIONS

MOTOROLA Semiconductors DIGITAL INTEGRATED CIRCUITS

MECL III™ MC1600 SERIES

State-of-the-art, emitter coupled logic family with sub-nsec local propagation delays. Multilayer metalization for optimum performance. Compatible with MECL II and MECL 10,000™ Series. Temperature, 0° C to +75° C. $V_{CC}=0$ V; $V_{EE}=-5.2$ V; $T_A=25°$ C.

Function	Typical		Case 620				Case 650			
				Net Each, Lots of				Net Each, Lots of		
	t_{pd} nsec	P_D mW	Motorola Type	1-24	25-99	100-999	Motorola Type	1-24	25-99	100-999
Voltage controlled oscillator	▲	150	MC1648L■	$ 4.70	$ 3.90	$ 3.10	MC1648F§	$ 5.41	$ 4.49	$ 3.57
Dual A/D Comparator	3.5	275	MC1650L	19.80	15.90	14.00	MC1650F	21.80	17.90	16.00
Dual A/D Comparator	2.5	275	MC1651L	19.80	15.90	14.00	MC1651F	21.80	17.90	16.00
Binary counter (high Z)	Ɪ	750‡	MC1654L	64.80	54.00	43.20	......	......	......	......
Voltage controlled multivibrator	⁑	125	MC1658L♦	5.20	4.30	3.45	MC1658F	7.20	6.30	5.45
Dual 4-input OR-NOR gate (high Z)	1.1	120	MC1660L	11.25	9.40	7.50	MC1660F	12.75	10.44	8.50
Quad 2-input NOR gate (high Z)	1.1	240	MC1662L	11.25	9.40	7.50	MC1662F	13.35	10.92	8.90
Quad 2-input OR gate (high Z)	1.1	240	MC1664L	11.25	9.40	7.50	MC1664F	13.35	10.92	8.90
Dual clocked R-S flip-flop (high Z)	1.8	220	MC1666L	22.35	18.60	14.90	MC1666F	25.41	20.76	16.94
Dual clocked latch (high Z)	1.8	220	MC1668L	22.35	18.60	14.90	MC1668F	28.41	23.16	18.94
Master-slave type D flip-flop (high Z)	*	220	MC1670L	20.35	16.87	13.50	MC1670F	22.95	18.76	15.30
Triple 2-input exclusive-OR gate (high Z)	1.3	220	MC1672L	14.10	11.75	9.40	MC1672F	15.96	13.05	10.64
Triple 2-input exclusive-NOR gate (high Z)	1.3	220	MC1674L	14.10	11.75	9.40	MC1674F	15.96	13.05	10.64
Bi-quinary counter (high Z)	†	750‡	MC1678L	64.80	54.00	43.20	......	......	......	......
Dual 4-5 input OR/NOR gate	......	......	......	......	......	......	MC1688F	22.50	18.75	15.00
UHF prescaler type D flip-flop	*	200	MC1690L	26.53	23.34	19.95	MC1690F	30.51	26.84	22.95
Quad line receiver	1.1	220	MC1692L	11.25	9.40	7.50	MC1692F	13.25	11.40	9.50
4-bit shift register (high Z)	Ɪ	750‡	MC1694L	64.80	54.00	43.20	......	......	......	......
1 GHz divide-by-four prescaler	......	......	MC1697P#	17.00	14.00	9.97	......	......	......	......

*Toggle frequency = 350 MHz typ. †Max. operating frequency = 350 MHz typ. ‡Requires heat sink IERC LIC-14A2CB or equivalent. ▲Max. operating frequency = 225 MHz typ. ■Case 632; also available in Case 646. ♦Also available in Case 648. ƪMax. operating frequency = 325 MHz typ. ⁑Max. operating frequency = 150 MHz typ. #Case 626. §Case 607.

LSI MC8500 SERIES

Temperature range, 0° C to +75° C. Features include lower system costs, improved reliability, lower power drain and more compact system architecture.

Function	Motorola Type	Case	Net Each, Lots of			Motorola Type	Case	Net Each, Lots of		
			1-24	25-99	100-999			1-24	25-99	100-999
CRCC generator	MC8500L	623	$18.00	$16.40	$16.40	MC8500P	649	$16.40	$14.90	$14.90
Error pattern register	MC8501L	620	16.20	14.75	14.75	MC8501P	648	14.75	13.40	13.40
LRCC/data register	MC8502L	623	18.00	16.40	16.40	MC8502P	649	16.40	14.90	14.90
16-bit univ. polynomial gen.	MC8503L	632	11.10	10.10	9.60	MC8503P	646	10.60	9.20	8.75
4-bit univ. polynomial gen.	MC8504L	620	6.00	5.05	5.05	MC8504P	648	5.50	4.60	4.60
MOS dynamic memory refresh logic circuit	MC8505L	620	10.36	8.64	7.60	MC8505P	648	8.64	7.20	6.30
16-bit polynomial gen.	MC8506L	620	11.10	10.10	9.60	MC8506P	648	10.60	9.20	8.75
Priority inter. controller	MC8507L	623	10.75	9.35	8.60	MC8507P	649	9.60	8.20	7.50
Deskew/queue register	MC8520L	623	38.50	35.00	35.00	......	......	......	......	......
Priority inter. controller	MC6828L	623	10.75	9.35	8.60	MC6828P	649	9.60	8.20	7.50

MHTL™ MC660 SERIES

Feature outstanding noise immunity; provide error-free operation in high noise environments far beyond the tolerance of other IC families. Temperature −30° C to +75° C. $V_{CC}=15$ V ± 1.0 VDC; $T_A=25°$ C. MHTL ceramic dual inline devices are available with specification over the −55° C to +125° C temperature range and/or with hi-rel processing on special order. **L** suffix denotes dual inline ceramic package (Case 620, 632), **P** suffix denotes dual inline plastic package (Case 646, 648).

Function		Typical		Motorola Type	Net Each, Lots of		Motorola Type	Net Each, Lots of	
		t_{pd} nsec	P_D mW		1-99	100-999		1-99	100-999
Expandable dual 4-input gate	Active pullup	110	88/26*	MC660L	$1.70	$1.53	MC660P	$1.25	$1.13
	Passive pullup	125	88/26*	MC661L	1.70	1.53	MC661P	1.25	1.13
Expandable dual 4-input line driver		140	180/26*	MC662L	1.70	1.53	MC662P	1.25	1.13
Dual J-K flip-flop		3.0†	200	MC663L	2.88	2.59	MC663P	2.13	1.91
Master-slave R-S flip-flop		3.0†	160	MC664L	2.88	2.59	MC664P	2.13	1.91
Triple level translator		40	83‡	MC665L	1.70	1.53	MC665P	1.25	1.13
Triple level translator		75	105	MC666L	1.80	1.62	MC666P	1.35	1.22
Dual monostable multivibrator		140	240	MC667L	2.88	2.59	MC667P	2.13	1.91
Quad 2-input gate (passive pullup)		125	176/52*	MC668L	1.70	1.53	MC668P	1.25	1.13
Dual 4-input expander		......	......	MC669L	1.20	1.08	MC669P	1.03	.92
Triple 3-input gate (passive pullup)		125	132/39*	MC670L	1.80	1.62	MC670P	1.35	1.22
Triple 3-input gate (active pullup)		110	132/39*	MC671L	1.80	1.62	MC671P	1.35	1.22
Quad 2-input gate (active pullup)		110	176/52*	MC672L	1.70	1.53	MC672P	1.25	1.13
Dual 2-input AND-OR-INVERT gate		110	160/50*	MC673L	1.70	1.53	MC673P	1.25	1.13
Dual 2-input AND-OR-INVERT gate		125	160/50*	MC674L	1.70	1.53	MC674P	1.25	1.13
Dual pulse stretcher		150§	180	MC675L	2.88	2.59	MC675P	2.13	1.91
BCD-to-decimal decoder/driver		......	380	MC676L	3.63	3.26	MC676P	2.75	2.48
Hex inverter with strobe	(active pullup)	110	246/96*	MC677L	1.80	1.62	MC677P	1.35	1.22
	w/o output resistors	125	192/96*	MC678L	1.80	1.62	MC678P	1.35	1.22
Dual lamp driver		0.5#	250/30*	MC679L	2.88	2.59	MC679P	2.13	1.91
Hex inverter		110	246/96*	MC680L	1.80	1.62	MC680P	1.35	1.22
Hex inverter with open collector		125	192/96*	MC681L	1.80	1.62	MC681P	1.35	1.22
Quad latch		250	375	MC682L	3.63	3.26	MC682P	2.75	2.48
Quad 2-input exclusive OR		......	380	MC683L	2.88	2.59	MC683P	2.13	1.91
Decade counter		0.5†	480	MC684L	4.50	4.05	MC684P	3.38	3.04
Binary counter		0.5†	480	MC685L	4.50	4.05	MC685P	3.38	3.04
4-bit shift register		0.5†	480	MC686L	4.50	4.05	MC686P	3.38	3.04
Dual J-K flip-flop		2.5†	375	MC688L	3.63	3.26	MC688P	2.75	2.48
Hex inverter (high voltage)		150	173/55*	MC689L	1.80	1.62	MC689P	1.35	1.22
Hex inverter (active pullup)		150	173/55*	MC690L	1.80	1.62	MC690P	1.35	1.22
Hex inverter		300	500	MC691L	1.80	1.62	MC691P	1.35	1.22
Dual Schmitt trigger		400	225	MC696L	3.63	3.26	MC696P	2.75	2.48
Hex inverter		125	246	MC697L	1.80	1.62	MC697P	1.34	1.22
Dual 2-input AND Schmitt trigger		400	450	......	......	......	MC699P	2.75	2.48

*Inputs high/input low. †f_{tog}, MHz. ‡MDTL (104 MRTL). §Pins 1, 6; 110 ns, pins 5, 6. #μsec.

SEE OTHER MOTOROLA IC PAGES FOR CASE ILLUSTRATIONS

MOTOROLA Semiconductors TTL Integrated Circuits

MTTL™ MC5400 AND MC7400 SERIES

Medium operating speed (15–30 MHz clock rate); good external noise immunity and high fan out. $V_{CC} = 5.0$ V; $T_A = 25°$ C. Temperature, 0° C to +75° C, Series MC7400; −55° C to +125° C, Series MC5400. **F** suffix denotes flat ceramic package (Case 607, 650, 667), **L** suffix denotes dual inline ceramic package (Case 620, 623, 632), **P** suffix denotes dual inline plastic package (Case 646, 648, 649).

Function	t_{pd} nsec	P_D mW	Motorola Type	Net Each, Lots of			Motorola Type	Net Each, Lots of		
				1-24	25-99	100-999		1-24	25-99	100-999
Quad 2-input positive NAND gates	10	40	MC5400F MC5400L	$ 1.46 1.20	$ 1.22 1.00	$ 0.98 .80	MC7400F MC7400L	$ 1.80 1.80	$ 1.50 1.50	$ 1.20 1.20
Quad 2-input positive NAND gates w/OC	35	40	MC5401F MC5401L	1.46 1.20	1.22 1.00	.98 .80	MC7401F MC7401L	1.80 1.80	1.50 1.50	1.20 1.20
Quad 2-input positive NOR gates	10	40	MC5402F MC5402L	1.46 1.20	1.22 1.00	.98 .80	MC7402F MC7402L	1.80 1.80	1.50 1.50	1.20 1.20
Quad 2-input positive NOR gates w/OC	35	40	MC5403L	1.20	1.00	.80	MC7403L	2.25	1.88	1.50 ......
Hex inverters	13	60	MC5404F MC5404L	1.46 1.35	1.22 1.10	.98 .88	MC7404F MC7404L	2.15 2.15	1.80 1.80	1.44 1.44
Hex inverters w/OC	35	60	MC5405F MC5405L	3.90 1.90	2.80 1.50	1.80 1.20	MC7405L	2.15	1.80	1.44 ......
Hex inverter buffer/driver w/OC	15	105	MC5406F MC5406L	2.59 2.13	2.18 1.79	1.63 1.34	...... MC7406L	...... 5.33	...... 4.44	...... 3.55
Hex buffer/driver w/OC	14	145	MC5407F MC5407L	2.59 2.13	2.18 1.79	1.63 1.34	...... MC7407L	...... 5.33	...... 4.44	...... 3.55
Quad 2-input positive AND gates	15	70	MC5408F MC5408L	1.46 1.20	1.22 1.00	.98 .80	...... MC7408L	......	......	......
Quad 2-input positive AND gates w/OC	15	70	MC5409F MC5409L	1.46 1.20	1.22 1.00	.98 .80	...... MC7409L	...... 2.10	...... 1.75	...... 1.40
Triple 3-input positive NAND gates	10	30	MC5410F MC5410L	1.46 1.20	1.22 1.00	.98 .80	MC7410F MC7410L	1.80 1.80	1.50 1.50	1.20 1.20
Dual NAND Schmitt triggers	......	......	MC5413F MC5413L	3.24 2.65	2.75 2.25	1.53 1.25	....	....	....	....
Hex Schmitt triggers	......	......	MC5414F MC5414L	3.25 2.65	2.75 2.25	1.53 1.25	....	....	....	....
Hex inverter buffer/driver	15	105	MC5416F MC5416L	2.32 1.90	1.96 1.60	1.17 .96	...... MC7416L	...... 4.43	...... 3.79	...... 2.95
Hex buffer/driver	14	145	MC5417F MC5417L	2.32 1.90	1.96 1.60	1.17 .96	...... MC7417L	...... 4.43	...... 3.79	...... 2.95
Dual 4-input positive NAND gates	10	20	MC5420F MC5420L	1.46 1.20	1.22 1.00	.98 .80	MC7420F MC7420L	1.80 1.80	1.50 1.50	1.20 1.20
Dual 4-input positive NOR gates w/strobe	......	......	MC5423F MC5423L	1.98 1.85	1.59 1.40	1.25 1.05	....	....	....	....
Dual 4-input positive NOR gates	......	......	MC5425F MC5425L	1.98 1.85	1.59 1.40	1.25 1.05	....	....	....	....
Quad 2-input interface NAND gates	17	40	MC5426F MC5426L	1.95 1.60	1.66 1.36	1.33 1.09	...... MC7426L	...... 2.15	...... 1.80	...... 1.44
Triple 3-input positive NOR gates	......	......	MC5427F MC5427L	2.50 2.05	2.11 1.73	1.09 .89	....	....	....	....
8-input positive NAND gates	10	10	MC5430F MC5430L	1.46 1.20	1.22 1.00	.98 .80	MC7430F MC7430L	1.80 1.80	1.50 1.50	1.20 1.20
Quad 2-input positive NAND buffer	......	50	MC5437F MC5437L	2.04 1.68	1.84 1.51	1.12 .92	MC7437F MC7437L	3.23 3.23	2.69 2.69	2.15 2.15
Quad 2-input positive NAND buffer w/OC	......	50	MC5438F MC5438L	2.04 1.68	1.83 1.51	1.12 .92	MC7438F MC7438L	3.23 3.23	2.69 2.69	2.15 2.15
Dual 4-input positive NAND buffer	13	50	MC5440F MC5440L	1.84 1.20	1.65 1.00	1.01 .80	MC7440F MC7440L	1.80 1.80	1.50 1.50	1.20 1.20
BCD-to-decimal decoder	22/23*	140	MC5442F MC5442L	4.00 4.05	3.60 3.40	2.20 2.27	...... MC7442L	...... 7.75	...... 6.45	...... 5.15
Excess-3-to-decimal decoder	22/23*	140	MC5443F MC5443L	5.76 4.69	5.18 3.95	3.16 2.52	...... MC7443L	...... 10.95	...... 9.15	...... 7.30
Excess-3-gray-to-decimal decoder	22/23*	140	MC5444F MC5444L	5.76 6.45	5.18 5.45	3.16 2.52	...... MC7444L	...... 10.95	...... 9.15	...... 7.30
BCD-to-decimal decoder/driver	50 max.	215	MC5445F MC5445L	6.32 7.20	5.68 6.10	3.47 2.80	...... MC7445L	...... 14.05	...... 11.70	...... 9.35
BCD-to-7-segment decoder	BI/RBO	265	......	......	......	......	MC7446L	11.50	9.60	7.70
BCD-to-7-segment decoder	5	265	MC5447F MC5447L	5.00 3.80	4.50 3.42	2.75 2.09	...... MC7447L	...... 10.60	...... 8.85	...... 7.10
	......	265	MC5448F MC5448L	6.64 5.44	5.97 4.89	3.65 2.99	...... MC7448L	...... 9.00	...... 7.50	...... 6.00
	6	165	MC5449F MC5449L	6.56 5.36	5.90 4.82	3.60 2.94	MC7449F	8.65	7.20	5.75 ......
Dual 2-wide 2-input AND-OR-INVERT gate	13	28	MC5450F MC5450L	1.46 1.20	1.22 1.00	.98 .80	MC7450F MC7450L	1.80 1.80	1.50 1.50	1.20 .120
	13	28	MC5451F MC5451L	1.46 1.20	1.22 1.00	.98 .80	MC7451F MC7451L	1.80 1.80	1.50 1.50	1.20 1.20
	13	22	MC5453F MC5453L	1.46 1.20	1.22 1.00	.98 .80	MC7453F MC7453L	1.80 1.80	1.50 1.50	1.20 1.20
	13	22	MC5454F MC5454L	1.46 1.20	1.22 1.00	.98 .80	MC7454F MC7454L	1.80 1.80	1.50 1.50	1.20 1.20
Edge-triggered J-K flip-flop	30	65	MC5470F MC5470L	$2.24 1.84	$2.01 1.65	$1.23 1.01	...... MC7470L	...... 2.70	...... 2.25	...... 1.80
Master-slave J-K flip-flop	30	40	MC5472F MC5472L	2.34 1.92	2.10 1.72	1.28 1.05	MC7472F MC7472L	2.55 2.55	2.15 2.15	1.70 1.70
Dual master-slave J-K flip-flop	30	80	MC5473F MC5473L	2.34 1.92	2.10 1.72	1.28 1.05	MC7473F MC7473L	3.60 3.60	3.00 3.00	2.40 2.40
Quad bistable latch	30	160	MC5475F MC5475L	5.36 4.40	4.82 3.96	2.94 2.42	...... MC7575L	...... 6.30	...... 5.25	...... 4.20

MC5400 AND MC7400 LISTING CONTINUED ON FOLLOWING PAGE

SEE OTHER MOTOROLA IC PAGES FOR CASE ILLUSTRATIONS

MTTL™ MC5400 AND MC7400 SERIES (Cont'd)

Function	nsec	mW	Motorola Type	Net Each, Lots of			Motorola Type	Net Each, Lots of		
				1-24	25-99	100-999		1-24	25-99	100-999
Dual J-K master-slave J-K flip-flop	......	......	MC5476F MC5476L	2.34 1.92	2.10 1.72	1.28 1.05	....	....	....	....
Quad bistable latch	......	......	MC5477F MC5477L	5.36 4.40	4.82 3.96	2.74 2.42	....	....	....	....
Dual D type edge-triggered flip-flop	16	84	MC5479F MC5479L	2.34 1.93	2.10 1.72	1.28 1.05	MC7479F MC7479L	3.60 3.60	3.00 3.00	2.40 2.40
Gated full adder	10/55	105	MC5480F MC5480L	4.08 3.36	3.67 3.02	2.24 1.84	...... MC7480L	...... 4.85	...... 4.05	...... 3.25
2-bit binary full adder	15/12	165	MC5482F MC5482L	3.40 2.80	3.06 2.52	1.87 1.54	....	....	....	....
4-bit binary full adder	35	390	MC5483F MC5483L	3.70 3.04	3.33 2.73	2.03 1.67	...... MC7483L	...... 11.35	...... 9.45	...... 7.55
4-bit magnitude comparator	......	......	MC5485F MC5485L	6.40 5.20	5.76 4.68	3.52 2.86	....	....	....	....
Quad 2-input Exclusive-OR gate	......	......	MC5486F MC5486L	2.14 1.76	1.92 1.58	1.17 .96	MC7486F MC7486L	5.28 5.28	4.40 4.40	3.52 3.52
Decade counter	20/bit	160	MC5490F MC5490L	3.92 3.20	3.52 2.88	2.15 1.76	MC7490F MC7490L	7.00 7.00	5.85 5.85	4.70 4.70
Divide by 12 counter	60	160	MC5492AF MC5492AL	4.08 3.36	3.67 3.02	2.24 1.84	MC7492F MC7492L	7.00 7.00	5.85 5.85	4.70 4.70
4-bit binary counter	20/bit	160	MC5493AF MC5493AL	4.08 3.36	3.67 3.02	2.24 1.84	MC7493F MC7493L	7.00 7.00	5.85 5.85	4.70 4.70
4-bit shift register	25	175	MC5494F MC5494L	5.00 3.80	4.50 3.42	2.75 2.09	...... MC7494L	...... 7.80	...... 6.50	...... 5.20
4-bit shift register	25	250	MC5495AF MC5495AL	3.40 2.80	3.06 2.52	1.87 1.54	MC7495F MC7495L	7.90 7.90	6.60 6.06	5.30 5.30
5-bit shift register	25	240	MC5496F MC5496L	5.36 4.40	4.82 3.96	2.95 2.42	MC7496F MC7496L	9.55 9.55	7.95 7.95	6.35 6.35
8-bit bistable latch	30	320	MC54100F MC54100L	61.00 43.00	45.00 31.00	37.00 25.00	MC74100F MC74100L	9.90 9.90	8.25 8.25	6.60 6.60
Dual J-K master-slave flip-flop	30	80	MC54107F MC54107L	2.34 1.92	2.10 1.72	1.28 1.05	MC74107F MC74107L	3.60 3.60	3.00 3.00	2.40 2.40
Monostable multivibrator	......	90	MC54121F MC54121L	2.44 2.00	2.19 1.80	1.34 1.10	MC74121F MC74121L	3.60 3.60	3.00 3.00	2.40 2.40
Retriggerable monostable multivibrator w/clear	......	......	MC54122F MC54122L	4.88 4.00	4.39 3.60	2.68 2.20	....	....	....	....
Dual retriggerable monostable multivibrator	......	......	MC54123F MC54123L	5.12 4.08	4.60 3.74	2.81 2.28	....	....	....	....
Quad 2-input Exclusive-OR gate w/OC	......	......	MC54136F MC54136L	2.34 1.92	2.10 1.72	1.28 1.05	....	....	....	....
16-bit data selector/multiplexer	8–35	200	MC54150AF MC54150AL	8.80 6.30	7.92 5.67	4.84 3.46	...... MC74150L	...... 9.65	...... 8.05	...... 6.45
8-bit data selector/multiplexer	8–35	145	MC54151F MC54151L	5.36 4.40	4.82 3.96	2.95 2.42	...... MC74151L	...... 9.00	...... 7.50	...... 6.00
8-bit data selector/multiplexer	8–35	130	MC54152F MC54152L	4.88 4.00	4.39 3.60	2.68 2.20	MC74152F MC74152L	9.00 9.00	7.50 7.50	6.00 6.00
Dual 4-to-1 line data selector/multiplexer	12–22	180	MC54153F MC54153L	5.36 5.40	4.82 3.96	2.95 2.42	MC74153F MC74153L	9.00 9.00	7.50 7.50	6.00 6.00
4-to-16-line decoder/demultiplexer	......	......	MC54154F MC54154L	8.00 6.20	7.92 5.58	4.84 3.41	....	....	....	....
Dual 2-to-4-line decoder/demultiplexer	16/21*	125	MC54155F MC54155L	6.88 5.60	6.19 5.04	3.78 3.08	MC74155F MC74155L	6.75 6.75	5.63 5.63	4.50 4.50
Dual 2-to-4-line decoder/demultiplexer	16/21*	125	MC54156F MC54156L	6.88 5.60	6.19 5.40	3.78 3.08	MC74156F MC74156L	15.08 6.75	12.56 5.63	10.05 4.50
Synchronous decade counter	......	......	MC54160F MC54160L	5.18 4.72	4.88 4.24	3.16 2.59	....	....	....	....
Synchronous 4-bit binary counter	......	......	MC45161F MC54161L	5.68 4.64	5.11 4.17	3.12 2.55	....	....	....	....
Synchronous decade counter	......	......	MC54162F MC54162L	5.68 4.64	5.11 4.17	3.12 2.55	....	....	....	....
Synchronous 4-bit binary counter	......	......	MC54161F MC54163L	5.68 4.64	5.11 4.17	3.12 2.55	....	....	....	....
Parallel load 8-bit shift register	......	......	MC54165F MC54165L	6.14 5.04	5.52 4.53	3.37 2.77	MC74165F MC74165L	11.46 11.46	9.55 9.55	7.64 7.64
Hex D type flip-flop w/clear	......	......	MC54174F MC54174L	5.94 4.88	5.34 4.39	3.26 2.68	....	....	....	....
Quad D type flip-flop w/clear	......	......	MC54175F MC54175L	5.94 4.88	4.35 4.39	3.26 2.68	....	....	....	....
Presettable decade counter/latch	......	......	MC54176F MC54176L	5.12 4.16	4.60 3.74	2.81 2.28	MC74176F MC74176L	6.00 6.00	5.00 5.00	4.00 4.00
Presettable 4-bit binary counter/latch	......	......	MC54177F MC54177L	5.12 4.16	4.60 3.74	2.81 2.28	MC74177F MC74177L	6.00 6.00	5.00 5.00	4.00 4.00
8-bit odd/even parity generator/checker	15–30	170	MC54180F MC54180L	5.66 4.64	5.09 4.17	3.11 2.55	...... MC74180L	...... 14.25	...... 11.88	...... 9.50
4-bit arithmetic logic unit and function gen.	12–35	470	MC54181F MC54181L	8.80 7.40	7.92 6.66	4.84 4.07	MC74181F MC74181L	28.50 28.50	23.75 23.75	19.00 19.00
Lookahead carry generator for ALU	......	180	MC54182F MC54182L	5.60 4.56	5.04 4.10	3.08 2.50	MC74182F MC54182L	7.65 7.65	6.38 6.38	5.10 5.10
Synchronous up/down decade counter	......	......	MC54190F MC54190L	6.40 5.20	5.76 4.68	3.52 2.86	....	....	....	....
Synchronous up/down 4-bit binary counter	......	......	MC54191F MC54191L	6.40 5.20	5.76 4.68	3.52 2.86	....	....	....	....
Synchronous up/down decade counter	14–31	325	MC54192F MC54192L	6.40 5.20	5.76 4.68	3.52 2.86	MC74192F MC74192L	17.10 17.10	14.25 14.25	11.40 11.40
Synchronous up/down 4-bit binary counter	14–31	325	MC54193F MC54193L	6.40 5.20	5.76 4.68	3.52 2.86	MC74193F MC74193L	17.10 17.10	14.25 14.25	11.40 11.40

SEE OTHER MOTOROLA IC PAGES FOR CASE ILLUSTRATIONS

MTTL™ COMPLEX FUNCTIONS

SERIES MC4000 AND MC4300

Designed for digital applications in the medium to high-speed range. Provide significant reduction in package count and increased logic per function over devices in the basic MTTL and MDTL™ families. $V_{CC} = 5.0$ V; $T_A = 25°$ C. **F** suffix denotes flat ceramic package (Case 607, 650, 667), **L** suffix denotes dual inline ceramic package (Case 632, 620, 623) and **P** suffix denotes dual inline plastic package (Case 646, 648, 649).

Function	Typical		Case 607 (0° C to +75° C)				Case 607 (−55° C to +125 °C)			
	t_{pd} ns	P_D mW	Motorola Type	Net Each, Lots of 1-24	25-99	100-999	Motorola Type	Net Each, Lots of 1-24	25-99	100-999
Dual 4-channel data selector	18*	150	MC4000F	$8.77	$7.51	$5.95	MC4300F	$ 9.90	$ 8.47	$ 6.71
Dual data distributor	10.5	175	MC4002F	8.77	7.51	5.95	MC4302F	9.90	8.47	6.71
16-bit scratch pad memory cell	25†	250	MC4004F	4.88ɪ	4.06**	......	MC4304F	5.25ɪ	4.38ǂ	......
Binary to one-of-eight line decoder	14	100	MC4006F	10.03	8.59	6.80	MC4306F	10.89	9.32	7.38
Dual binary to one-of-four line decoder	14	125	MC4007F■	10.03	8.59	6.80	MC4307F▲	10.89	9.32	7.38
8-bit parity tree	15–30	150	MC4008F	7.38	6.31	5.00	MC4308F	8.23	7.04	5.58
Dual 4-bit parity tree	9.5–22	125	MC4010F	9.76	8.35	6.62	MC4310F	10.84	9.27	7.35
4-bit shift register	22/bit	180	MC4012F	11.52	9.86	7.81	MC4312F	12.87	11.01	8.72
Quad type D flip-flop	16	190	MC4015F■	9.76	8.35	6.62	MC4315F■	10.84	9.27	7.35
Programmable Modulo-N decade counter	50‡	250	MC4016F■	11.93	10.20	8.08	MC4316F■	13.45	11.51	9.12
MC4016 except hexadecimal counter	50‡	250	MC4017F■	11.93	10.20	8.08	MC4317F■	13.45	11.51	9.12
Prog. Modulo-N hexadecimal counter	50‡	250	MC4018F■	11.93	10.20	8.08	MC4318F■	13.45	11.51	9.12
Dual prog. Modulo 4 counters	50‡	250	MC4019F■	11.93	10.20	8.08	MC4319F■	13.45	11.51	9.12
Dual 4-bit comparator—open collector	20	250	MC4021F■	9.05	7.74	6.13	MC4321F■	10.30	8.81	6.98
Dual 4-bit comparator	20	250	MC4022F■	9.05	7.74	6.13	MC4322F■	10.30	8.81	6.98
4-bit universal counter	16/bit	200	MC4023F	12.06	10.32	8.17	MC4323F	13.72	11.74	9.30
Dual voltage controlled multivibrator	§	150	MC4024F	5.76	4.93	3.90	MC4324F	6.52	5.58	4.42
Full adder (12 fan out)	25/13♯	90	MC4026F	3.72ɪ	3.10**	......	MC4326F	4.10ɪ	3.41ǂ	......
Adder (dependent carry) 12 fan out	25/13♯	125	MC4028F	3.60ɪ	3.00**	......	MC4328F	3.96ɪ	3.30ǂ	......
Adder (independent carry) 12 fan out	25/13♯	125	MC4030F	3.60ɪ	3.00**	......	MC4330F	3.96ɪ	3.30ǂ	......
Carry decoder	•	20	MC4032F	3.60ɪ	3.00**	......	MC4332F	3.96ɪ	3.30ǂ	......
Quad latch (open collector)	25	140	MC4035F	3.69ɪ	3.08**	......	MC4335F	4.07ɪ	3.39ǂ	......
Quad latch	25	150	MC4037F	3.69ɪ	3.08**	......	MC4337F	4.07ɪ	3.39ǂ	......
Quad predriver	15	120	MC4042F	7.92	6.78	5.37	MC4342F	9.04	7.74	6.13
Dual line selector	20	70	MC4043F	7.92	6.78	5.37	MC4343F	9.04	7.74	6.13
Phase frequency detector	9.0	85	MC4044F	5.76	4.93	3.90	MC4344F	6.52	5.58	4.42
Counter-latch decoder	40 MHz‡	450	MC4050F■	18.27	15.63	12.38	MC4350F■	20.74	17.75	14.06
Counter-latch decoder	35 MHz‡	450	MC4051F■	18.27	15.63	12.38	MC4351F■	20.74	17.75	14.06
Dual decade counter	40 MHz‡	350	MC4052F■	12.06	10.32	8.17	MC4352F■	13.72	11.74	9.30
Dual hexadecimal counter	40 MHz‡	350	MC4053F■	12.06	10.32	8.17	MC4353F■	13.72	11.74	9.30
Dual decade counter	12 MHz‡	600	MC4054F♦	27.99	23.95	18.97	MC4354F♦	30.19	25.83	20.46
Dual binary counter	12 MHz‡	600	MC4055F♦	27.99	23.95	18.97	MC4355F♦	30.19	25.83	20.46
NBCD adder	30	300	MC4056F■	11.52	9.86	7.81	MC4356F■	12.87	11.01	8.72
Nines comp./zero element	30	200	MC4058F	7.65	6.55	5.19	MC4358F	8.77	7.51	5.95
Bus transfer switch	25	350	MC4060F■	9.05	7.74	6.13	MC4360F■	10.39	8.89	7.04
Dual majority logic gate	Z=20 Z=11	75	MC4062F	6.57	5.62	4.45	MC4362F	7.65	6.54	5.18

*Control line; data line = 11 ns. †Write mode; sense mode = 15 ns. ‡Clock to Q3; clock to bus = 35 ns. §$f_{max} = 30$ MHz. ♯Add delay/carry delay. •Δt_{pd} = 4.0/decoder. ■Case 650. ɪQuantity 1-99. ǂQuantity 100-999. ♦Case 667.

Additional package types that are available.

Motorola Type	Net Each, Lots of 1-24	25-99	100-999
MC4000L	$ 7.20	$ 6.16	$ 4.88
MC4000P	4.99	4.27	3.38
MC4300L	8.10	6.93	5.49
MC4002L	7.20	6.16	4.88
MC4002P	4.86	4.16	3.29
MC4302L	8.10	6.93	5.49
MC4004L	2.70ɪ	2.25ǂ	....
MC4004P	2.48ɪ	2.06ǂ	....
MC4304L	3.08ɪ	2.56ǂ	....
MC4006L	8.23	7.04	5.58
MC4006P	5.89	5.04	3.99
MC4306L	8.95	7.66	6.07
MC4007L▲	8.23	7.04	5.58
MC4007P■	5.89	5.04	3.99
MC4307L▲	8.95	7.66	6.07
MC4008L	6.07	5.20	4.12
MC4008P	4.14	3.54	2.81
MC4308L	6.75	5.77	4.57
MC4010L	8.01	6.85	5.43
MC4010P	5.62	4.81	3.81
MC4310L	8.91	7.62	6.04
MC4012L	9.45	8.08	6.40
MC4012P	7.06	6.04	4.79
MC4312L	10.57	9.05	7.17
MC4015L▲	8.10	6.93	5.49
MC4015P■	5.71	4.89	3.87
MC4315L▲	8.91	7.62	6.04
MC4016L▲	9.90	8.47	6.71
MC4016P■	6.79	5.81	4.60
MC4316L▲	11.25	9.62	7.62
MC4017L▲	9.90	8.47	6.71
MC4017P■	6.79	5.81	4.60
MC4317L▲	11.25	9.62	7.62
MC4018L▲	9.90	8.47	6.71
MC4018P■	6.79	5.81	4.60
MC4318L▲	11.25	9.62	7.62

Motorola Type	Net Each, Lots of 1-24	25-99	100-999
MC4019L▲	$ 9.90	$ 8.47	$ 6.71
MC4019P■	6.79	5.81	4.60
MC4319L▲	11.25	9.62	7.62
MC4021L▲	7.42	6.35	5.03
MC4021P■	5.31	4.54	3.60
MC4321L▲	8.46	7.24	5.73
MC4022L▲	7.42	6.35	5.03
MC4022P■	5.31	4.54	3.60
MC4322L▲	8.46	7.24	5.73
MC4023L	9.90	8.47	6.71
MC4023P	7.69	6.58	5.21
MC4323L	11.25	9.62	7.62
MC4024L	4.72	4.04	3.20
MC4024P	3.82	3.27	2.59
MC4324L	5.40	4.62	3.66
MC4026L	2.27ɪ	1.89ǂ	....
MC4026P	2.03ɪ	1.69ǂ	....
MC4326L	2.52ɪ	2.10ǂ	....
MC4028L	2.13ɪ	1.78ǂ	....
MC4028P	1.92ɪ	1.60ǂ	....
MC4328L	2.37ɪ	1.98ǂ	....
MC4030L	2.10ɪ	1.78ǂ	....
MC4030P	1.92ɪ	1.60ǂ	....
MC4330L	2.37ɪ	1.98ǂ	....
MC4032L	2.13ɪ	1.78ǂ	....
MC4032P	1.92ɪ	1.60ǂ	....
MC4332L	2.37ɪ	1.98ǂ	....
MC4035L	2.24ɪ	1.86ǂ	....
MC4035P	2.00ɪ	1.66ǂ	....
MC4335L	2.49ɪ	2.08ǂ	....
MC4037L	2.24ɪ	1.86ǂ	....
MC4037P	2.00ɪ	1.66ǂ	....
MC4337L	2.49ɪ	2.08ǂ	....
MC4042L	6.52	5.58	4.42
MC4042P	4.36	3.73	2.96
MC4342L	7.42	6.35	5.03

Motorola Type	Net Each, Lots of 1-24	25-99	100-999
MC4043L	$ 6.52	$ 5.58	$ 4.42
MC4043P	4.36	3.73	2.96
MC4343L	7.42	6.35	5.03
MC4044L	4.72	4.04	3.20
MC4044P	3.82	3.27	2.59
MC4344L	5.40	4.62	3.66
MC4050L	14.98	12.82	10.16
MC4050P	12.15	10.39	8.23
MC4350L	17.01	14.55	11.53
MC4051L▲	14.98	12.82	10.16
MC4051P■	12.15	10.39	8.23
MC4351L▲	17.01	14.55	11.53
MC4052L▲	9.90	8.47	6.71
MC4052P■	7.52	6.43	5.09
MC4352L▲	11.25	9.62	7.62
MC4053L▲	9.90	8.47	6.71
MC4053P■	7.52	6.43	5.09
MC4353L▲	11.25	9.62	7.62
MC4054L	22.99	19.63	15.55
MC4054P	21.24	18.17	14.40
MC4354L	24.75	21.17	16.77
MC4055L	22.99	19.63	15.55
MC4055P	21.24	18.17	14.40
MC4355L	24.75	21.17	16.77
MC4056L▲	9.45	8.08	6.40
MC4056P■	7.07	6.04	4.79
MC4356L▲	10.57	9.05	7.17
MC4058L	6.30	5.39	4.27
MC4058P	4.01	3.43	2.71
MC4358L	7.20	6.16	4.88
MC4060L▲	7.42	6.35	5.03
MC4060P■	5.22	4.47	3.54
MC4360L▲	8.55	7.32	5.79
MC4062L	5.40	4.62	3.66
MC4062P	3.33	2.85	2.26
MC4362L	6.39	5.47	4.33

■Case 648. ▲Case 620.

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

SEE OTHER MOTOROLA IC PAGES FOR CASE ILLUSTRATIONS

MTTL™ COMPLEX FUNCTIONS (CONTINUED)

MC8200 Series temperature −55° C to +125° C; MC7200 Series temperature 0° C to +75° C. **F** suffix denotes flat ceramic pkg. (Case 607, 650, 667), **L** suffix denotes dual inline ceramic pkg. (Case 620, 623, 632). Dual inline plastic pkg. (Case 646, 648, 649) available MC7200 Series only.

Function	Typical		Case 607 (F)				Case 607 (F)			
				Net Each, Lots of				Net Each, Lots of		
	t_{pd} ns	P_D mW	Motorola Type	1-24	25-99	100-999	Motorola Type	1-24	25-99	100-999
Dual 5-bit buffer register	......	......	MC8200F†	$64.63	$47.40	$38.78	......	......	......	......
Dual 5-bit buffer reg. w/D inputs	......	......	MC8201F†	64.63	47.40	38.78	......	......	......	......
10-bit buffer register	......	......	MC8202F†	64.63	47.40	38.78	......	......	......	......
10-bit buffer reg. w/D inputs	......	......	MC8203F†	64.63	47.40	38.78	......	......	......	......
2-input 4-bit digital multp.	......	......	MC8233F*	23.35	17.12	14.01	......	......	......	......
2-input 4-bit digital multp.	......	......	MC8234F*	23.35	17.12	14.01	......	......	......	......
2-input 4-bit digital multp.	......	......	MC8235F*	23.35	17.12	14.01	......	......	......	......
Quad exclusive-OR gate	10	225	MC8241F	14.39	10.55	8.63	MC7241F	6.15	5.13	4.10
Quad exclusive-NOR gate with OC	18	170	MC8242F	14.39	10.55	8.63	MC7242F	6.15	5.13	4.10
Binary to one-of-eight decoder	30	75	MC8250F	37.82	27.73	22.69	MC7250F	9.75	8.13	6.50
			MC8250L	19.76	14.49	11.86	MC7250L	9.75	8.13	6.50
Binary to one-of-ten decoder	30	80	MC8251F*	37.82	27.73	22.69	MC7251F*	9.75	8.13	6.50
			MC8251L*	19.76	14.49	11.86	MC7251L*	9.75	8.13	6.50
Arithmetic logic element (ALU)	14–24	400	MC8260F†	141.07	103.45	84.64	MC7260F	22.85	19.04	15.23
Fast carry extender	8.0–16	95	MC8261F	15.01	11.00	9.00	MC7261F	2.84	2.36	1.89
2-input 4-bit data selector	13–27	200	MC8266F*	23.35	17.12	14.01	MC7266F	6.10	5.05	4.05
2-input 4-bit data selector with OC	13–27	200	MC8267F*	23.35	17.12	14.01	MC7267F	6.10	5.05	4.05
4-bit shift register	25	180	MC8270F	31.94	23.42	19.16	MC7270F	6.42	5.35	4.28
4-bit shift register	25	180	MC8271F*	35.15	25.77	21.09	MC7271F	6.42	5.35	4.28
Presettable decade counter	f_{tog} =	130	MC8280F	31.83	23.34	19.09	MC7280F, L	5.40	4.50	3.60
Presettable binary counter	25 MHz	130	MC8281F	31.83	23.34	19.09	MC7281F, L	5.40	4.50	3.60
Binary up/down counter	......	......	MC8284F	49.73	36.46	29.84	......	......	......	......
Decade up/down counter	......	......	MC8285F	49.73	36.46	29.84	......	......	......	......
Divide-by-twelve counter	......	......	MC8288F	31.83	23.34	19.09	......	......	......	......
High speed decade counter	......	......	MC8290F	34.99	25.65	20.99	......	......	......	......
High speed binary counter	......	......	MC8291F	34.99	25.65	20.99	......	......	......	......

†Case 667. *Case 650.

Additional package types that are available.

Motorola Type	Net Each, Lots of		
	1-24	25-99	100-999
MC8200L*	$44.82	$32.86	$26.89
MC8201L*	44.82	32.86	26.89
MC8202L*	44.82	32.86	26.89
MC8203L*	44.82	32.86	26.89
MC8233L§	23.35	17.12	14.01
MC8234L§	14.74	10.80	8.84
MC8235L§	14.74	10.80	8.84
MC7241L	6.15	5.13	4.10
MC7241P	1.70	1.60	1.40
MC8241L	9.12	6.69	5.47
MC7242L	6.15	5.13	4.10
MC7242P	1.70	1.60	1.40
MC8242L	9.12	6.69	5.47
MC7250L	9.75	8.13	6.50
MC7250P	3.15	2.60	2.10
MC8250L	19.76	14.49	11.86

Motorola Type	Net Each, Lots of		
	1-24	25-99	100-999
MC7251L§	$ 9.75	$ 8.13	$ 6.50
MC7251P†	3.15	2.60	2.10
MC8251L§	19.76	14.49	11.86
MC7260L*	22.85	19.04	15.23
MC7260P#	15.23	12.69	10.15
MC8260L*	89.10	65.34	53.46
MC7261L	2.84	2.36	1.89
MC7261P	1.89	1.58	1.26
MC8261L	10.34	7.58	6.20
MC7266L§	6.10	5.05	4.05
MC7266P†	4.05	3.40	2.70
MC8266L§	14.74	10.80	8.84
MC7267L§	6.10	5.05	4.05
MC7267P†	4.05	3.40	2.70
MC8267L§	14.74	10.80	8.84
MC7270L	6.42	5.35	4.28

Motorola Type	Net Each, Lots of		
	1-24	25-49	100-999
MC7270P	$ 4.28	$ 3.56	$ 2.85
MC8270L	17.01	12.47	10.20
MC7271L§	6.42	5.35	4.28
MC7271P†	4.28	3.56	2.85
MC8271L§	18.90	13.86	11.34
MC7280L	5.40	4.50	3.60
MC7280P	3.60	3.00	2.40
MC8280L	15.87	11.64	9.52
MC7281L	5.40	4.50	3.60
MC7281P	3.60	3.00	2.40
MC8281L	15.87	11.64	9.52
MC8284L	26.27	19.26	15.75
MC8285L	26.27	19.26	15.75
MC8288L	15.87	11.64	9.52
MC8290L	17.65	12.95	10.59
MC8291L	17.65	12.95	10.59

#Case 649. †Case 648. *Case 623. §Case 620.

MC9300 Series temperature range −55° C to +125° C; MC8300 Series temperature range 0° C to +75° C. **F** suffix denores flat cetamic package (Case 650, 607, 667), **L** suffix denotes dual inline ceramic package (Case 620, 623, 632), **P** suffix denotes dual inline plastic package (Case 648, 646, 649).

Function	Typical		Case 620							
				Net Each, Lots of				Net Each, Lots of		
	t_{pd} ns	P_D mW	Motorola Type	1-24	25-99	100-999	Motorola Type	1-24	25-99	100-999
Universal 4-bit shift register	25	300	MC9300L	$ 4.19	$ 3.54	$2.85	MC8300L	$2.79	$2.33	$1.86
BCD-to-decimal decoder	22	125	MC9301L	3.95	3.36	2.70	MC8301L	2.84	2.36	1.89
Dual full adder	8.0–28	110	MC9304L	4.19	3.54	2.85	MC8304L	3.70	3.40	2.72
Presettable decade up/down counter	20•	350	MC9306L▲	11.80	10.62	6.49	MC8306L▲	9.75	7.80	6.16
BCD-to-seven-segment decoder	250	165	MC9307L	5.34	4.51	3.68	MC8307L	4.45	4.10	3.55
Dual 4-bit latch	25*	325	MC9308L▲	8.41	7.11	5.72	MC3808L▲	5.67	4.73	3.78
Dual 4-channel data selector	9.0–24	150	MC9309L	3.95	3.36	2.70	MC8309L	2.45	2.25	1.80
Presettable decade counter	14–35	300	MC9310L	5.56	4.70	3.78	MC8310L	4.00	3.70	3.20
One-of-16 decoder	26†	175	MC9311L▲	6.20	5.58	3.41	MC8311L▲	5.25	4.38	3.16
8-channel data selector	9.0–24	135	MC9312L	3.92	3.52	2.15	MC8312L	2.45	2.25	1.80
Quad latch	12–25	200	MC9314L	4.72	4.24	2.59	MC8314L	3.00	2.80	2.43
Presettable 4-bit binary counter	14–35	300	MC9316L	5.90	4.95	3.98	MC8316L	4.00	3.70	3.20
8-input priority encoder	10–30	225	MC9318L	5.12	4.60	2.81	MC8318L	4.87	4.35	2.70
Quad 2-input data selector/multiplexer	40	150	MC9322L	3.60	3.24	1.98	MC8322L	1.85	1.56	1.27
5-bit comparator	40	220	MC9324L	4.64	4.17	2.55	MC8324L	4.42	3.92	2.30
Dual 8-bit shift register	‡	250	MC9328L	6.16	5.54	3.38	MC8328L	4.89	3.91	3.13
Retriggerable monostable multivibrator	25	75	MC9601L§	2.08	1.87	1.14	MC8601F§	2.80	2.30	1.85
Dual retriggerable resettable monostable multivibrator	25	160	MC9602L	4.00	3.60	2.20	MC8602L	2.55	2.04	1.63
64-bit random access memory	<60■	6/bit	......	......	......	......	MCM4064L#	6.95	5.95	4.95

*E to Q. †Max. E to Q. ‡C to Q = 22 ns (t_{PHL}), 13 ns (t_{PHL}); $\overline{MR}$ to Q ≐ 35 ns. §Case 632. #0° C to +85° C. •Clock to Q. ▲Case 623. ■Access time. ⌶Address time.

SEE OTHER MOTOROLA IC PAGES FOR CASE ILLUSTRATIONS

MOTOROLA Semiconductors DTL Integrated Circuits

MDTL™ MC930 AND MC830 SERIES

MC930 Series −55° C to +125° C; MC830 Series 0° C to +75° C. V_{CC} = 5.0 VDC, T_A = 25° C.

	Typical			Case 607 (−55° to +125° C)				Case 646 (0° to +75° C)			
					Net Each, Lots of				Net Each, Lots of		
Function	t_{pd} nsec	P_D mW	Fan Out	Motorola Type	1-24	25-99	100-999	Motorola Type	1-24	25-99	100-999
Expandable dual 4-input NAND gate	30	22	8	MC930F	$ 3.10	$ 2.55	$2.05	MC830P	$0.98	$0.98	$0.48
Expandable dual 4-input buffer	35	85	25	MC932F	3.10	2.55	2.05	MC832P	.98	.98	.48
Dual 4-input expander				MC933F	3.10	2.55	2.05	MC833P	.98	.98	.48
Hex inverter	30	66	8	MC934F	3.40	2.80	2.25	MC834P	1.10	1.10	.53
Hex inverter (w/o output resistors)	30	42	8	MC935F	3.40	2.80	2.25	MC835P	1.10	1.10	.53
Hex inverter	30	66	8	MC936F	3.40	2.80	2.25	MC836P	1.10	1.10	.53
Hex inverter	25	90	7	MC937F	3.40	2.80	2.25	MC837P	1.10	1.10	.53
Decade counter	#	150	8	MC938F	12.40	10.20	8.20	MC838P	3.95	3.95	1.95
Divide-by-sixteen counter	#	150	8	MC939F	12.40	10.20	8.20	MC839P	3.95	3.95	1.95
Hex inverter (w/o input diodes)	30	66	8	MC940F	3.40	2.80	2.25	MC840P	1.10	1.10	.53
Hex inverter w/o output resistors	30	42	8	MC941F	3.40	2.80	2.25	MC841P	1.10	1.10	.53
Expandable dual 4-input power gate	30	65	27	MC944F	3.10	2.55	2.05	MC844P	.98	.98	.48
Clocked flip-flop	40	60	12/10*	MC945F	4.05	3.30	2.65	MC845P	1.25	1.25	.62
Quad 2-input NAND gate	30	44	8	MC946F	3.10	2.55	2.05	MC846P	.98	.98	.48
Quad 2-input gate expander				MC947F	3.10	2.55	2.05	MC847P	.98	.98	.48
Clocked flip-flop	40	70	11/9*	MC948F	4.05	3.30	2.65	MC848P	1.25	1.25	.62
Quad 2-input NAND gate	25	66	7•	MC949F	3.10	2.55	2.05	MC849P	.98	.98	.48
Pulsed triggered binary	15	50	10/8*	MC950F	12.10	9.95	8.00	MC850P	3.85	3.85	1.90
Monostable multivibrator	40	30	10	MC951F	12.10	9.95	8.00	MC851P	3.85	3.85	1.90
Dual J-K flip-flop: Common clock, C_D; separate S_D	40	120	12/10*	MC952F	5.65	4.65	3.75	MC852P	1.80	1.80	.88
Separate clock and S_D; no C_D	40	120	12/10*	MC953F	5.65	4.65	3.75	MC853P	1.80	1.80	.88
Common clock, C_D; separate S_D†	40	140	11/9*	MC955F	5.65	4.65	3.75	MC855P	1.80	1.80	.88
Separate clock and S_D, no C_D†	40	140	11/9*	MC956F	5.65	4.65	3.75	MC856P	1.80	1.80	.88
Quad 2-input buffer	35	170	25	MC957F	3.40	2.80	2.25	MC857P	1.10	1.10	.53
Quad 2-input NAND power gate	30	130	27	MC958F	3.40	2.80	2.25	MC858P	1.10	1.10	.53
Expandable dual 4-input NAND gate	25	33	7•	MC961F	3.10	2.55	2.05	MC861P	.98	.98	.48
Triple 3-input NAND gate	30	33	8	MC962F	3.10	2.55	2.05	MC862P	.98	.98	.48
Triple 3-input NAND gate	25	50	7•	MC963F	3.10	2.55	2.05	MC863P	.98	.98	.48
Dual 6-input NAND gate	30	22	8	MC1900F	3.10	2.55	2.05	MC1800P	.98	.98	.48
Dual 5-input NAND gate (2K pull-up res.)	25	33	7	MC1901F	3.10	2.55	2.05	MC1801P	.98	.98	.48
Expandable 8-input NAND gate	30	11	8	MC1902F	3.10	2.55	2.05	MC1802P	.98	.98	.48
Exp. 8-input NAND gate (2K pull-up res.)	25	16.5	7	MC1903F	3.10	2.55	2.05	MC1803P	.98	.98	.48
10-input NAND gate	30	11	8	MC1904F	3.10	2.55	2.05	MC1804P	.98	.98	.48
10-input NAND gate (2K pull-up res.)	25	16.5	7	MC1905F	3.10	2.55	2.05	MC1805P	.98	.98	.48
Quad 2-input AND gate	35	72	8	MC1906F	3.10	2.55	2.05	MC1806P	.98	.98	.48
Quad 2-input AND gate (2K pull-up res.)	30	85	7	MC1907F	3.10	2.55	2.05	MC1807P	.98	.98	.48
Quad 2-input OR gate	35	97	8	MC1908F	3.10	2.55	2.05	MC1808P	.98	.98	.48
Quad 2-input OR gate (2K pull-up res.)	30	115	7	MC1909F	3.10	2.55	2.05	MC1809P	.98	.98	.48
Quad 2-input NOR gate	30	60	8	MC1910F	3.10	2.55	2.05	MC1810P	.98	.98	.48
Quad 2-input NOR gate (2K pull-up res.)	25	72	7	MC1911F	3.10	2.55	2.05	MC1811P	.98	.98	.48
Quad 2-input-exclusive OR gate	40	120	8	MC1912F	5.60	4.60	3.70	MC1812P	1.25	1.25	.62
Quad latch	35	220	7	MC1914F	11.15	9.20	7.40	MC1814P	3.65	3.65	1.80
Quad 2-input NAND gate OC	30	32	8	MC1918F	3.10	2.55	2.05	MC1818P	.98	.98	.48
High voltage hex inverter	40	42	7					MC1820P	1.75	1.75	.85

#Counting frequency = 30 MHz (typical). *Fan out for MC830/MC930 Series. •2K pull-up resistor.

Additional package types that are available.

	Net Each, Lots of		
Motorola Type	1-24	25-99	100-999
MC830F, L	$1.80	$1.50	$1.20
MC830G	3.60	2.90	2.40
MC832F, L	1.80	1.50	1.20
MC832G	4.05	3.25	2.70
MC833F, L	1.80	1.50	1.20
MC833G	4.50	3.60	3.00
MC834F, L	2.00	1.65	1.30
MC835F, L	2.00	1.65	1.30
MC836F, L	2.00	1.65	1.30
MC837F, L	2.00	1.65	1.30
MC838F, L	7.20	6.00	4.80
MC839F, L	7.20	6.00	4.80
MC840F, L	2.00	1.65	1.30
MC841F, L	2.00	1.65	1.30
MC844F, L	1.80	1.50	1.20
MC844G	4.05	3.25	2.70
MC845F, L	2.35	1.95	1.55
MC845G	5.25	4.20	3.50
MC846F, L	1.80	1.50	1.20
MC846G	3.60	2.90	2.40
MC847F, L	1.80	1.50	1.20
MC848F, L	2.35	1.95	1.55
MC848G	5.25	4.20	3.50
MC849F, L	1.80	1.50	1.20
MC849G	3.60	2.90	2.40
MC850F, L	7.05	5.85	4.70
MC850G	9.90	7.90	6.60
MC851F, L	7.05	5.85	4.70
MC851G	11.40	9.10	7.60
MC852F, L	3.30	2.75	2.20
MC853F, L	3.30	2.75	2.20
MC855F, L	3.30	2.75	2.20
MC856F, L	3.30	2.75	2.20
MC857F, L	2.00	1.65	1.30
MC858F, L	2.00	1.65	1.30
MC861F, L	1.80	1.50	1.20
MC861G	3.60	2.90	2.40
MC862F, L	1.80	1.50	1.20

	Net Each, Lots of		
Motorola Type	1-24	25-99	100-999
MC862G	$ 3.60	$ 2.90	$ 2.40
MC863F, L	1.80	1.50	1.20
MC863G	3.60	2.90	2.40
MC930F, L	3.10	2.55	2.05
MC930G	6.50	5.20	4.35
MC932F, L	3.10	2.55	2.05
MC932G	7.10	5.70	4.75
MC933F, L	3.10	2.55	2.05
MC933G	5.45	4.40	3.65
MC934F, L	3.40	2.80	2.25
MC935F, L	3.40	2.80	2.25
MC936F, L	3.40	2.80	2.25
MC937F, L	3.40	2.80	2.25
MC938F, L	12.40	10.20	8.20
MC939F, L	12.40	10.20	8.20
MC940F, L	3.40	2.80	2.25
MC941F, L	3.40	2.80	2.25
MC944F, L	3.10	2.55	2.05
MC944G	7.10	5.70	4.75
MC945F, L	4.05	3.30	2.65
MC945G	9.00	7.20	6.00
MC946F, L	3.10	2.55	2.05
MC946G	6.50	5.20	4.35
MC947F, L	3.10	2.55	2.05
MC948F, L	4.05	3.30	2.65
MC948G	9.00	7.20	6.00
MC949F, L	3.10	2.55	2.05
MC949G	6.50	5.20	4.35
MC950F, L	12.10	9.95	8.00
MC950G	12.40	10.00	8.30
MC951F, L	12.10	9.95	8.00
MC951G	18.50	14.80	12.35
MC952F, L	5.65	4.65	3.75
MC953F, L	5.65	4.65	3.75
MC955F, L	5.65	4.65	3.75
MC956F, L	5.65	4.65	3.75
MC957F, L	3.40	2.80	2.25
MC958F, L	3.40	2.80	2.25

	Net Each, Lots of		
Motorola Type	1-24	25-99	100-999
MC961F, L	$ 3.10	$ 2.55	$ 2.05
MC961G	6.50	5.20	4.35
MC962F, L	3.10	2.55	2.05
MC962G	6.50	5.20	4.35
MC963F, L	3.10	2.55	2.05
MC963G	6.50	5.20	4.35
MC1800F, L	1.80	1.50	1.20
MC1801F, L	1.80	1.50	1.20
MC1802F, L	1.80	1.50	1.20
MC1803F, L	1.80	1.50	1.20
MC1804F, L	1.80	1.50	1.20
MC1805F, L	1.80	1.50	1.20
MC1806F, L	1.80	1.50	1.20
MC1807F, L	1.80	1.50	1.20
MC1808F, L	1.80	1.50	1.20
MC1809F, L	1.80	1.50	1.20
MC1810F, L	1.80	1.50	1.20
MC1811F, L	1.80	1.50	1.20
MC1812F, L	3.25	2.70	2.15
MC1814F, L	6.50	5.40	4.30
MC1818F, L	1.80	1.50	1.20
MC1820L	1.80	1.50	1.20
MC1900F, L	3.10	2.55	2.05
MC1901F, L	3.10	2.55	2.05
MC1902F, L	3.10	2.55	2.05
MC1903F, L	3.10	2.55	2.05
MC1904F, L	3.10	2.55	2.05
MC1905F, L	3.10	2.55	2.05
MC1906F, L	3.10	2.55	2.05
MC1907F, L	3.10	2.55	2.05
MC1908F, L	3.10	2.55	2.05
MC1909F, L	3.10	2.55	2.05
MC1910F, L	3.10	2.55	2.05
MC1911F, L	3.10	2.55	2.05
MC1912F, L	5.60	4.60	3.70
MC1914F, L	11.15	9.20	7.40
MC1918F, L	3.10	2.55	2.05

SEE OTHER MOTOROLA IC PAGES FOR CASE ILLUSTRATIONS

MEDIUM POWER MRTL AND LOW POWER mW MRTL MC900 AND MC800 SERIES

MC900 Series temperature range −55° C to +125° C; MC800 Series temperature range 0° C to +75° C. $V_{CC} = 3.0$ V ±10% for MC900 Series; 3.6 V ±10% for MC800 Series. $T_A = 25°$ C. **G** suffix denotes metal can (Case 601, 603); **P** suffix denotes dual inline plastic package (Case 646, 648); **F** suffix, flat package (Case 606, 607), available in large quantities on special order.

Function	t_{pd} ns	Fan Out	MC900 Series (−55° to +125° C)				MC800 Series (0° to +75° C)			
			Typ. P_D mW	Motorola Type	Net Each, Lots		Typ. P_D mW	Motorola Type	Net Each, Lots	
					1-999	1000-4999			1-999	1000-4999
Buffer	20	25	16/45#	MC900G	$1.78	$1.31				
Counter adapter	22	5	55	MC901G	2.09	1.55				
R-S flip-flop	14	4	22	MC902G	1.78	1.31				
3-input NOR gate	12	5	19/5#	MC903G	1.78	1.31				
Half adder	14	5	45	MC904G	1.91	1.41				
Half-shift register	22	4	53	MC905G	2.09	1.55				
Same w/o inverter	22	4	36	MC906G	2.09	1.55				
4-input NOR gate	12	5	19/5#	MC907G	1.78	1.31				
Half adder♦	60		14/8.5#	MC908G	2.09	1.55				
2-input buffer♦	57		5.5/16#	MC909G	1.78	1.31				
Dual 3-input NOR gate♦	27		8/1#	MC910G	1.78	1.31				
4-input OR/NOR gate♦	60		6/3.5#	MC911G	1.78	1.31				
Half adder♦	66		11.5/5.5	MC912G	2.09	1.55				
Type D flip-flop♦	75		17.5/13§	MC913G	2.65	1.96				
Dual 2-input NOR gate	12	5	38/10#	MC914G	1.78	1.31				
Dual 3-input NOR gate	12	5	38/10#	MC915G▲	1.91	1.41	55/15#	MC815G	$1.53	$1.13
J-K flip-flop	30	3	62/54†	MC916G	2.65	1.96	91/79†	MC816G	2.12	1.57
Dual 3-input NOR gate♦	27		9.5/1#	MC918G▲	1.91	1.41	13/2.5#	MC918G	1.53	1.13
J-K flip-flop♦	50		15.5/10†	MC920G	2.65	1.96				
Dual 2-input gate expander♦	27		3/—#	MC921G	1.78	1.31				
J-K flip-flop♦	70		17.5/13†	MC922G▲	3.10	2.30	24/20†	MC822G	2.48	1.84
Dual 4-input NOR gate	12	5	38/10#	MC925G▲	2.09	1.55	60/15#	MC825G	1.67	1.24
J-K flip-flop	35	5	130/65†	MC926G▲	3.10	2.30	100/86†	MC826G	2.48	1.84
Quad inverter	12	5	76/20#	MC927G▲	1.78	1.31				
5-input NOR gate♦	27		6.5/0.5#	MC928G	1.78	1.31				
5-input NOR gate	12	5	19/5#	MC929G	1.78	1.31				
Dual exclusive OR/NOR gate♦	25						25	MC864P	1.80	1.34
Quad latch♦	50						110	MC867P■*	3.65	2.70
BCD to decimal decoder♦	36						100/—	MC870P■	2.45	1.80
Quad exclusive OR gate	12	5					72	MC871P	1.80	1.35
J-K flip-flop	35	5	130/65†	MC974G	3.10	2.30				
Dual half adder	20	5					120	MC875P	1.35	1.00
Dual J-K flip-flop♦	50						41/29†	MC876P	2.00	1.50
Binary up counter							180	MC877P	3.40	2.50
Dual D type flip-flop♦	60						48/35§	MC878P	1.90	1.40
1 J-K flip-flop, 1 expander, 2 buffers							141/124‡	MC879P	1.90	1.40
Decade up counter							250	MC880P	3.40	2.50
Dual buffer	57		11/32#	MC981G	2.16	1.60				
J-K flip-flop	80		15/13†	MC982G	3.10	2.30				
Dual half-shift register	22	4					140	MC883P	1.55	1.14
Same with inverter	22	4					100	MC884P	1.46	1.08
Quad 2-input expander	12						20/—#	MC885P*	1.09	.81
Dual 4-input expander	12						20/—#	MC886P	1.09	.81
1 J-K flip-flop, 1 inverter, 2 buffers							183/132	MC887P	1.90	1.40
Dual 3-input buffer, non-inv.	24	25					145/56#	MC888P	1.35	1.00
Hex inverter	12	5					130/15#	MC889P*	1.08	.81
Dual J-K flip-flop	35	3					182/158†	MC890P	2.00	1.50
Dual J-K flip-flop♦	40	5					190/160†	MC891P	2.25	1.65
Triple 3-input NOR gate♦	12	5					82/24#	MC892P	1.09	.81
Triple 3-input NOR gate♦	27						18/3.5#	MC893P	1.09	.81
Series-parallel shift reg.	55	5					225	MC894P	3.40	2.50
Dual full adder	60	5					225	MC896P	3.40	2.50
Dual full subtractor	60	5					225	MC897P	3.40	2.50
Dual 2-input buffer♦	57						14/46#	MC898P	1.21	.90
Dual buffer	15	25					50/90#	MC899P	1.08	.81
Dual 4-channel data selector	25	5					100	MC9801P■	2.45	1.80
Dual J-K flip-flop	35	3					182/158†	MC9802P	2.15	1.60
4-bit parallel full adder	125	/2					265	MC9804P■	3.40	2.50
Dual 4-ch. data distributor	25	5					150	MC9807P■	2.45	1.80
Quad Schmitt trigger	30	5					95	MC9809P	2.45	1.80
Quad 2-input AND gate	28	5					100	MC9813P	1.40	1.05
Quad 2-input NAND gate	35	5					145	MC9814P	1.55	1.15
Quad 2-input OR gate	40	5					28/100#	MC9815P	1.28	.95
Hex inverter♦	27						7/3#	MC9818P	1.09	.81
Hex expander	12						13/—#	MC9819P*	1.09	.81
Hex expander♦	12						30/—#	MC9820P	1.09	.81
Quad 2-input expander♦	27						20/—#	MC9821P	1.09	.81
Dual J-K flip-flop♦	75						24/—†	MC9822P	2.25	1.65
Quad 2-input AND gate♦	50						12•	MC9823P	1.40	1.05
Quad 2-input NAND gate♦	50						20/5#	MC9824P	1.55	1.15
Quad 2-input OR gate♦	50						—/7#	MC9825P	1.28	.95

*__A__ suffix types available; have insured capability to drive at least one MTTL load or two MDTL loads. #Inputs high/inputs low. †Only clock inputs high/input low. ‡Only clock inputs high on flip-flop, other elements high/inputs low. §Direct set and direct clear low, all other inputs high/all inputs low. •One input high/one input low. ▲Case 603. ■Case 648. ♦Low power mW MRTL type.

Additional package types that are available.

Motorola Type	Net Each, Lots of	
	1-999	1000-4999
MC815P	$1.08	$0.81
MC816P	1.40	1.02
MC817P	1.08	.81
MC818P	1.00	.75

Motorola Type	Net Each, Lots of	
	1-999	1000-4999
MC819P	$1.08	$0.81
MC822P	1.30	.95
MC824P	1.08	.81

Motorola Type	Net Each, Lots of	
	1-999	1000-4999
MC824AP	$1.26	$0.93
MC825P	1.08	.81
MC826P	1.35	1.00

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES
SEE OTHER MOTOROLA IC PAGES FOR CASE ILLUSTRATIONS

DIGITAL IC's QUALIFIED TO MIL-M-38510

JAN No. JM38510/	Motorola Standard Number	Net Each, Lots of		
		1-24	25-99	100-999
00101BAB	MC5430F	$ 5.70	$ 4.75	$ 3.70
00101BCB	MC5430L	4.10	3.40	2.65
00102BAB	MC5420F	5.70	4.75	3.70
00102BCB	MC5420L	4.10	3.40	2.65
00103BAB	MC5410F	5.70	4.75	3.70
00103BCB	MC5410L	4.10	3.40	2.65
00104BAB	MC5400F	5.70	4.75	3.70
00104BCB	MC5400L	4.10	3.40	2.65
00105BAB	MC5404F	5.70	4.75	3.70
00105BCB	MC5404L	4.10	3.40	2.65
00107BAB	MC5401F	5.70	4.75	3.70
00107BCB	MC5401L	4.10	3.40	2.65
00108BAB	MC5404F	5.70	4.75	3.70
00108BCB	MC5405L	4.10	3.40	2.65
00109BCB	MC5403L	4.10	3.40	2.65
00202BAB	MC5473F	6.60	5.50	4.30
00202BCB	MC5473L	4.70	3.90	3.05
00203BCB	MC54107L	4.70	3.90	3.05
00206BAB	MC5470F	6.30	5.25	4.10
00206BCB	MC5470L	4.50	3.75	2.95
00207BAB	MC5479F	6.60	5.50	4.30
00207BCB	MC5479L	4.70	3.90	3.05
00301BAB	MC5440F	5.70	4.75	3.70
00301BCB	MC5440L	4.10	3.40	2.65
00302BAB	MC5437F	6.00	5.00	3.90
00302BCB	MC5437L	4.20	3.50	2.75
00303BAB	MC5438F	6.00	5.00	3.90
00303BCB	MC5438L	4.20	3.50	2.75
00401BAB	MC5402F	5.70	4.75	3.70
00401BCB	MC5402L	4.10	3.40	2.65
00402BEB	MC5423L	4.20	3.50	2.75
00402BFB	MC5423F	6.00	5.00	3.90
00403BAB	MC5425F	5.70	4.75	3.70
00403BCB	MC5425L	4.10	3.40	2.65
00404BAB	MC5427F	5.70	4.75	3.70
00404BCB	MC5427L	4.10	3.40	2.65
00501BAB	MC5450F	5.70	4.75	3.70
00501BCB	MC5450L	4.10	3.40	2.65
00502BAB	MC5451F	5.70	4.75	3.70
00502BCB	MC5451L	4.10	3.40	2.65
00503BAB	MC5453F	5.70	4.75	3.70
00503BCB	MC5453L	4.10	3.40	2.65
00504BAB	MC5454F	5.70	4.75	3.70
00504BCB	MC5454L	4.10	3.40	2.65
00601BAB	MC15482F	13.70	11.40	8.90
00601BCB	MC15482L	9.80	8.15	6.35
00602BEB	MC5483L	10.50	8.75	6.85
00602BFB	MC5483F	14.70	12.25	9.55
00603BEB	MC9304L	9.80	8.15	6.35
00603BFB	MC9304F	13.70	11.40	8.90
00701BAB	MC5486F	6.30	5.25	4.10
00701BCB	MC5486L	4.50	3.75	2.95
00801BAB	MC5406F	8.10	6.75	5.30
00801BCB	MC5406L	5.70	4.75	3.70
00802BAB	MC5416F	6.30	5.25	4.10
00802BCB	MC5416L	4.50	3.75	2.95
00803BAB	MC5407F	8.10	6.75	5.30
00803BCB	MC5407L	5.70	4.75	3.70
00804BAB	MC5417F	6.30	5.25	4.10
00804BCB	MC5417L	4.50	3.75	2.95
00901BAB	MC5495F	15.00	12.50	9.75
00901BCB	MC5495L	10.70	8.90	6.95
00902BEB	MC5496L	9.90	8.25	6.45
00902BFB	MC5496F	14.00	11.65	9.10
00904BEB	MC54165L	11.00	9.15	7.15
00904BFB	MC54165F	15.50	12.90	10.05
00905BEB	MC54194L	11.00	9.15	7.15
00905BFB	MC54194F	15.50	12.90	10.05
00906BEB	MC54195L	11.00	9.15	7.15
00906BFB	MC54195F	15.50	12.90	10.05
01001BEB	MC5442L	10.10	8.40	6.55
00101BFB	MC5442F	14.10	11.75	9.20
01002BEB	MC5443L	10.80	9.00	7.05
01002BFB	MC5443F	15.20	12.65	9.85
01003BEB	MC5444L	10.80	9.00	7.05
01003BFB	MC5444F	15.20	12.65	9.85
01004BEB	MC5445L	11.70	9.75	7.60
01004BFB	MC5445F	16.50	13.75	10.75
01005BEB	MC54145L	11.70	9.75	7.60
01005BFB	MC54145F	16.45	13.70	10.75
01008BEB	MC5448L	11.70	9.75	7.60
01008BFB	MC5448F	16.45	13.70	10.75
01009BAB	MC5449F	16.20	13.50	10.55
01009BCB	MC5449L	11.60	9.65	7.50
01101BKB*	MC54181F	44.10	36.75	28.70
01102BEB	MC54182L	26.30	21.90	17.10
01102BFB	MC54182F	36.80	30.65	23.90
01201BAB	MC54121F	7.45	6.20	4.50
01201BCB	MC54121L	6.10	5.05	3.65
01202BAB	MC54122F	13.40	11.15	8.70
01202BCB	MC54122L	9.50	7.90	6.15
01203BEB	MC54123L	10.80	9.00	7.05
01203BFB	MC54123F	15.20	12.65	9.85
01204BAB*	MC9601F	7.80	6.50	4.75
01204BCB*	MC9601L	6.25	5.20	3.75
01205BEB*	MC9602L	10.80	9.00	7.05
01205BFB*	MC9602F	15.20	12.65	9.85
01301BAB	MC5492F	14.10	11.75	9.20
01301BCB	MC5492L	10.10	8.40	6.55
01302BAB	MC5493F	14.10	11.75	9.20
01302BCB	MC5493L	10.10	8.40	6.55
01303BEB	MC54160L	11.70	9.75	7.60
01303BFB	MC54160F	$16.50	$13.75	$10.75
01304BEB	MC54163L	11.70	9.75	7.60
01304BFB	MC54163F	16.50	13.75	10.75
01305BEB	MC54162L	11.70	9.75	7.60
01305BFB	MC54162F	16.50	13.75	10.75
01306BEB	MC54161L	11.70	9.75	7.60
01306BFB	MC54161F	16.50	13.75	10.75
01307BCB	MC5490L	10.10	8.40	6.55
01308BEB	MC54192L	11.70	9.75	7.60
01308BFB	MC54192F	16.50	13.75	10.75
01309BEB	MC54193L	11.70	9.75	7.60
01309BFB	MC54193F	16.50	13.75	10.75
01402BEB	MC9312L	9.20	7.65	5.95
01402BFB	MC9312F	12.90	10.75	8.40
01403BEB	MC54153L	9.80	8.15	6.35
01403BFB	MC54153F	13.70	11.40	8.90
01404BEB	MC9309L	9.20	7.65	5.95
01404BFB	MC9309F	12.90	10.75	8.40
01405BEB	MC9322L	9.60	8.00	6.25
01405BFB	MC9322F	13.50	11.25	8.80
01406BEB	MC54151L	9.20	7.65	5.95
01406BFB	MC54151F	12.90	10.75	8.40
01501BEB	MC5475L	9.90	8.25	6.45
01501BFB	MC5475F	14.00	11.65	9.10
01502BAB	MC5477F	14.00	11.65	9.10
01502BCB	MC5477L	9.90	8.25	6.45
01504BEB	MC9314L	9.90	8.25	6.45
01504BFB	MC9314F	14.00	11.65	9.10
01601BAB	MC5408F	6.00	5.00	3.90
01601BCB	MC5408L	4.20	3.50	2.75
01602BAB	MC5409F	6.00	5.00	3.90
01602BCB	MC5409L	4.20	3.50	2.75
01701BEB	MC54174L	11.30	9.40	7.35
01701BFB	MC54174F	15.80	13.15	10.25
01702BEB	MC54175L	11.30	9.40	7.35
01702BFB	MC54175F	15.80	13.15	10.25
01901BAB	MC54180F	15.20	12.65	9.85
01901BCB	MC54180L	10.80	9.00	7.05
02201BAB	MC54H72F	6.80	5.65	4.40
02201BCB	MC54H72L	4.80	4.00	3.15
02202BAB	MC54H73F	7.10	5.90	4.60
02202BCB	MC54H73L	5.00	4.15	3.25
02203BAB*	MC54H74F	7.35	6.10	4.75
02203BCB*	MC54H74L	5.10	4.25	3.50
02205BAB	MC54H101F	6.80	5.65	4.40
02205BCB	MC54H101L	4.80	4.00	3.15
02206BAB	MC54H103F	7.10	5.90	4.60
02206BCB	MC54H103L	5.00	4.15	3.25
02301BAB	MC54H30F	6.20	5.15	4.00
02301BCB	MC54H30L	4.40	3.65	2.85
02302BAB	MC54H20F	6.20	5.15	4.00
02302BCB	MC54H20L	4.40	3.65	2.85
02303BAB	MC54H10F	6.20	5.15	4.00
02303BCB	MC54H10L	4.40	3.65	2.85
02304BAB	MC54H00F	6.20	5.15	4.00
02304BCB	MC54H00L	4.40	3.65	2.85
02305BAB	MC54H04F	6.20	5.15	4.00
02305BCB	MC54H04L	4.40	3.65	2.85
02306BAB	MC54H01F	6.20	5.15	4.00
02306BCB	MC54H01L	4.40	3.65	2.85
02307BAB	MC54H22F	6.20	5.15	4.00
02307BCB	MC54H22L	4.40	3.65	2.85
02401BAB	MC54H40F	6.20	5.15	4.00
02401BCB	MC54H40L	4.40	3.65	2.85
04001BAB	MC54H50F	6.20	5.15	4.00
04001BCC	MC54H50L	4.40	3.65	2.85
04002BAB	MC54H51F	6.20	5.15	4.00
04002BCB	MC54H51L	4.40	3.65	2.85
04003BAB	MC54H53F	6.20	5.15	4.00
04003BCB	MC54H53L	4.40	3.64	2.85
04004BAB	MC54H54F	6.20	5.51	4.00
04004BCB	MC54H54L	4.40	3.65	2.85
04005BAB	MC54H55F	6.20	5.15	4.00
04005BCB	MC54H55L	4.40	3.65	2.85
15001BEB*	MC5485L	10.50	8.75	6.85
15001BFB*	MC5485F	14.70	12.25	9.55
15002BEB*	MC9324L	10.45	8.70	6.75
15002BFB*	MC9324F	13.00	10.80	8.10
15101BAB*	MC5413F	7.80	6.50	5.10
15101BCB*	MC5413L	5.60	4.65	3.60
15102BAB*	MC5414F	7.80	6.50	5.10
15102BCB*	MC5414L	5.60	4.65	3.60
15103BAB*	MC54132F	7.80	6.50	5.10
15103BCB*	MC54132L	5.60	4.65	3.60
15202BEB*	MC54155L	12.00	10.00	7.80
15202BFB*	MC54155F	16.80	14.00	10.95
15203BEB*	MC54156L	12.00	10.00	7.80
15203BFB*	MC54156F	16.80	14.00	10.95
15206BEB*	MC9301L	10.50	8.75	6.85
15206BFB*	MC9301F	14.70	12.25	9.55
15501BAB*	MC54H08F	6.30	5.25	4.10
15501BCB*	MC54H08L	4.50	3.75	2.95
15502BAB*	MC54H11F	5.30	5.25	4.10
15502BCB*	MC54H11L	4.50	3.75	2.95
15503BAB*	MC54H21F	6.30	5.25	4.10
15503BCB*	MC54H21L	4.50	3.75	2.95
15603BEB*	MC9318L	11.55	9.60	7.45
15603BFB*	MC9318F	14.35	11.95	8.95
15901BEB*	MC9300L	11.55	9.60	7.45
15901BFB*	MC9300F	14.35	11.95	8.95
15902BEB*	MC9328L	14.05	11.70	9.15
15902BFB*	MC9328F	17.60	14.65	11.05

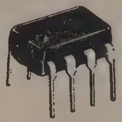
*QUAL in process.

Case 11

Case 199-04

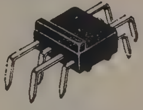
Case 206A

Case 614

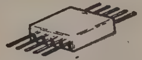

Case 626

Case 641

Case 643A


Case 644A

Case 647


Case 665

Case 686

OPERATIONAL AMPLIFIERS

Nonencapsulated chip, flip-chip and beam-lead devices; flat ceramic beam-lead devices are also available. Types, data and pricing on request. Listed in order of increasing input bias current (I_{IB}) within temperature range.

NON-COMPENSATED

Military temperature range −55° C to +125° C.

Motorola Type	Case	Description	Max. I_{IB} μA	Min. A_{vol} V/V	S.R. V/μs Typ.	Net Each, Lots of 1-24	25-99	100-999
MLM108G	601	Precision	0.002	50K	0.3	$11.25	$ 9.40	$ 7.50
MLM108AG	601	Precision	0.002	80K	0.3	27.00	22.50	18.00
MLM101AG	601	General purpose	0.075	50K	0.5	4.95	4.10	3.30
MC1539G	601	High slew rate	0.5	50K	4.2	3.75	3.10	2.50
MC1709G	601	General purpose	0.5	25K	0.3	1.57	1.31	1.05
MC1748G	601	General purpose	0.5	50K	0.5	2.92	2.43	1.95
MC1709AG	601	High performance	0.6	25K	0.5	5.85	4.89	3.90
MC1533G	603B	General purpose	1.0	40K	2.0	5.25	4.40	3.50
MC1520G	603	High performance	2.0	1K	5.0	6.00	5.00	4.00
MC1712G	601	Wideband DC amplifier	5.0	2.5K	1.5	8.93	7.44	5.95
MC1530G	603B	General purpose	10	4.5K	1.0	12.75	10.60	8.50
MC1531G	603B	Darlington input	15	2.5K	1.0	12.75	10.60	8.50

Industrial temperature range 0° C to +70° C.

Motorola Type	Case	Description	Max. I_{IB} μA	Min. A_{vol} V/V	S.R. V/μs Typ.	Net Each, Lots of 1-24	25-99	100-999
LM301AN	626	General purpose	0.25	25K	0.5	$ 0.52	$ 0.43	$ 0.35
MC1431G	603B	Darlington input	0.3	1.5K	1.0	5.25	4.35	3.50
MC1748CG	601	General purpose	0.5	20K	0.5	1.02	.85	.68
MC1439G	601	High slew rate	1.0	15K	4.2	2.20	1.80	1.45
MC1709CG	601	General purpose	1.5	15K	0.3	.99	.83	.66
MC1433G	603B	General purpose	2.0	30K	2.0	3.90	2.65	1.95
MC1420G	603	Differential output	4.0	750	5.0	2.70	2.25	1.80
LM308N	626	Precision	7.0	25K	0.3	1.20	1.00	.80
LM308AN	626	Precision	7.0	80K	0.3	6.45	5.40	4.30
MC1712CG	601	Wideband DC amplifier	7.5	2K	1.5	3.00	2.50	2.00
MC1430G	603B	General purpose	15	4K	1.0	5.25	4.35	3.50

INTERNALLY COMPENSATED

Military temperature range −55°C to +125° C.

Motorola Type	Case	Description	Max. I_{IB} μA	Min. A_{vol} V/V	S.R. V/μs Typ.	Net Each, Lots of 1-24	25-99	100-999
MLM110G	601	Unity gain	0.003	Unity	30	$ 7.50	$ 6.25	$ 5.00
MC1776G	601	μPower programmable	0.0075	200K	0.2	9.00	7.50	6.00
MC1556G	601	High performance	0.015	100K	2.5	7.50	6.25	5.00
MC1536G	601	High voltage	0.02	100K	2.0	18.00	15.00	12.00
MLM107G	601	General purpose	0.075	50K	0.5	6.00	5.00	4.00
MC1733G	603	Wideband diff. video amp.	0.2	90	.....	7.42	6.18	4.95
MC1741G	601	General purpose	0.5	50K	0.5	3.00	2.50	2.00
MC1741NG	601	Low noise	0.5	50K	0.5	3.75	3.12	2.50
MC1741SG	601	High slew rate	0.5	50K	10	4.42	3.68	2.95

Industrial temperature range 0° C to +70° C.

Motorola Type	Case	Description	Max. I_{IB} μA	Min. A_{vol} V/V	S.R. V/μs Typ.	Net Each, Lots of 1-24	25-99	100-999
MC1776CG	601	μPower programmable	0.003	100K	0.2	$ 3.75	$ 3.12	$ 2.50
MLM310G	601	Unity gain	0.007	Unity	30	2.92	2.43	1.95
MC1456G	601	High performance	0.03	70K	2.5	3.37	2.80	2.25
MC1436G	601	High voltage	0.04	70K	2.0	6.75	5.60	4.50
MC3476G	601	μPower programmable	0.05	50K	1.0	2.25	1.90	1.50
MLM307G	601	General purpose	0.25	25K	0.5	.97	.81	.65
MC1741CG	601	General purpose	0.5	20K	0.5	1.00	.80	.65
MC1741NCG	601	Low noise	0.5	20K	0.5	1.95	1.62	1.30
MC1741SCG	601	High slew rate	0.5	20K	10	2.51	2.09	1.67

Same as listed at the left, except additional case types that are available.

Motorola Type	Case	Net Each, Lots of 1-24	25-99	100-999
LM301AH	601	$0.97	$0.81	$0.65
LM308AH	601	9.00	7.50	6.00
LM308H	601	1.65	1.35	1.10
MC1430F	606	6.75	5.60	4.50
MC1430P	626	5.25	4.35	3.50
MC1431F	606	6.75	5.60	4.50
MC1431P	626	5.25	4.35	3.50
MC1433F	606	8.85	7.35	5.90
MC1433L	632	2.90	2.45	1.95
MC1433P	626	2.90	2.45	1.95
MC1436CG	601	3.75	3.10	2.50
MC1439L	632	2.40	2.00	1.60
MC1439P1	626	2.05	1.70	1.35
MC1439P2	626	2.25	1.90	1.50
MC1456CG	601	2.85	2.37	1.90
MC1456CL	632	2.85	2.37	1.90
MC1456L	632	3.37	2.80	2.25
MC1456P1	626	3.15	2.75	2.10
MC1456U	693	3.30	2.80	2.20
MC1520F	606	12.00	10.00	8.00
MC1530F	606	15.00	12.50	10.00
MC1531F	606	15.00	12.50	10.00
MC1533F	606	12.00	10.00	8.00
MC1533L	632	5.25	4.40	3.50
MC1539L	632	3.75	3.10	2.50
MC1556L	632	7.50	6.25	5.00
MC1556U	693	7.50	6.25	5.00
MC1709AF	606	30.00	25.00	20.00
MC1709AL	632	5.25	4.38	3.50
MC1709CF	606	2.25	1.80	1.50
MC1709CL	632	.99	.83	.66
MC1709CP1	626	.64	.53	.43
MC1709CP2	626	.95	.79	.63
MC1709F	606	4.20	3.50	2.80
MC1709L	632	1.57	1.31	1.05
MC1712CF	606	3.75	3.13	2.50
MC1712CL	632	3.53	2.94	2.35
MC1712F	606	9.75	8.13	6.50
MC1712L	632	8.93	7.44	5.95
MC1733L	632	7.42	6.18	4.95
MC1741CF	606	5.85	4.90	3.90
MC1741CL	632	1.20	1.00	.78
MC1741CU	693	1.20	1.00	.78
MC1741F	606	7.05	5.88	4.70
MC1741L	632	3.00	2.50	2.00
MC1741NCL	632	1.87	1.56	1.25
MC1741NCP1	626	1.50	1.25	1.00
MC1741NCP2	626	1.80	1.50	1.20
MC1741NCU	693	1.95	1.62	1.30
MC1741NL	632	3.75	3.12	2.50
MC1741NU	693	3.75	3.12	2.50
MC1741SCP1	626	2.10	1.75	1.40
MC1741U	693	2.62	2.18	1.75
MC1748CP1	626	.96	.80	.64
MC1776CP1	626	3.00	2.50	2.00
MC3476P1	626	1.88	1.56	1.25
MLM101AU	693	4.50	3.75	3.00
MLM108AF	606	33.00	27.50	22.00
MLM108AL	632	26.25	21.85	17.50
MLM108AU	693	26.25	21.85	17.50
MLM108F	606	22.50	18.75	15.00
MLM108L	632	10.85	9.00	7.25
MLM108U	693	10.85	9.00	7.25
MLM307P1	626	.90	.75	.60
MLM310P1	626	2.80	2.30	1.85

SEE OTHER MOTOROLA IC PAGES FOR CASE ILLUSTRATIONS

MOTOROLA Semiconductors LINEAR INTEGRATED CIRCUITS

DUAL OPERATIONAL AMPLIFIERS

Listed in increasing order of input bias current (I_{IB}) within temperature range.

INTERNALLY COMPENSATED

Military temperature range −55° C to +125° C.

Motorola Type	Case	Description	Max. I_{IB} µA	Min. A_{vol} V/V	S.R. V/µs Typ.	Net Each, Lots of 1-24	25-99	100-999
MLM158G	601	Single supply	0.15	50K	0.6	$ 5.45	$ 4.55	$ 3.65
MC1558G	601	Dual MC1741	0.5	50K	0.8	5.25	4.37	3.50
MC1558NG	601	Low noise	0.5	50K	0.8	6.00	5.00	4.00
MC1558SG	601	High slew rate	0.5	50K	10	6.00	5.00	4.00
MC1747G	601	Dual MC1741	0.5	50K	0.5	6.00	5.00	4.00
MC3558G	601	Single supply	0.5	50K	0.6	6.35	5.30	4.25
MC4558G	601	High frequency	0.5	50K	1.5	3.30	2.75	2.20

Industrial temperature range 0° C to +70° C.

Motorola Type	Case	Description	Max. I_{IB} µA	Min. A_{vol} V/V	S.R. V/µs Typ.	Net Each, Lots of 1-24	25-99	100-999
MLM358G	601	Single supply	0.25	25K	0.6	$ 1.95	$ 1.62	$ 1.30
MC1458G	601	Dual MC1741	0.5	20K	0.8	1.85	1.55	1.25
MC1458NG	601	Low noise	0.5	20K	0.8	2.77	2.31	1.85
MC1458SG	601	High slew rate	0.5	20K	10	3.45	2.85	2.30
MC1747CG	603	Dual MC1741	0.5	25K	0.5	3.75	3.12	2.50
MC3458G	601	Single supply low distortion	0.5	20K	0.6	2.40	2.00	1.60
MC4558CG	601	Single supply	0.5	20K	1.5	1.42	1.18	.95

Automotive temperature range −40° C to +85° C.

Motorola Type	Case	Description	Max. I_{IB} µA	Min. A_{vol} V/V	S.R. V/µs Typ.	Net Each, Lots of 1-24	25-99	100-999
MC3358G	626	Single supply	5.0	20K	0.6	$ 6.35	$ 5.30	$ 4.25

NON-COMPENSATED

Military temperature range −55° C to +125° C.

Motorola Type	Case	Description	Max. I_{IB} µA	Min. A_{vol} V/V	S.R. V/µs Typ.	Net Each, Lots of 1-24	25-99	100-999
MC1537L	632	Dual MC1709	0.5	25K	0.25	$3.00	$2.50	$2.00
MC1535G	603B	General purpose	3.0	4K	0.01	18.00	15.00	12.00

Industrial temperature range 0° C to +70° C.

Motorola Type	Case	Description	Max. I_{IB} µA	Min. A_{vol} V/V	S.R. V/µs Typ.	Net Each, Lots of 1-24	25-99	100-999
MC1437L	632	Dual MC1709	1.5	15K	0.25	$2.65	$2.20	$1.75
MC1435G	603B	General purpose	5.0	3.5K	0.01	2.25	1.90	1.50

Same as listed at the left, except additional case types that are available.

Motorola Type	Case	Net Each, Lots of 1-24	25-99	100-999
MC1435F	606	$8.25	$6.85	$5.50
MC1435L	632	2.25	1.90	1.50
MC1437P	626	2.25	1.87	1.50
MC1458L	632	1.73	1.73	1.35
MC1458NL	632	2.77	2.31	1.85
MC1458NP1	626	2.40	2.00	1.60
MC1458NP2	626	2.62	2.18	1.75
MC1458NU	693	2.62	2.18	1.75
MC1458P1	626	.85	.71	.57
MC1458SL	632	3.45	2.85	2.30
MC1458SP1	626	2.40	2.00	1.60
MC1458SP2	626	2.60	2.15	1.75
MC1458SU	693	3.30	2.75	2.20
MC1458U	693	1.87	1.56	1.25
MC1535F	606	15.00	12.50	10.00
MC1535L	632	12.75	10.60	8.50
MC1558NL	632	6.00	5.00	4.00
MC1558NU	693	5.25	4.37	3.50
MC1558L	632	5.25	4.37	3.50
MC1558SL	632	6.00	5.00	4.00
MC1558SU	693	4.65	3.90	3.10
MC1558U	693	4.50	3.75	3.00
MC1747CF	606	7.73	6.44	5.15
MC1747CL	632	3.75	3.12	2.50
MC1747CP2	626	1.50	1.25	1.00
MC1747F	606	13.50	11.25	9.00
MC1747L	632	6.00	5.00	4.00
MC3558U	693	6.25	5.20	4.15
MC4558U	693	3.15	2.60	2.10
MC4558CP1	626	1.20	1.00	.80
MC4558CU	693	1.35	1.15	.90
MC4558ACP1	626	2.40	2.00	1.60
MLM158U	693	5.70	4.75	3.80
MLM358P1	626	.95	.80	.62
MLM358U	693	1.85	1.55	1.25

QUAD OPERATIONAL AMPLIFIERS

INTERNALLY COMPENSATED

Military temperature range −55° C to +125° C.

Motorola Type	Case	Description	Max. I_{IB} µA	Min. A_{vol} V/V	S.R. V/µs Typ.	Net Each, Lots of 1-24	25-99	100-999
MLM124L	632	Quad MC1741	0.15	50K	0.6	$12.00	$10.00	$ 8.00
MC3503L	632	General purpose	0.5	50K	0.6	13.10	10.95	8.75
MC4741L	632	Quad MC1741	0.5	50K	0.5	9.75	8.10	6.50

Industrial temperature range 0° C to +70° C.

MLM324L	632	Low power	0.5	20K	0.6	$ 4.15	$ 3.45	$ 2.75
MC3401L	632	Low cost	0.3	1K	0.6	1.35	1.12	.90
MC3403L	632	No crossover distortion	0.5	20K	0.6	4.35	3.63	2.90
MC4741CL	632	Quad MC1741	0.5	20K	0.5	9.75	8.10	6.50

Automotive temperature range −40° C to +85° C.

MC3301P	646	Quad mirror gain	0.3	1K	0.6	$1.30	$1.10	$0.90
MC3303L	632	Differential gen. purpose	0.5	20K	0.6	4.35	3.62	2.90
MLM2902P	646	Low power differential	0.5	.....	0.6	1.75	1.45	1.15

Same as listed at the left, except additional case types.

Motorola Type	Case	Net Each, Lots of 1-24	25-99	100-999
MC3303P	646	$4.12	$3.45	$2.75
MC3401P	646	.96	.80	.64
MC3403P	646	2.25	1.87	1.50
MC4741CP	646	2.75	2.30	1.85
MLM324P	646	1.50	1.25	1.00

HIGH FREQUENCY AMPLIFIERS

Temperature −55° C to +75° C.

Motorola Type	Case	Bandwidth at Av MHz	dB	Vos p-p V	Net Each, Lots of 1-24	25-99	100-999
MC1510G	601	DC to 40*		4.5	$12.00	$10.00	$8.00
MC1410G‡	601				2.25	1.90	1.50
MC1545F	607	DC to 75*		2.5	9.75	8.10	6.50
MC1545G†	602A				8.25	6.85	5.50
MC1445F‡	607				6.95	5.80	4.65
MC1445G†‡	602A				2.25	1.90	1.50
MC1550F	606	22 min.*		6.0	7.25	6.05	4.85
MC1550G	602B				1.50	1.00	.75
MC1552G	603B	40 35	34 40	4.2	9.00	7.50	6.00
MC1553G	603B	35 15	46 52	4.2	9.00	7.50	6.00
MC1590G	601	100 60	4 25	7.0	5.60	4.70	3.75
MC1733G	603-02	40	52	4.0	7.42	6.18	4.95
MC1733L	632	90	40		7.42	6.18	4.95
MC1733CG‡	603-02	120	20		1.00	.80	.65
MC1733CL‡	632				1.20	1.00	.78

*Bandwidth value only. †Case 632 (suffix L) available at same price. ‡Temperature, 0° C to +75° C.

DIGITAL-TO-ANALOG CONVERTERS

Temperature 0° C to +70° C. MDTL, MTTL compatible.
Temperature −55° C to +125° C. available.

Motorola Type	Case	Function	Net Each, Lots 1-24	25-99	100-999
MC1406L	632	6-bit D/A converter	$5.90	$4.95	$3.95
MC1408L6	620	8-bit D/A converter	4.35	3.60	2.90
MC1408L7	620		5.75	4.80	3.85
MC1408L8	620		7.05	5.90	4.70

RECEIVERS

Temperature 0° C to +70° C; MTTL compatible.

MC75107L*	632	Dual line receiver with strobe inputs	$2.82	$2.35	$1.88
MC75107P*	646		2.35	1.96	1.57
MC75108L†	632		2.82	2.35	1.88
MC75108P†	646		2.35	1.96	1.57

Temperature 0° C to +75° C. MDTL, MTTL compatible.

MC1489L	632	Quad line receiver	$3.75	$3.10	$2.50
MC1489AL	632		3.75	3.10	2.50

*Active pullup. †Open collector output.

COMPARATORS

Temperature 0° C to +75° C. A_{vol} = 1,000 V/V min. except MC1711, 700V/V min. Temperature −55° C to +125° C. avail.

MC1711CF	606	Dual w/outputs wired-OR, strobe capability	2.55	2.13	1.70
MC1711CG	603-2		1.05	,88	.70

INTERFACE CIRCUITS

Interface circuits fit in the gray area between the linear and digital realms. Usually these ICs perform the necessary translation between an analog signal input and the required digital logic levels or vice versa.

SENSE AMPLIFIERS—CORE AND PLATED-WIRE MEMORY

Provide the necessary translation from outputs of core or plated-wire to MTTL (unless otherwise noted) logic levels. Temperature −55° C to +125° C, MC5500/1500 Series; 0° C to +70° C, MC7500/1400 Series. Power supply, ±5.0 V except as otherwise noted.

Function	Threshold Voltage at V_{ref} mV	mV	Max. t_p ns	Case	Motorola Type	Net Each, Lots of 1-24	25-99	100-999
Dual with independent strobing	11–19 36–44	15 40	40	620	**MC7524L**	$ 2.33	$ 1.93	$ 1.55
	8–22 33–47	15 40	40	620	**MC7525L**	1.79	1.49	1.19
Same as MC7524, MC7525 except amplifier test points included	11–19 36–44	15 40	40	620	**MC7528L**	2.33	1.93	1.55
	10–20 35–45	15 40	40	620	**MC5528L**	7.50	6.25	5.00
	8–22 33–47	15 40	40	620 620	**MC5529L** **MC7529L†**	4.85 1.79	4.05 1.49	3.25 1.19
Same as MC7524, MC7525 except NAND outputs	11–19	15	40	620	**MC7534L**	2.33	1.93	1.55
	10–20 35–45	15 40	40	620	**MC5534L**	7.50	6.25	5.00
	8–22 33–47	15 40	40	620 620	**MC5535L** **MC7535L†**	4.85 2.33	4.05 1.93	3.25 1.55
Same as MC7528, MC7529 except NAND outputs	11–19	15	40	620	**MC7538L**	2.33	1.93	1.55
	10–20 35–45	15 40	40	620	**MC5538L**	7.50	6.25	5.00
	8–22 33–47	15 40	40	620 620	**MC5539L** **MC7539L**	4.85 1.79	4.05 1.49	3.25 1.19
0.5 μs cycle time, 20 ns typ. response time, —6.0 V power supply	14–20	−6	30	632 632	**MC1540L** **MC1440L**	5.95 1.50	4.95 1.25	3.95 .98
AC coupled, decoded input chan. selection, wired-OR output/output strobe capability, +5.0, −6.0 V power supply	1.0 typ.	......	25	620 620	**MC1544L*** **MC1444L***	13.50 12.00	11.25 10.00	9.00 8.00

*Plated-wire memory; all other types are core memory. †Case 648 also available. §Case 607 also available. §Case 607 also available at same price.

LINE DRIVERS, RECEIVERS AND TRANSCEIVERS

Motorola Type	Case	Function	Net Each, Lots of 1-24	25-99	100-999
MC8T13L **MC8T13P**	620 648	Open-emitter dual line driver TTL compatible	$2.70 2.30	$2.25 1.95	$1.80 1.55
MC8T14L **MC8T14P**	620 648	Hysteresis-equipped line rec. IBM system compatible	2.70 2.30	2.25 2.25	1.80 1.80
MC8T23L **MC8T23P**	620 648	Open-emitter dual line driver TTL compatible	2.95 2.55	2.45 2.10	1.95 1.69
MC8T24L **MC8T24P**	620 648	Hysteresis-equipped line rec. IBM system compatible	2.95 2.55	2.45 2.10	1.95 1.69
MC8T26L **MC8T26P**	620 648	Quad bidirectional data bus extender	4.50 2.70	3.75 2.25	3.00 1.80
MC8T95P	648	Non-inv. Hex unidirectional address and control bus extender with 3-state outputs	1.95	1.60	1.30
MC8T96P	648	Inv.	1.95	1.60	1.30
MC8T97P	648	Non-inv.	1.95	1.60	1.30
MC8T98P	648	Inv.	1.95	1.60	1.30
MC1411P	648	G.P. Seven Darlington transistor array with output clamp diodes	1.45	1.20	.95
MC1411PW	648	G.P.	1.65	1.40	1.10
MC1412P	648	PMOS	1.45	1.20	.95
MC1412PW	648	PMOS	1.65	1.40	1.10
MC1413P	648	CMOS	1.45	1.20	.95
MC1413PW	648	CMOS	1.65	1.40	1.10
MC1416P	648	MOS	1.45	1.20	.95
MC1416PW	648	MOS	1.65	1.40	1.10
MC1472P1	626	Dual peripheral driver	1.58	1.30	1.05
MC1488L **MC1488AL**	632 632	Quad, output current limiting	3.75 3.75	3.10 3.10	2.50 2.50
MC1489L **MC1489AL**	632 632	Quad, low hysteresis, line receiver	3.75 3.75	3.10 3.10	2.50 2.50
MC3437L **MC3437P** **MC3438L** **MC3438P**	620 648 620 648	Hex line receiver hysteresis equipped Quad line transceiver with open collectors	3.30 2.95 3.30 2.95	2.75 2.45 2.75 2.45	2.20 1.95 2.20 1.95
MC3440P **MC3441P** **MC3443P** **MC3446P**	648 648 648 648	Quad line transceiver	3.20 3.20 3.20 3.35	2.70 2.70 2.70 2.80	2.15 2.15 2.15 2.25
MC3449L **MC3449P**	620 648	Bidirectional bus switch	4.50 3.75	3.75 3.10	3.00 2.50
MC3450L **MC3450P**	620 648	Quad line receiver	7.05 6.00	5.90 5.00	4.70 4.00
MC3452L **MC3452P**	620 648	Quad line receiver	7.05 6.00	5.90 5.00	4.70 4.00
MC3453L **MC3453P**	620 648	Quad line driver	7.50 6.30	6.25 5.25	5.00 4.20
MC3459L **MC3459P**	632 646	Quad address line driver	3.25 2.93	2.70 2.44	2.15 1.95

Motorola Type	Case	Function	Net Each, Lots of 1-24	25-99	100-999
MC3490P **MC3491P** **MC3494P**	648 648 648	High level gas discharge drivers	$3.50 3.50 3.50	$2.95 2.95 2.95	$2.35 2.35 2.35
MC6881L **MC6881P**	620 648	Bidirectional bus switch	4.50 3.75	3.75 3.10	3.00 2.50
MC6885L	620	Non-inv. Hex unidirectional address and control bus extenders	2.49	2.05	1.65
MC6885P	648	Non-inv.	1.95	1.60	1.30
MC6886L	620	Inv.	2.49	2.05	1.65
MC6886P	648	Inv.	1.95	1.60	1.30
MC6887L	620	Non-inv.	2.49	2.05	1.65
MC6887P	648	Non-inv.	1.95	1.60	1.30
MC6888L	620	Inv.	2.49	2.05	1.65
MC6888P	648	Inv.	1.95	1.60	1.30
MC10177L	620	Triple line driver	7.89	7.26	6.31
MC55107L **MC55108L**	632 632	Dual line receivers	5.25 5.25	4.40 4.40	3.45 3.45
MC55325L	620	Core driver	6.15	5.60	4.55
MC75107 **MC75107P** **MC75108L** **MC75108P**	632 646 632 646	Dual line receivers	2.82 2.35 2.82 2.35	2.35 1.96 2.35 1.96	1.88 1.57 1.88 1.57
MC75110L **MC75110P**	632 646	Dual line driver	2.82 2.35	2.35 1.96	1.88 1.57
MC75140P1	626	Dual line receiver	2.55	2.15	1.70
MC75325L **MC75325P**	620 648	Core driver	4.30 3.59	3.58 2.98	2.86 2.38
MC75358L **MC75358P**	632 646	Dual clock line driver	4.65 4.05	3.88 3.38	3.10 2.70
MC75365L **MC75365P**	620 648	Quad clock driver	4.95 3.75	4.15 3.10	3.30 2.50
MC75368L **MC75368P**	632 646	Dual clock driver	5.25 3.85	4.40 3.20	3.50 2.55
MC75451P **MC75451U** **MC75461P**	626 693 626	AND out Dual peripheral drivers	.96 1.35 1.02	.80 1.15 .85	.64 .90 .68
MC75452P **MC75452U** **MC75462P**	626 693 626	NAND out	.96 1.35 1.02	.80 1.15 .85	.64 .90 .68
MC75453P **MC75463P**	626 626	OR out	.96 1.02	.80 .85	.64 .68
MC75454P **MC75464P**	626 626	NOR out	.96 1.02	.80 .85	.64 .68
MC75491P	646	Quad LED segment driver	.90	.75	.60
MC75492P	646	Hex LED digit driver	1.19	.99	.79
MMH0026G **MMH0026L** **MMH0026CG** **MMH0026CL** **MMH0026CP1**	601 632 601 632 626	Dual clock drivers	14.60 14.60 5.95 5.95 5.25	12.20 12.20 4.95 4.95 4.37	9.75 9.75 3.95 3.95 3.50

MOTOROLA Semiconductors

LINEAR INTEGRATED CIRCUITS

FIXED OUTPUT VOLTAGE REGULATORS

$T_J = 0°$ C to $+150°$ C.

Motorola Type	Case	Output V	Output Tol. ±V	Max. I_O mA	Net Ea., Lots of 1-24	Net Ea., Lots of 24-99	Net Ea., Lots of 100-999
POSITIVE OUTPUT							
MC78L05CG	79	5.0	0.5	100	$1.28	$1.07	$0.85
MC78M05CP	313	5.0	0.25	500	1.20	1.00	.80
MC7705CG	79	5.0	0.25	750	3.00	2.50	2.00
MC7805CK	11	5.0	0.25	1500	2.70	2.25	1.80
LM309H	11	5.0	0.25	3000	3.40	2.80	2.25
MC78M06CP	313	6.0	0.3	500	1.20	1.00	.80
MC7706CG	79	6.0	0.3	750	3.00	2.50	2.00
MC7806CK	11	6.0	0.3	1500	2.70	2.25	1.80
MC78L08CG	79	8.0	0.8	100	1.28	1.07	.85
MC78M08CP	313	8.0	0.4	500	1.20	1.00	.80
MC7708CG	79	8.0	0.4	750	3.00	2.50	2.00
MC7808CK	11	8.0	0.4	1500	2.70	2.25	1.80
MC78L12CG	79	12	1.2	100	1.28	1.07	.85
MC78M12CP	313	12	0.6	500	1.20	1.00	.80
MC7712CG	79	12	0.6	750	3.00	2.50	2.00
MC7812CK	11	12	0.6	1500	2.70	2.25	1.80
MC78L15CG	79	15	1.5	100	1.28	1.07	.85
MC78M15CP	313	15	0.75	500	1.20	1.00	.80
MC7715CG	79	15	0.75	750	3.00	2.50	2.00
MC7815CK	11	15	0.75	1500	2.70	2.25	1.80
MC78L18CG	79	18	1.8	100	1.28	1.07	.85
MC78M18CP	313	18	0.9	500	1.20	1.00	.80
MC7718CG	79	18	0.9	750	3.00	2.50	2.00
MC7818CK	11	18	0.9	1500	2.70	2.25	1.80
MC78M20CP	313	20	1.0	500	1.20	1.00	.80
MC7720CG	79	20	1.0	750	3.00	2.50	2.00
MC78L24CG	79	24	2.4	100	1.28	1.07	.85
MC78M24ACG	79	24	1.2	100	1.58	1.32	1.05
MC7724CG	79	24	1.2	750	3.00	2.50	2.00
MC7824CK	11	24	1.2	1500	2.70	2.25	1.80
NEGATIVE OUTPUT							
MC7902CK	11	2.0	0.1	1500	$3.60	$3.00	$2.40
MC79L03CG	79	3.0	0.3	100	1.50	1.25	1.00
MC79L05CG	79	5.0	0.5	100	1.50	1.25	1.00
MC79L05ACG	79	5.0	0.25	100	1.88	1.57	1.25
MC7905CK	11	5.0	0.25	1500	3.60	3.00	2.40
MC7905.2CK	11	5.2	0.26	1500	3.60	3.00	2.40
MC7906CK	11	6.0	0.3	1500	3.60	3.00	2.40
MC7908CK	11	8.0	0.4	1500	3.60	3.00	2.40
MC79L12CG	79	12	1.2	100	1.50	1.25	1.00
MC7912CK	11	12	0.6	1500	3.60	3.00	2.40
MC79L15CG	79	15	1.5	100	1.50	1.25	1.00
MC79L15ACG	79	15	0.75	100	1.88	1.57	1.25
MC7915CK	11	15	0.75	1500	3.60	3.00	2.40
MC79L18CG	79	18	1.8	100	1.50	1.25	1.00
MC79L18ACG	79	18	0.9	100	1.88	1.57	1.25
MC7918CK	11	18	0.9	1500	3.60	3.00	2.40
MC79L24CG	79	24	2.4	100	1.50	1.25	1.00
MC79L24ACG	79	24	1.2	100	1.88	1.57	1.25
MC7924CK	11	24	1.2	1500	3.60	3.00	2.40

VARIABLE OUTPUT VOLTAGE REGULATORS

P_D at 25° C.

Motorola Type	Case	V_O VDC	Maximum I_O mA	Maximum P_D W	Net Ea., Lots of 1-24	Net Ea., Lots of 25-99	Net Ea., Lots of 100-999
POSITIVE OUTPUT							
MLM305G	601	4.5–30	20	0.4	$3.00	$2.50	$2.00
MLM205G	601	4.5–40	20	0.68	5.25	4.37	3.50
MLM105G	601	4.5–30	20	0.68	6.75	5.62	4.50
MC1723G	603C	2.0–37	150	0.65	3.15	2.62	2.10
MC1469G	603	2.5–32	250	0.68	4.15	3.45	2.75
MC1569G	603	2.5–32	250	0.68	6.75	5.65	4.50
NEGATIVE OUTPUT							
LM304H	601	.035–30	20	0.4	$3.75	$3.15	$2.50
MC1463G	603	3.8–32	250	0.68	4.15	3.45	2.75
MC1563G	603	3.6–33	250	0.68	7.90	6.55	5.25

SPECIAL REGULATORS

FLOATING REGULATORS

Designed for laboratory type power supplies, these regulators can deliver hundreds of volts—limited only by the breakdown voltage of associated, external, series-pass transistors.

Motorola Type	Case	Volts	I_O mA	Maximum I_O W	Maximum P_D 1-24	Net Each, Lots of 25-99	Net Each, Lots of 100-999
MC1466L	632	‡	§	0.75	$7.50	$6.25	$5.00
MC1566L	632	‡	#	0.75	9.75	8.15	6.50

‡Limited only by the characteristics of the external series-pass elements. §Current regulation 0.2%; #0.1%.

DUAL ±15 V TRACKING REGULATORS

Dual polarity regulators designed to provide balanced positive and negative output voltages. Internally, the devices are set for ±15 V output; but an external adjustment can change both outputs simultaneously from 8 to 20 V.

MC1468G	603C	14.8–15.2	±100	0.8	$4.20	$3.50	$2.80
MC1468L	632	14.8–15.2	±100	1.0	4.35	3.62	2.90
MC1468R	614	14.8–15.2	±100	2.4	5.62	4.68	3.75
MC1568G	603C	14.8–15.2	±100	0.8	6.37	5.31	4.25
MC1568L	632	14.8–15.2	±100	1.0	6.00	5.00	4.00
MC1568R	614	14.8–15.2	±100	2.4	9.00	7.50	6.00

LOW TEMPERATURE DRIFT, LOW VOLTAGE REFERENCE

MC1403U	693	2.5	10	.....	$2.60	$2.15	$1.75
MC1403P1	626	2.5	10	.....	2.25	1.88	1.50
MC1403AU	693	2.5	10	.....	7.90	6.55	5.25
MC1403AP1	626	2.5	10	.....	6.00	5.00	4.00
MC1503U	693	2.5	10	.....	7.50	6.25	5.00
MC1503AU	693	2.5	10	.....	18.00	15.00	12.00

SWITCHING TYPES

Motorola Type	Case	Min. –Max. V_{CC} Volts	Min. –Max. f_O kHx	Max. I_O ± mA	Net Each, Lots of 1-24	Net Each, Lots of 25-99	Net Each, Lots of 100-999
MC3420L	620	10–30	2–100	40	$9.00	$7.50	$6.00
MC3420P	648	10–30	2–100	40	8.60	7.20	5.75

CONSUMER DEVICES

Motorola Type	Case	Function	Net Each, Lots of 1-24	Net Each, Lots of 25-99	Net Each, Lots of 100-999
TELEVISION CIRCUITS					
MC1351P	646	Sound IF, detector, limiter, preamp	$1.43	$1.43	$1.10
MC1357P	646	Sound IF detector	1.49	1.49	1.15
MC1358P	646	Sound IF detector, DC volume control, preamp	1.30	1.30	1.00
MC1349P	626	1st and 2nd video IF	1.17	1.17	.90
MC1350P	626	1st and 2nd video IF	.98	.98	.75
MC1352P	646	1st and 2nd video IF, AGC, keyer and amp.	1.37	1.37	1.05
MC1330A1P	626	3rd video IF, detector, video amp and AFC buffer	1.50	1.50	1.15
MC1330A2P	626	3rd video IF, detector, video amp and AFC buffer	1.50	1.50	1.15
MC1331P	646	3rd IF video detector, sound IF detector, sync. sep.	1.82	1.82	1.40
MC1344P	646	AGC keyer, amplifier, noise gate, sync. sep.	2.60	2.60	2.00
MC1364P	646	Automatic fine tuning	1.37	1.37	1.05
MC1398P	646	Chrome IF amplifier and subcarrier system	2.82	2.82	2.17
MC1324P	646	Dual chroma demod.	1.82	1.82	1.40
MC1327P	646	Dual chrome demod.	1.95	1.95	1.50
MC1323P	648	Triple chroma demod.	1.90	1.90	1.50
MC1391P	626	Horizontal processor	.98	.98	.75
MC1394P	626	Horizontal processor	.98	.98	.75
MC1393P	648	Vertical processor	1.76	1.76	1.35
RADIO CIRCUITS					
MC1350P	626	IF amplifier	$0.98	$0.98	$0.75
MC1355P	646	Limiting FM IF amplifier	1.43	1.43	1.10
MC1356P	646	Limiting FM IF amplifier with quadrature detector	1.56	1.56	1.20

Motorola Type	Case	Function	Net Each, Lots of 1-24	Net Each, Lots of 25-99	Net Each, Lots of 100-999
MC1357P	646	Limiting FM IF amplifier with quadrature detector	$1.49	$1.49	$1.15
MC1375P	646	IF amp, limiter, detector, audio preamplifier	1.69	1.69	1.30
MC3310P	626	IF amplifier	.72	.72	.55
MC1310P	646	FM multiplex stereo	4.29	4.29	3.30
MC1312P	646	Four channel SQ decoder	2.93	2.93	1.95
MC1314P	648	Four channel SQ gain and balance control	4.65	4.65	3.10
MC1315P	648	Four channel SQ logic	7.34	7.34	4.90
AUDIO CIRCUITS					
MC1303P	646	Dual preamplifier	$1.82	$1.82	$1.40
MC3320P	626	Class B audio driver	1.47	1.47	1.12
MC3321P	626	Class B audio driver	1.30	1.30	1.00
MC1385P	646	Class B audio driver	2.60	2.60	2.00
MC1306P	626	Audio power amplifier	.91	.91	.70
MC3360P	626	Audio power amplifier	.91	.91	.70
ORGAN CIRCUITS					
MC1302P	646	7-stage divider	$2.54	$2.54	$1.95
MC3340P	626	Electronic attenuator	1.21	1.21	.93
AUTOMOTIVE CIRCUITS					
MC3301P	646	Quad operational amplifier	$1.30	$1.10	$0.90
MC3302P	646	Quad comparator	1.12	.93	.75
MLM239P	646	Quad comparator	3.00	2.50	2.00
MC3325P	646	Automotive regulator	1.30	1.30	1.00
MC3333P	646	Variable dwell ignition	2.93	2.93	2.25
TRANSISTOR ARRAYS					
MC3346P	646	Differential pair and three isolated transistors	$0.91	$0.91	$0.70
MC3330P	626	Differential pair and constant current transistor	.65	.65	.50

MOTOROLA Semiconductors

Microprocessor Products

NMOS MICROPROCESSOR FAMILY

Motorola No.	Description	Net Each, Lots of 1-24	25-99
MC6800L	8 Bit Microprocessor	$25.50	$21.00
MC6820L	Peripheral Interface Adapter	11.95	10.60
MC6850L	Asychronous Comm. Interface Adapter	11.50	10.25
MC6852L	Synchronous Serial Data Adapter	15.00	13.00
MC6860L	0-600 BPS Modem	12.00	10.40
MC6862L	2400 BPS Modulator	16.50	14.00

MOS READ ONLY ACCESS MEMORY

Motorola No.	Description	Net Each, Lots of 1-24	25-99	100-999
MCM6830L**	1K x 8 Custom Prog. ROM			$13.80
MCM6830L7	1K x 8 Loader, Async. Com. and Diagnostic Prog. for use with MC6800L	$18.15	$15.00	13.80
MCM6830P**	1K x 8 Custom Prog. ROM			11.20

**Custom Programmed Unit. Minimum order quantity—500 devices with prototypes available. Non-recurring mask charge for custom programmed units is $1500.00 per program.

NMOS MICROPROCESSOR KIT

Motorola No.	Description	Net Each, Lots of 1-5
MEC6800C	M6800 Evaluation Kit Board	$ 50.00
MEK6800D1	M6800 Microcomputer Design Kit	149.00

MPU MANUAL PRICING

	Single Copy	2-9 Copies
MPU Program Manual	$ 3.00	$ 2.50
MPU Applications Manual	25.00	15.00

SUPPORT PRODUCTS—EXORCISER PERIPHERALS

Motorola No.	Description	Net Each, Lots of 1-5
	EXORDISK FLOPPY DISK SYSTEM 2 DRIVES	
M68SFD1000	EXORdisk Floppy Disk System, 2 Drives	$3300.00
M68SFD2000	EXORdisk with 220 VAC, 50/60 Hz	3350.00
	4 DRIVES	
M68FD3602-19	EXORdisk, 19 inch Rack Mounting Kit	$100.00
M6822	Blank Cassette	10.00
M6833	Blank Diskette	10.00
	CABLE	
M68IFC	EXORciser, Interface Module for EXORtape & EXORdisk	$300.00

SUPPORT PRODUCTS— HARDWARE, EXORCISER SOFTWARE

Motorola No.	Description	Net Each, Lots of 1-5
	TABLE TOP MODEL	
M68SDTT1	EXORciser, Table Top Model, 110 VAC	$2600.00
M68SDTT2	EXORciser, Table Top Model, 220 VAC	2650.00
MEX68PS	EXORciser Power Supply	290.00
MEX6800	MPU Module (additional)	500.00
	EXORCISER OPTIONS	
MEX68WW	Universal Wire Wrap Module	$59.00
MEX68XT	Extender Module	79.00
	RAM MODULE	
MEX6812-1	2K x 8 Static Ram Module	$ 350.00
MEX6815-3	8K x 8 Dynamic Ram Module	595.00
MEX6816-1	16K x 8 Dynamic Ram Module	895.00
	INPUT/OUTPUT MODULE	
MEX6820	Input/Output Module	$375.00
MEX6850	ACIA Module	375.00
	PROM PROGRAMMER MODULE	
MEX68PP1A	PROM/Programmer Module with Cassette	$ 595.00
MEX68PP1B	PROM/Programmer Module with Paper Tape	595.00
MEX68PP1D	PROM/Programmer Module with Diskette	595.00
MEX68SA	System Analyzer	1195.00
	CABLE	
MEX68IC	I/O Interconnect Cables	$32.00
	RESIDENT SOFTWARE ASSEMBLER/EDITOR	
M68XAE6813A	Resident Assembler/Editor, Cassette	$250.00
M68XAE6813B	Resident Assembler/Editor, Paper Tape	250.00
M68XAE6813D	Resident Assembler/Editor, Floppy Disk	250.00
	ASSEMBLER	
M68ASMR013A	EXORciser Comp.-Resident Assembler, Cassette	$125.00
M68ASMR013B	EXORciser Comp.-Resident Assembler, Paper Tape	125.00
M68ASMR013D	EXORciser Comp.-Resident Assembler, Diskette	125.00
	EDITOR	
M68EDTR013A	EXORciser Comp.-Resident Editor, Cassette	$125.00
M68EDTR013B	EXORciser Comp.-Resident Editor, Paper Tape	125.00
M68EDTR013D	EXORciser Comp.-Resident Editor, Diskette	125.00

SUPPORT PRODUCTS—EVALUATION MODULE

Motorola No.	Description	Net Each, Lots of 1-5
MEC6800A	Evaluation Module I	$595.00
	RESIDENT ASSEMBLER/EDITOR	
M68EAE6813A1	Eval. Module I–Resident Asm./Ed., Cassette	$250.00
M68EAE6813B1	Eval. Module I–Resident Asm./Ed., Paper Tape	250.00
MEC6800B	Evaluation Module 2	795.00
	RESIDENT SOFTWARE ASSEMBLER	
M68ASMR213A	Minibug II—Resident Asm., Cassette	$125.00
M68ASMR213B	Minibug II—Resident Asm., Paper Tape	125.00
	EDITOR	
M68EDTR213A	Minibug II—Resident Editor,Cassette	$125.00
M68EDTR213B	Minibug II—Resident Editor, Paper Tape	125.00
	MINI BUG II FIRMWARE	
MEC6800B1	EM 2 Bare Board	$50.00

SUPPORT PRODUCTS—NON-RESIDENT SOFTWARE

Motorola No.	Description	Net Each, Lots of 1-5
	CROSS ASSEMBLER SIGMA 9	
M68SAM0214E	Cross Asm./Punch Card	$1250.00
M68SAM0214F	Cross Asm./Mag Tape	1250.00
	HP2100	
M68SAM0413E	Cross Asm./Punch Card	1250.00
M68SAM0413F	Cross Asm./Mag Tape	1250.00
	IBM 360/370	
M68SAM0713E	Cross Asm./Punch Card	1250.00
M68SAM0713F	Cross Asm./Mag Tape	1250.00
	NOVA	
M68SAM0814E	Cross Asm./Punch Card	1250.00
M68SAM0814F	Cross Asm./Mag Tape	1250.00
	HIS 6000	
M68SAM0912E	Cross Asm./Punch Card	1250.00
M68SAM0912F	Cross Asm./Mag Tape	1250.00
	CDC 6000	
M68SAM1014E	Cross Asm./Punch Card	1250.00
M68SAM1014F	Cross Asm./Mag Tape	1250.00
	PDP-11	
M68SAM1112E	Cross Asm./Punch Card	1250.00
M68SAM1112F	Cross Asm./Mag Tape	1250.00
	HIS 6000	
M68MPL0912E	MPL Compiler/Punch Card	1250.00
M68MPL0912F	MPL Compiler/Mag Tape	1250.00
	SIMULATOR HP 2100	
M68EML0411E	Simulator/Punch Card	750.00
M68EML0411F	Simulator/Mag Tape	750.00
	NOVA	
M68EML0812E	Simulator/Punch Card	750.00
M68EML0812F	Simulator/Mag Tape	750.00
	CDC 6000	
M68EML1012E	Simulator/Punch Card	750.00
M68EML1012F	Simulator/Mag Tape	750.00

CMOS INTEGRATED CIRCUITS

Motorola No.	Description	Net Each, Lots of 1-24	25-99	100-999
MCM14505AL	64-Bit Static RAM	$14.69	$12.17	$10.13
MCM14505CL	64-Bit Static RAM	12.25	10.13	8.44
MCM14505CP	64-Bit Static RAM	8.16	6.76	5.63
MCM14524AL	256 x 4 Read Only Memory	Consult Factory		
MCM14524CL	256 x 4 Read Only Memory	Consult Factory		
MCM14524CP	256 x 4 Read Only Memory	Consult Factory		
MCM14537AL	256-Bit Static RAM	28.27	23.40	19.50
MCM14537CL	256-Bit Static RAM	24.50	20.28	16.90
MCM14552AL	64 x 4 Random Access Memory	29.36	24.30	20.25
MCM14552CL	64 x 4 Random Access Memory	24.46	20.25	16.88
MCM14552CP	64 x 4 Random Access Memory	16.31	13.50	11.25

Consult factory for pricing on McMos chips.

Motorola No.	Description	Net Each, Lots of 25-99	100-999
MCMC14505A	64-Bit Static RAM	$ 6.08	$ 5.07
MCMC14537A	256-Bit Static RAM	14.04	11.70
MCMC14552A	64 x 4 RAM	14.83	12.36

INTEGRATED CIRCUIT MEMORIES

Motorola No.	Description	Net Each, Lots of 1-24	25-99	100-999
MCM4064L	64-Bit TTL RAM	$ 6.95	$ 5.95	$ 4.95
MCM5003L	512-Bit TTL PROM	32.00	24.50	18.00
MCM5004L	512-Bit TTL PROM	32.00	24.50	18.00
MCM5303L	512-Bit TTL PROM	40.50	31.90	23.50
MCM5303F	512-Bit TTL PROM	48.00	36.75	27.00
MCM5304L	512-Bit TTL PROM	40.50	31.90	23.50
MCM5304F	512-Bit TTL PROM	48.00	36.75	27.00

NMOS MEMORY 8K ROMS

Motorola No.	Description	Net Each, Lots of 1-24	25-99	100-999
MCM6550L*#	7168-Bit Rhy. ROM			$13.90
MCM6550P*#	7168-Bit Rhy. ROM			11.70
MCM6560L*#	1Kx3 2Kx4 Binary ROM			8.40
MCM6560P*#	1Kx8 2Kx4 Binary ROM			6.80
MCM6561L	1Kx8 Binary Code Converter	$10.80	$ 9.15	8.40
MCM6561P	1Kx8 Binary Code Converter	8.75	7.40	6.80
MCM6562L	1Kx8 Binary Code Converter	10.80	9.15	8.40
MCM6562P	1Kx8 Binary Code Converter	8.75	7.40	6.80
MCM6570L*#	128x9x7 Cust/ Prog. Row Select			8.40
MCM6570P*#	128x9x7 Cust. Prog. Row Select			6.80
MCM6571L	128x9x7 ASCII Shifted w/Greek	10.80	9.15	8.40
MCM6571AL	128x9x7 MCM6571 Downcount	10.80	9.15	8.40

NMOS MEMORY 8K ROMS (Cont.)

Motorola No.	Description	Net Each, Lots of 1-24	25-99	100-999
MCM6571AP	128x9x7 MCM6571 Downcount	$ 8.75	$ 7.40	$ 6.80
MCM6571P	128x9x7 ASCII Shifted w/Greek	8.75	7.40	6.80
MCM6572L	128x9x7 ASCII Non-Shifted w/Greek	10.80	9.15	8.40
MCM6572P	128x9x7 ASCII Non-Shifted w/Greek	8.75	7.40	6.80
MCM6573L	128x9x7 KATA KANA Japanese	10.80	9.15	8.40
MCM6573P	128x9x7 KATA KANA Japanese	8.75	7.40	6.80
MCM6574L	128x9x7 Math Symbol and Pictures	10.80	9.15	8.40
MCM6574P	Math Symbol & Pict.	8.75	7.40	6.80
MCM6575L	128x9x7 Alphanumeric Control Char.	10.80	9.15	8.40
MCM6575P	128x9x7 Alphanumeric Control Char.	8.75	7.40	6.80
MCM6576L	128x9x7 MCM6574 British Standard	10.80	9.15	8.40
MCM6576P	128x9x7 MCM6574 British Standard	8.75	7.40	6.80
MCM6577L	128x9x7 MCM6574 German Standard	10.80	9.15	8.40
MCM6577P	128x9x7 MCM6574 German Standard	8.75	7.40	6.80
MCM6578L	128x9x7 MCM6574 French Standard	10.80	9.15	8.40
MCM6578P	128x9x7 MCM6574 French Standard	8.75	7.40	6.80
MCM6579L	128x9x7 General European Standard	10.80	9.15	8.40
MCM6579P	128x9x7 General European Standard	8.75	7.40	6.80
MCM6580L*#	128x7x9 Column Select Cust. Prog.	......	......	8.40
MCM6580P*#	128x9x7 Column Select Cust. Prog.	......	......	6.80
MCM6581L	128x7x9 USASCII Shifted w/Greek	10.80	9.15	8.40
MCM6581P	128x9 USASCII Shifted w/Greek	8.75	7.40	6.80
MCM6583L	128x7x9 KATA KANA Japanese	10.80	9.15	8.40
MCM6583P	128x7x9 KATA KANA Japanese	8.75	7.40	6.80

16K NMOS ROMS

Motorola No.	Description	Net Each, Lots of 1-24	25-99	100-999
MCM6590L*§	2Kx8 Binary ROM, Custom Prog.	......	......	$10.60
MCM6590P*§	2Kx8 Binary ROM, Custom Prog.	......	......	8.55
MCM6591L	2Kx8 Universal Code Converter	$13.35	$11.25	10.60
MCM6591P	2Kx8 Universal Code Converter	10.75	9.05	8.55

MOS MEMORIES

Motorola No.	Description	Net Each, Lots of 1-24	25-99	100-999
MCM6604L	4096-Bit Dynamic RAM, 350ns	$25.00	$15.00	$11.00
MCM6604L2	4096-Bit Dynamic RAM, 250ns	34.00	24.00	19.00
MCM6604L4	4096-Bit Dynamic RAM, 300ns	27.00	19.00	15.00
MCM6605AL1	4096-Bit Dynamic Random Access Memory	42.00	30.00	25.00
MCM6605AL2	4096-Bit Dynamic Random Access Memory	31.00	21.00	17.00
MCM6830P†§		......	......	10.10
MCM6832L*§	2Kx8 Custom Programmed ROM tacc = 550ns max.	......	......	11.80
MCM6832L91	2Kx8 Universal Code Converter tacc = 550ns max.	14.90	12.55	11.80
MCM6832P*§	2Kx8 Custom Programmed ROM tacc = 550ns max.	......	......	9.50
MCM6832P91	2Kx8 Universal Code Converter tacc = 550ns max.	11.95	10.10	9.50

Custom Programmed Unit. Minimum order quantity—*250 devices, †500 devices, with prototypes available. Non-recurring mask charge for custom programmed units is: #**$1000.00**, §**$1500.00** per program.

TRANSISTOR SELECTION GUIDE

NSC No.	Description
1TE4391	NFET/S
1TE4392	NFET/S
1TE4393	NFET/S
2N697	NPN MEDP
2N699	NPN MEDP
2N706	NPN SW
2N708	NPN SW
2N718	NPN MEDP
2N718A	NPN MEDP
2N722	PNP MEDP
2N743	NPN LL
2N744	NPN S
2N753	NPN S
2N759	NPN S
2N760	NPN LL
2N760A	NPN LL
2N834	NPN SW
2N869	PNP GPA
2N869A	PNP SW
2N915	NPN R & I
2N916	NPN R & I
2N917	NPN LL
2N918	NPN LL
2N918J	NPN LL
2N918JTX	NPN LL
2N918JTXV	NPN LL
2N929	NPN LL
2N929A	NPN LL
2N929J	NPN LL
2N929JTX	NPN LL
2N930	NPN LL
2N930A	NPN LL
2N930J	NPN LL
2N930JTX	NPN LL
2N956	NPN MEDP
2N981	NPN LL
2N995	PNP SW
2N1132	PNP MEDP
2N1420	NPN MEDP
2N1566	NPN MEDP
2N1613	NPN MEDP
2N1711	NPN MEDP
2N2017	NPN MEDP
2N2102	NPN MEDP
2N2192	NPN MEDP
2N2192A	NPN MEDP
2N2193	NPN MEDP
2N2193A	NPN MEDP
2N2195	NPN MEDP
2N2195A	NPN MEDP
2N2218	NPN MEDP
2N2218A	NPN MEDP
2N2218AJ	NPN MEDP
2N2218AJTX	NPN MEDP
2N2218AJTXV	NPN MEDP
2N2218J	NPN MEDP
2N2218JTX	NPN MEDP
2N2218JTXV	NPN MEDP
2N2219	NPN MEDP
2N2219A	NPN MEDP
2N2219AJ	NPN MEDP
2N2219AJTX	NPN MEDP
2N2219AJTXV	NPN MEDP
2N2219J	NPN MEDP
2N2219JTX	NPN MEDP
2N2219JTXV	NPN MEDP
2N2221	NPN MEDP
2N2221A	NPN MEDP
2N2221AJ	NPN MEDP
2N2221AJTX	NPN MEDP
2N2221AJTXV	NPN MEDP
2N2221J	NPN MEDP
2N2221JTX	NPN MEDP
2N2221JTXV	NPN MEDP
2N2222	NPN MEDP
2N2222A	NPN MEDP
2N2222AJ	NPN MEDP
2N2222AJTX	NPN MEDP
2N2222AJTXV	NPN MEDP
2N2222J	NPN MEDP
2N2222JTX	NPN MEDP
2N2222JTXV	NPN MEDP
2N2243	NPN MEDP
2N2243A	NPN MEDP
2N2270	NPN MEDP
2N2369	NPN SW
2N2369A	NPN SW
2N2369AJ	NPN SW
2N2369AJTX	NPN SW
2N2369AJTXV	NPN SW
2N2423	NPN GPA
2N2453	NPN dual
2N2453A	NPN dual
2N2484	NPN LL
2N2484J	NPN LL
2N2484JTX	NPN LL
2N2484JTXV	NPN LL
2N2509	NPN LL
2N2510	NPN LL
2N2511	NPN LL
2N2524	NPN LL
2N2586	NPN LL
2N2604	PNP LL
2N2604J	PNP LL
2N2604JTX	PNP LL
2N2604JTXV	PNP LL
2N2605	PNP LL
2N2605J	PNP LL
2N2605JTX	PNP LL
2N2605JTXV	PNP LL
2N2608	PFET GPA
2N2608J	PFET GPA
2N2609	PFET GPA
2N2639	NPN dual
2N2640	NPN dual
2N2641	NPN dual
2N2642	NPN dual
2N2643	NPN dual
2N2644	NPN dual
2N2657	NPN PWR
2N2658	NPN PWR
2N2696	PNP MEDP
2N2712	NPN GPA
2N2714	NPN GPA
2N2722	NPN dual
2N2857	NPN RF
2N2857J	NPN RF
2N2857JTX	NPN RF
2N2857JTXV	NPN RF
2N2890	NPN PWR
2N2891	NPN PWR
2N2894	PNP SW
2N2894A	PNP SW
2N2903	NPN dual
2N2903A	NPN dual
2N2904	PNP MEDP
2N2904A	PNP MEDP
2N2904AJ	PNP MEDP
2N2904AJTX	PNP MEDP
2N2904AJTXV	PNP MEDP
2N2904J	PNP MEDP
2N2904JTX	PNP MEDP
2N2904JTXV	PNP MEDP
2N2905	PNP MEDP
2N2905A	PNP MEDP
2N2905AJ	PNP MEDP
2N2905AJTX	PNP MEDP
2N2905AJTXV	PNP MEDP
2N2905J	PNP MEDP
2N2905JTX	PNP MEDP
2N2905JTXV	PNP MEDP
2N2906	PNP MEDP
2N2906A	PNP MEDP
2N2906AJ	PNP MEDP
2N2906AJTX	PNP MEDP
2N2906AJTXV	PNP MEDP
2N2906J	PNP MEDP
2N2906JTX	PNP MEDP
2N2906JTXV	PNP MEDP
2N2907	PNP MEDP
2N2907A	PNP MEDP
2N2907AJ	PNP MEDP
2N2907AJTX	PNP MEDP
2N2907AJTXV	PNP MEDP
2N2907J	PNP MEDP
2N2907JTX	PNP MEDP
2N2907JTXV	PNP MEDP
2N2913	NPN dual
2N2914	NPN dual
2N2915	NPN dual
2N2915A	NPN dual
2N2916	NPN dual
2N2916A	NPN dual
2N2917	NPN dual
2N2918	NPN dual
2N2919	NPN dual
2N2919A	NPN dual
2N2920	NPN dual
2N2020A	NPN dual
2N2920AJ	NPN dual
2N2920JTX	NPN dual
2N2920JTXV	NPN dual
2N2923	NPN GPA
2N2924	NPN GPA
2N2925	NPN GPA
2N2926	NPN GPA
2N2972	NPN dual
2N2973	NPN dual
2N2974	NPN dual
2N2975	NPN dual
2N2976	NPN dual
2N2977	NPN dual
2N2978	NPN dual
2N2979	NPN dual
2N3009	NPN SW
2N3011	NPN SW
2N3012	PNP SW
2N3013	NPN SW
2N3015	NPN CD
2N3019	NPN MEDP
2N3019J	NPN MEDP
2N3019JTX	NPN MEDP
2N3019JTXV	NPN MEDP
2N3020	NPN MEDP
2N3053	NPN MEDP
2N3055	NPN PWR TO-3
2N3070	NFET GPA
2N3071	NFET GPA
2N3072	PNP MEDP
2N3073	PNP MEDP
2N3107	NPN MEDP
2N3108	NPN MEDP
2N3109	NPN MEDP
2N3110	NPN MEDP
2N3114	NPN high voltage
2N3115	NPN GPA
2N3116	NPN GPA
2N3117	NPN LL
2N3120	PNP MEDP
2N3121	PNP MEDP
2N3133	PNP MEDP
2N3134	PNP MEDP
2N3135	PNP MEDP
2N3136	PNP MEDP
2N3209	PNP SW
2N3244	PNP core driver
2N3245	PNP core driver
2N3246	NPN LL
2N3248	PNP SW
2N3249	PNP SW
2N3250	PNP SW
2N3250A	PNP SW
2N3251	PNP SW
2N3251A	PNP SW
2N3251AJ	PNP SW
2N3251AJTX	PNP SW
2N3251AJTXV	PNP SW
2N3252	NPN CD
2N3253	NPN CD
2N3299	NPN MEDP
2N3300	NPN MEDP
2N3301	NPN MEDP
2N3302	NPN MEDP
2N3304	PNP SW
2N3329	PFET GPA
2N3330	PFET GPA S
2N3331	PFET GPA S
2N3332	PFET GPA S
2N3347	PNP dual
2N3348	PNP dual
2N3349	PNP dual
2N3350	PNP dual
2N3351	PNP dual
2N3352	PNP dual
2N3368	NFET GPA
2N3369	NFET GPA
2N3370	NFET GPA
2N3382	PFET GPA S
2N3384	PFET GPA S
2N3386	PFET GPA S
2N3390	NPN LL
2N3391	NPN LL
2N3391A	NPN LL
2N3392	NPN LL
2N3393	NPN GPA
2N3394	NPN GPA
2N3395	NPN GPA
2N3396	NPN GPA
2N3397	NPN GPA
2N3398	NPN GPA
2N3414	NPN GPA
2N3415	NPN GPA
2N3416	NPN GPA
2N3417	NPN GPA
2N3436	NFET GPA S
2N3437	NFET GPA
2N3438	NFET GPA
2N3444	NPN CD
2N3451	PNP SW
2N3458	NFET GPA
2N3459	NFET GPA
2N3460	NFET GPA
2N3467	PNP core driver
2N3468	PNP core driver
2N3478	NPN RF
2N3498	NPN high voltage
2N3498J	NPN high voltage
2N3498JTX	NPN high voltage
2N3498JTXV	NPN high voltage
2N3499	NPN high voltage
2N3499J	NPN high voltage
2N3499JTX	NPN high voltage
2N3499JTXV	NPN high voltage
2N3500	NPN high voltage
2N3500J	NPN high voltage
2N3500JTX	NPN high voltage
2N3500JTXV	NPN high voltage
2N3501	NPN high voltage
2N3501J	NPN high voltage
2N3501JTX	NPN high voltage
2N3501JTXV	NPN high voltage
2N3502	PNP MEDP
2N3503	PNP MEDP
2N3504	PNP MEDP
2N3505	PNP MEDP
2N3545	PNP SW
2N3546	PNP SW
2N3547	PNP LL
2N3548	PNP LL

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TRANSISTOR SELECTION GUIDE (CONT'D)

NSC No.	Description
2N3549	PNP LL
2N3550	PNP LL
2N3563	NPN UNF (will ship PN3563-18)
2N3564	NPN UHF (will ship PN3564-18)
2N3565	NPN LL (will ship PN3565-18)
2N3566	NPN MEDP (will ship PN3566-5)
2N3567	NPN MEDP (will ship PN3567-5)
2N3568	NPN MEDP (will ship PN3568-5)
2N3569	NPN MEDP (will ship PN3569-5)
2N3576	PNP MEDP
2N3587	NPN dual
2N3600	NPN RF
2N3605	NPN SW
2N3606	NPN SW
2N3607	NPN SW
2N3634	PNP high voltage
2N3635	PNP high voltage
2N3636	PNP high voltage
2N3637	PNP high voltage
2N3638	PNP MEDP (will ship PN3638-5)
2N3638A	PNP MEDP (will ship PN3638A-5)
2N3639	PNP SW (will ship PN3639-18)
2N3640	PNP SW (will ship PN3640-18)
2N3641	NPN MEDP (will ship PN3641-5)
2N3642	NPN MEDP (will ship PN3642-5)
2N3643	NPN MEDP (will ship PN3643-5)
2N3644	PNP MEDP (will ship PN3644-5)
2N3645	PNP MEDP (will ship PN3645-5)
2N3646	NPN SW (will ship PN3646-18)
2N3662	NPN UHF OSC
2N3663	NPN UHF OSC
2N3665	NPN MEDP
2N3666	NPN MEDP
2N3678	NPN MEDP
2N3680	NPN dual
2N3684	NFET LNA
2N3685	NFET LNA
2N3686	NFET LNA
2N3687	NFET LNA
2N3691	NPN LL (will ship PN3691-18)
2N3692	NPN LL (will ship PN3692-18)
2N3693	NPN LL (will ship PN3693-18)
2N3694	NPN LL (will ship PN3694-18)
2N3700	NPN R & I
2N3700J	NPN R & I
2N3700JTX	NPN R & I
2N3700JTXV	NPN R & I
2N3702	PNP GPA
2N3703	PNP GPA
2N3704	NPN GPA
2N3705	NPN GPA
2N3706	NPN GPA
2N3707	NPN LL
2N3708	NPN LL
2N3709	NPN LL
2N3710	NPN LL
2N3711	NPN LL
2N3713	NPN PWR TO-3
2N3714	NPN PWR TO-3
2N3715	NPN PWR TO-3
2N3716	NPN PWR TO-3
2N3721	NPN GPA
2N3724	NPN CD
2N3724A	NPN CD
2N3725	NPN CD
2N3725A	NPN CD
2N3726	PNP dual
2N3727	PNP dual
2N3734	NPN CD
2N3734A	NPN CD
2N3735	NPN CD
2N3742	NPN MEDP HV
2N3789	PNP PWR TO-3
2N3790	PNP PWR TO-3
2N3791	PNP PWR TO-3
2N3792	PNP PWR TO-3
2N3793	NPN GPA
2N3794	NPN GPA
2N3799	PNP LL
2N3806	PNP dual
2N3807	PNP dual
2N3808	PNP dual
2N3809	PNP dual
2N3810	PNP dual
2N3810A	PNP dual
2N3810J	PNP dual
2N3810JTX	PNP dual
2N3810JTXV	PNP dual
2N3811	PNP dual
2N3811A	PNP dual
2N3811J	PNP dual
2N3811JTX	PNP dual
2N3811JTXV	PNP dual
2N3819	NFET GPA
2N3820	PFET GPA
2N3821	NFET RF
2N3822	NFET RF
2N3823	NFET RF
2N3823J	NFET RF
2N3823JTX	NFET RF
2N3823JTXV	NFET RF
2N3824	NFET RF
2N3825	NPN UHF OSC
2N3827	NPN LL
2N3858	NPN GPA
2N3858A	NPN GPA
2N3859	NPN GPA
2N3859A	NPN GPA
2N3860	NPN LL
2N3877	NPN LL
2N3877A	NPN LL
2N3900	NPN LL
2N3900A	NPN LL
2N3901	NPN LL
2N3903	NPN GP
2N3904	NPN GP
2N3905	PNP GP
2N3906	PNP GP
2N3907	NPN dual
2N3908	NPN dual
2N3921	NFET DM
2N3922	NFET DM
2N3932	NPN RF
2N3933	NPN RF
2N3945	NPN MEDP
2N3946	NPN GPA
2N3947	NPN GPA
2N3954	NFET DM
2N3954A	NFET DM
2N3955	NFET DM
2N3955A	NFET DM
2N3956	NFET DM
2N3957	NFET DM
2N3958	NFET DM
2N3966	NFET GPA
2N3967	NFET LNA
2N3967A	NFET LNA
2N3968	NFET LNA
2N3968A	NFET LNA
2N3969	NFET LNA
2N3969A	NFET LNA
2N3970	NFET S
2N3971	NFET S
2N3972	NFET S
2N3993	PFET S
2N3993A	PFET S
2N3994	PFET S
2N3994A	PFET S
2N4013	NPN SW
2N4014	NPN SW
2N4030	PNP MEDP
2N4031	PNP MEDP
2N4032	PNP MEDP
2N4033	PNP MEDP
2N4036	PNP MEDP
2N4037	PNP MEDP
2N4047	PNP MEDP
2N4058	PNP LL
2N4059	PNP LL
2N4061	PNP LL
2N4062	PNP LL
2N4084	NFET DM
2N4085	NFET DM
2N4091	NFET SW
2N4091J	NFET SW
2N4091JTX	NFET SW
2N4092	NFET SW
2N4092J	NFET SW
2N4092JTX	NFET SW
2N4093	NFET SW
2N4093J	NFET SW
2N4093JTX	NFET SW
2N4117	NFET GPA S
2N4117A	NFET GPA S
2N4118	NFET GPA S
2N4118A	NFET GPA S
2N4119	NFET GPA S
2N4119A	NFET GPA S
2N4121	PNP GP (will ship PN4121-18)
2N4122	PNP GP (will ship PN4122-18)
2N4123	NPN GP
2N4124	NPN GP
2N4125	PNP GP
2N4126	PNP GP
2N4134	NPN RF
2N4135	NPN RF
2N4139	NFET GPA S
2N4140	NPN MEDP (will ship PN4140-18)
2N4141	NPN MEDP (will ship PN4141-18)
2N4142	NPN MEDP (will ship PN4142-18)
2N4143	PNP MEDP (will ship PN4143-18)
2N4208	PNP SW
2N4209	PNP SW
2N4220	NFET GPA
2N4220A	NFET GPA
2N4221	NFET GPA
2N4221A	NFET LNA
2N4222	NFET GPA
2N4222A	NFET LNA
2N4223	NFET RF
2N4224	NFET RF
2N4234	PNP MEDP
2N4235	PNP MEDP
2N4236	PNP MEDP
2N4237	NPN MEDP
2N4248	PNP LL (will ship PN4248-18)
2N4249	PNP LL (will ship PN4249-18)
2N4250	PNP LL (will ship PN4250-18)
2N4250A	PNP LL (will ship PN4250A-18)
2N4258	PNP SW (will ship PN4258-18)
2N4258A	PNP SW (will ship PN4258A-18)
2N4259	NPN RF
2N4274	NPN SW (will ship PN4274-18)
2N4275	NPN SW (will ship PN4275-18)
2N4286	NPN LL
2N4287	NPN LL
2N4288	PNP LL
2N4289	PNP LL
2N4290	PNP GPA
2N4291	PNP GPA
2N4292	NPN UHF OSC
2N4293	NPN UHF OSC
2N4294	NPN SW
2N4295	NPN SW
2N4302	NFET GPA
2N4303	NFET GPA
2N4304	NFET GPA
2N4314	PNP MEDP
2N4338	NFET LN
2N4339	NFET LN
2N4340	NFET LN
2N4341	NFET LN
2N4342	PFET GPA S
2N4343	PFET GPA
2N4354	PNP MEDP (will ship PN4354-5)
2N4355	PNP MEDP (will ship PN4355-5)
2N4356	PNP MEDP (will ship PN4356-5)
2N4360	PFET GPA S
2N4381	PFET GPA S
2N4382	PFET GPA S
2N4384	NPN LL
2N4386	NPN LL
2N4391	NFET S
2N4392	NFET S
2N4393	NFET S
2N4400	NPN GPA
2N4401	NPN GPA
2N4402	PNP MEDP
2N4403	PNP MEDP
2N4409	NPN LL
2N4410	NPN LL
2N4416	NFET RF
2N4416A	NFET RF
2N4416AJ	NFET RF
2N4416AJTX	NFET RF
2N4416AJTXV	NFET RF
2N4424	NPN GPA
2N4856	NFET RF
2N4856A	NFET RF
2N4856J	NFET S
2N4856JTX	NFET S
2N4857	NFET RF
2N4857A	NFET RF
2N4857J	NFET S
2N4857JTX	NFET S
2N4858	NFET RF
2N4858A	NFET S
2N4858J	NFET RF
2N4858JTX	NFET S
2N4859	NFET S
2N4859A	NFET S

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TRANSISTOR SELECTION GUIDE (CONT'D)

NSC No.	Description
2N4859J	NFET S
2N4859JTX	NFET S
2N4860	NFET S
2N4860A	NFET S
2N4860J	NFET S
2N4860JTX	NFET S
2N4861	NFET S
2N4861A	NFET S
2N4861J	NFET S
2N4861JTX	NFET S
2N4901	PNP PWR TO-3
2N4902	PNP PWR TO-3
2N4903	PNP PWR TO-3
2N4904	PNP PWR TO-3
2N4905	PNP PWR TO-3
2N4906	PNP PWR TO-3
2N4907	PNP PWR TO-3
2N4908	PNP PWR TO-3
2N4909	PNP PWR TO-3
2N4913	NPN PWR TO-3
2N4914	NPN PWR TO-3
2N4915	NPN PWR TO-3
2N4916	PNP GP (will ship PN4916-18)
2N4917	PNP GP (will ship PN4917-18)
2N4918	PNP PWR TO-126
2N4919	PNP PWR TO-126
2N4920	PNP PWR TO-126
2N4921	NPN PWR TO-126
2N4922	NPN PWR TO-126
2N4923	NPN PWR TO-126
2N4924	NPN MEDP
2N4926	NPN MEDP HV
2N4927	NPN MEDP HV
2N4944	NPN MEDP (will ship PN2222A-18)
2N4945	NPN MEDP (will ship PN2222A-18)
2N4946	NPN MEDP (will ship PN2222A-18)
2N4951	NPN GPA
2N4952	NPN GPA
2N4953	NPN GPA
2N4954	NPN GPA
2N4964	PNP LL (will ship MPSA70-18)
2N4965	PNP LL (will ship 2N5086-18)
2N4966	NPN LL (will ship 2N5209-18)
2N4967	NPN LL (will ship 2N5210-18)
2N4968	NPN LL (will ship 2N5209-18)
2N4969	NPN MEDP (will ship PN2221-18)
2N4970	NPN MEDP (will ship PN2222-18)
2N4971	PNP MEDP (will ship PN2906-18)
2N4972	PNP MEDP (will ship PN2907-18)
2N5018	PFET SW
2N5019	PFET SW
2N5020	PFET LNA
2N5021	PFET LNA
2N5022	PNP core driver
2N5023	PNP core driver
2N5030	NPN SW
2N5033	PFET LNA
2N5045	NFET DM
2N5046	NFET DM
2N5047	NFET DM
2N5056	PNP SW
2N5057	PNP SW
2N5067	NPN PWR TO-3
2N5068	NPN PWR TO-3
2N5069	NPN PWR TO-3
2N5078	NFET RF
2N5086	PNP LL
2N5087	PNP LL
2N5088	NPN LL
2N5089	NPN LL
2N5103	NFET RF
2N5104	NFET RF
2N5105	NFET RF
2N5114	PFET SW
2N5114J	PFET SW
2N5114JTX	PFET SW
2N5114JTXV	PFET SW
2N5115	PFET SW
2N5115J	PFET SW
2N5115JTX	PFET SW
2N5115JTXV	PFET SW
2N5116	PFET SW
2N5116J	PFET SW
2N5116JTX	PFET SW
2N5116JTXV	PFET SW
2N5127	NPN LL (will ship PN5127-18)
2N5128	NPN MEDP (will ship PN5128-5)
2N5129	NPN MEDP (will ship PN5129-18)
2N5130	NPN UHF (will ship PN5130-18)
2N5131	NPN LL (will ship PN5131-18)
2N5132	NPN LL (will ship PN5132-18)
2N5133	NPN LL (will ship PN5133-18)
2N5134	NPN SW (will ship PN5134-18)
2N5135	NPN MEDP (will ship PN5135-18)
2N5136	NPN MEDP (will ship PN5136-5)
2N5137	NPN MEDP (will ship PN5137-18)
2N5138	PNP LL (will ship PN5138-18)
2N5139	PNP LL (will ship PN5139-18)
2N5140	PNP SW (will ship PN5140-18)
2N5142	PNP MEDP (will ship PN5142-18)
2N5143	PNP MEDP (will ship PN5143-18)
2N5148	NPN PWR
2N5150	NPN PWR
2N5163	NFET GPA
2N5172	NPN GPA
2N5179	NPN RF
2N5180	NPN RF
2N5189	NPN CD
2N5190	NPN PWR TO-126
2N5191	NPN PWR TO-126
2N5192	NPN PWR TO-126
2N5193	PNP PWR TO-126
2N5194	PNP PWR TO-126
2N5195	PNP PWR TO-126
2N5196	NFET DM
2N5197	NFET DM
2N5198	NFET DM
2N5199	NFET DM
2N5209	NPN LL
2N5210	NPN LL
2N5219	NPN LL
2N5220	NPN GPA
2N5221	PNP MEDP
2N5222	NPN RF
2N5223	NPN LL
2N5224	NPN SW
2N5225	NPN GPA
2N5226	PNP MEDP
2N5227	PNP LL
2N5232	NPN LL
2N5232A	NPN LL
2N5245	NFET RF
2N5246	NFET RF
2N5247	NFET RF
2N5248	NFET RF
2N5293	NPN PWR TO-220
2N5294	NPN PWR TO-220
2N5295	NPN PWR TO-220
2N5296	NPN PWR TO-220
2N5297	NPN PWR TO-220
2N5298	NPN PWR TO-220
2N5305	NPN DARL
2N5306	NPN DARL
2N5307	NPN DARL
2N5308	NPN DARL
2N5336	NPN PWR
2N5338	NPN PWR
2N5354	PNP GPA
2N5355	PNP GPA
2N5356	PNP GPA
2N5358	NFET GPA
2N5359	NFET GPA
2N5360	NFET GPA
2N5361	NFET GPA
2N5362	NFET GPA
2N5363	NFET GPA
2N5364	NFET GPA
2N5365	PNP GPA
2N5366	PNP GPA
2N5397	NFET UHF
2N5398	NFET UHF
2N5400	PNP HV
2N5401	PNP HV
2N5432	NFET SW
2N5433	NFET SW
2N5434	NFET SW
2N5452	NFET DMGP
2N5453	NFET DMGP
2N5454	NFET DMGP
2N5457	NFET GPA
2N5458	NFET GPA
2N5459	NFET GPA
2N5460	PFET GPA
2N5461	PFET LNA
2N5462	PFET LNA
2N5484	NFET RF
2N5485	NFET RF
2N5486	NFET RF
2N5490	NPN PWR TO-220
2N5492	NPN PWR TO-220
2N5494	NPN PWR TO-220
2N5496	NPN PWR TO-220
2N5515	NFET DM
2N5516	NFET DM
2N5517	NFET DM
2N5518	NFET DM
2N5519	NFET DM
2N5520	NFET DM
2N5521	NFET DM
2N5522	NFET DM
2N5523	NFET DM
2N5524	NFET DM
2N5545	NFET DM
2N5546	NFET DM
2N5547	NFET DM
2N5550	NPN HV
2N5551	NPN HV
2N5555	NFET SW
2N5556	NFET LNA
2N5557	NFET LNA
2N5558	NFET LNA
2N5564	NFET DM
2N5565	NFET DM
2N5566	NFET DM
2N5632	NPN PWR TO-3
2N5633	NPN PWR TO-3
2N5634	NPN PWR TO-3
2N5638	NFET SW
2N5639	NFET SW
2N5640	NFET GPA
2N5647	NFET GPA
2N5648	NFET LNA
2N5649	NFET LNA
2N5653	NFET SW
2N5654	NFET SW
2N5655	NPN PWR TO-126
2N5656	NPN PWR TO-126
2N5657	NPN PWR TO-126
2N5668	NFET RF
2N5669	NFET RF
2N5670	NFET RF
2N5758	NPN PWR TO-3
2N5759	NPN PWR TO-3
2N5760	NPN PWR TO-3
2N5769	NPN SW
2N5770	NPN UHF OSC
2N5771	PNP SW
2N5772	NPN SW
2N5816	NPN MEDP
2N5817	PNP MEDP
2N5832	NPN HV
2N5871	PNP PWR TO-3
2N5872	PNP PWR TO-3
2N5873	NPN PWR TO-3
2N5874	NPN PWR TO-3
2N5875	PNP PWR TO-3
2N5876	PNP PWR TO-3
2N5877	NPN PWR TO-3
2N5878	NPN PWR TO-3
2N5879	PNP PWR TO-3
2N5880	PNP PWR TO-3
2N5881	NPN PWR TO-3
2N5882	NPN PWR TO-3
2N5902	DNFET SUB PA
2N5903	DNFET SUB PA
2N5904	DNFET SUB PA
2N5905	DNFET SUB PA
2N5906	DNFET SUB PA
2N5907	DNFET SUB PA
2N5908	DNFET SUB PA
2N5909	DNFET SUB PA
2N5910	PNP SW (will ship PN5910-18)
2N5911	NFET DM VHF
2N5912	NFET DM VHF
2N5949	NFET RF
2N5950	NFET RF
2N5951	NFET RF
2N5952	NFET RF
2N5953	NFET RF
2N6034	PNP DARL PWR
2N6035	PNP DARL PWR
2N6036	PNP DARL PWR
2N6037	NPN DARL PWR
2N6038	NPN DARL PWR
2N6039	NPN DARL PWR
2N6053	PNP DARL PWR
2N6054	PNP DARL PWR
2N6055	NPN DARL PWR
2N6056	NPN DARL PWR
2N6099	NPN DARL PWR TO-220
2N6101	NPN PWR TO-220
2N6103	NPN PWR TO-220
2N6107	PNP PWR TO-220
2N6109	PNP PWR TO-220
2N6111	PNP PWR TO-220
2N6121	NPN PWR TO-220
2N6122	NPN PWR TO-220

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NSC No.	Description
2N6123	NPN PWR TO-220
2N6124	PNP PWR TO-220
2N6125	PNP PWR TO-220
2N6126	PNP PWR TO-220
2N6129	NPN PWR TO-220
2N6130	NPN PWR TO-220
2N6131	NPN PWR TO-220
2N6132	PNP PWR TO-220
2N6133	PNP PWR TO-220
2N6134	PNP PWR TO-220
2N6226	PNP PWR TO-3
2N6227	PNP PWR TO-3
2N6228	PNP PWR TO-3
2N6229	PNP PWR TO-3
2N6230	PNP PWR TO-3
2N6231	PNP PWR TO-3
2N6288	NPN PWR TO-220
2N6290	NPN PWR TO-220
2N6292	NPN PWR TO-220
2N6375	NPN CD
2N6376	NPN CD
2N6386	NPN DARL PWR
2N6483	NFET DM ULN
2N6484	NFET DM ULN
2N6485	NFET DM ULN
2N6486	NPN PWR TO-220
2N6487	NPN PWR TO-220
2N6488	NPN PWR TO-220
2N6489	NPN PWR TO-220
2N6490	PNP PWR TO-220
2N6491	PNP PWR TO-220
2N6548	NPN PWR TO-202
2N6549	NPN PWR TO-202
2N6551	NPN PWR TO-202
2N6552	NPN PWR TO-202
2N6553	NPN PWR TO-202
2N6554	PNP PWR TO-202
2N6555	PNP PWR TO-202
2N6556	PNP PWR TO-202
2N6569	NPN PWR TO-3
2N6594	PNP PWR TO-3
40235	NPN RF
40236	NPN RF
40237	NPN RF
40238	NPN RF
40239	NPN RF
40240	NPN RF
40242	NPN RF
40243	NPN RF
40244	NPN RF
40245	NPN RF
40246	NPN RF
40472	NPN RF
40473	NPN RF
40474	NPN RF
40475	NPN RF
40476	NPN RF
40477	NPN RF
40478	NPN RF
40479	NPN RF
40480	NPN RF
40481	NPN RF
40482	NPN RF
92PE37A	NPN PWR 92 PLUS
92PE37B	NPN PWR 92 PLUS
92PE37C	NPN PWR 92 PLUS
92OE487	NPN PWR 92 PLUS
92PE488	NPN PWR 92 PLUS
92PE489	NPN PWR 92 PLUS
92PR77A	PNP PWR 92 PLUS
92PE77B	PNP PWR 92 PLUS
92PE77C	PNP PWR 92 PLUS
92PU01	NPN PWR 92 PLUS
92PU01A	NPN PWR 92 PLUS
92PU05	NPN PWR 92 PLUS
92PU06	NPN PWR 92 PLUS
92PU07	NPN PWR 92 PLUS
92PU10	NPN PWR 92 PLUS
92PU391	NPN PWR 92 PLUS
92PU392	NPN PWR 92 PLUS
92PU393	NPN PWR 92 PLUS
92PU45	NPN DARL PWR
92PU45A	NPN DARL PWR
92PU51	PNP PWR 92 PLUS
92PU51A	PNP PWR 92 PLUS
92PU55	PNP PWR 92 PLUS
92PU56	PNP PWR 92 PLUS
92PU57	PNP PWR 92 PLUS
D40C1	NPN DARL MEDP TO-202
D40C2	NPN DARL MEDP TO-202
D40C3	NPN DARL MEDP TO-202
D40C4	NPN DARL MEDP TO-202
D40C5	NPN DARL MEDP TO-202
D40C7	NPN DARL MEDP TO-202
D40C8	NPN DARL MEDP TO-202
D40D1	NPN MEDP TO-202

NSC No.	Description
D40D10	NPN MEDP TO-202
D40D11	NPN MEDP TO-202
D40D13	NPN MEDP TO-202
D40D14	NPN MEDP TO-202
D40D2	NPN MEDP TO-202
D40D3	NPN MEDP TO-202
D40D4	NPN MEDP TO-202
D40D5	NPN MEDP TO-202
D40D7	NPN MEDP TO-202
D40D8	NPN MEDP TO-202
D40E1	NPN MEDP TO-202
D40E5	NPN MEDP TO-202
D40E7	NPN MEDP TO-202
D40N1	NPN MEDP HV TO-202
D40N2	NPN MEDP HV TO-202
D40N3	NPN MEDP HV TO-202
D40N4	NPN MEDP HV TO-202
D40N5	NPN MEDP HV TO-202
D40P1	NPN MEDP HV TO-202
D40P3	NPN MEDP HV TO-202
D40P5	NPN MEDP HV TO-202
D41D1	PNP MEDP TO-202
D41D10	PNP MEDP TO-202
D40D11	PNP MEDP TO-202
D41D13	PNP MEDP TO-202
D41D14	PNP MEDP TO-202
D41D2	PNP MEDP TO-202
D41D4	PNP MEDP TO-202
D41D5	PNP MEDP TO-202
D41D7	PNP MEDP TO-202
D41D8	PNP MEDP TO-202
D41E1	PNP MEDP TO-202
D41E5	PNP MEDP TO-202
D41E7	PNP MEDP TO-202
D42C1	NPN MEDP TO-202
D42C10	NPN MEDP TO-202
D42C11	NPN MEDP TO-202
D42C12	NPN MEDP TO-202
D42C2	NPN PWR TO-202
D42C3	NPN PWR TO-202
D42C4	NPN PWR TO-202
D42C5	NPN PWR TO-202
D42C6	NPN PWR TO-202
D42C7	NPN PWR TO-202
D42C8	NPN PWR TO-202
D42C9	NPN PWR TO-202
D43C1	PNP PWR TO-202
D43C10	PNP PWR TO-202
D43C11	PNP PWR TO-202
D43C12	PNP PWR TO-202
D43C2	PNP PWR TO-202
D43C3	PNP PWR TO-202
D43C4	PNP PWR TO-202
D43C5	PNP PWR TO-202
D43C6	PNP PWR TO-202
D43C7	PNP PWR TO-202
D43C8	PNP PWR TO-202
D43C9	PNP PWR TO-202
D44C1	NPN PWR TO-220
D44C10	NPN PWR TO-220
D44C11	NPN PWR TO-220
D44C12	NPN PWR TO-220
D44C2	NPN PWR TO-220
D44C3	NPN PWR TO-220
D44C4	NPN PWR TO-220
D44C5	NPN PWR TO-220
D44C6	NPN PWR TO-220
D44C7	NPN PWR TO-220
D44C8	NPN PWR TO-220
D44C9	NPN PWR TO-220
D44H1	NPN PWR TO-220
D44H10	NPN PWR TO-220
D44H11	NPN PWR TO-220
D44H2	NPN PWR TO-220
D44H4	NPN PWR TO-220
D44H5	NPN PWR TO-220
D44H7	NPN PWR TO-220
D44H8	NPN PWR TO-220
D45C1	PNP PWR TO-220
D45C10	PNP PWR TO-220
D45C11	PNP PWR TO-220
D45C12	PNP PWR TO-220
D45C2	PNP PWR TO-220
D45C3	PNP PWR TO-220
D45C4	PNP PWR TO-220
D45C5	PNP PWR TO-220
D45C6	PNP PWR TO-220
D45C7	PNP PWR TO-220
D45C8	PNP PWR TO-220
D45C9	PNP PWR TO-220
D45H1	PNP PWR TO-220
D45H10	PNP PWR TO-220
D45H11	PNP PWR TO-220
D45H2	PNP PWR TO-220
D45H4	PNP PWR TO-220
D45H5	PNP PWR TO-220
D45H7	PNP PWR TO-220
DH3467CD	Quad PNP core driver
DN3467CN	Quad PNP core driver
DH3468CD	Quad PNP core driver
DH3468CN	Quad PNP core driver
DH3724CD	Quad NPN core driver
DH3724CN	Quad NPN core driver

NSC No.	Description
DH3725 1CN	Quad NPN core driver
DH3725CD	Quad NPN core driver
DH3725CN	Quad NPN core driver
DH6376CD	Quad NPN core driver
DH6376CN	Quad NPN core driver
MJE170	PNP PWR TO-126
MJE171	PNP PWR TO-126
MJE172	PNP PWR TO-126
MJE180	NPN PWR TO-126
MJE181	NPN PWR TO-126
MJE182	NPN PWR TO-126
MJE2801T	PNP PWR TO-220
MJE2901T	PNP PWR TO-220
MJE2955T	PNP PWR TO-220
MJE3055T	NPN PWR TO-220
MJE340	NPN PWR TO-126
MJE341	NPN PWR TO-126
MJE3439	NPN PWR TO-126
MJE344	NPN PWR TO-126
MJE3440	NPN PWR TO-126
MJE370	PNP PWR TO-126
MJE371	PNP PWR TO-126
MJE520	NPN PWR TO-126
MJE521	NPN PWR TO-126
MJE700	PNP DARL PWR
MJE701	PNP DARL PWR
MJE702	PNP DARL PWR
MJE703	PNP DARL PWR
MJE710	PNP PWR TO-126
MJE711	PNP PWR TO-126
MJE712	PNP PWR TO-126
MJE720	NPN PWR TO-126
MJE721	NPN PWR TO-126
MJE722	NPN PWR TO-126
MJE800	NPN DARL PWR
MJE801	NPN DARL PWR
MJE802	NPN DARL PWR
MJE803	NPN DARL PWR
MJ1000	NPN DARL PWR
MJ1001	NPN DARL PWR
MJ2801	NPN PWR TO-3
MJ2840	NPN PWR TO-3
MJ2841	NPN PWR TO-3
MJ2901	PNP PWR TO-3
MJ2940	PNP PWR TO-3
MJ2941	PNP PWR TO-3
MJ2955	PNP PWR TO-3
MJ900	PNP DARL PWR
MJ901	PNP DARL PWR
MPF102	NFET RF
MPF103	NFET GPA
MPF104	NFET GPA
MPF105	NFET GPA
MPF106	NFET RF
MPF107	NFET RF
MPF108	NFET RF
MPF109	NFET GPA
MPF110	NFET GPA
MPF111	NFET GPA
MPF112	NFET RF
MPS-A10	NPN GP
MPS-H30	NPN IF
MPS-H31	NPN IF
MPSA05	NPN MEDP
MPSA06	NPN MEDP
MPSA09	NPN LL
MPSA10	NPN GP
MPSA12	NPN DARL
MPSA13	NPN DARL
MPSA14	NPN DARL
MPSA20	NPN GP
MPSA42	NPN HV
MPSA43	NPN HV
MPSA55	PNP MEDP
MPSA56	PNP MEDP
MPSA70	NPN GP
MPSH10	NPN RF
MPSH11	NPN RF
MPSH19	NPN VHF
MPSH20	NPN RF
MPSH24	NPN RF
MPSH30	NPN RF
MPSH31	NPN RF
MPSH32	NPN IF
MPSH34	NPN IF
MPSH37	NPN RF
MPSL01	NPN HV
MPSL51	PNP HV
MPS706	NPN SW
MPS834	NPN SW
MPS2369	NPN SW (will ship PN2369)
MPS2711	NPN GP
MPS2712	NPN GP
MPS2713	NPN SW
MPS2714	NPN SW
MPS2716	NPN GP
MPS9223	NPN MEDP
MPS2924	NPN MEDP
MPS2925	NPN MEDP
MPS2926	NPN GP
MPS3392	NPN GP
MPS3393	NPN GP

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NSC No.	Description
MPS3394	NPN GP
MPS3395	NPN GP
MPS3396	NPN GP
MPS3397	NPN GP
MPS3398	NPN GP
MPS3563	NPN UHF (will ship PN3563)
MPS3638	PNP MEDP (will ship PN3638)
MPS3638A	PNP MEDP (will ship PN3638A)
MPS3639	PNP SW
MPS3640	PNP SW (will ship PN3640)
MPS3642	NPN MEDP (will ship PN3642)
MPS3644	NPN MEDP (will ship PN3644)
MPS3645	NPN MEDP (will ship PN3645)
MPS3646	NPN SW (will ship PN3646)
MPS3693	NPN GP
MPS3694	NPN GP (will ship PN3694)
MPS3702	PNP MEDP
MPS3703	PNP MEDP
MPS3704	NPN GPA
MPS3705	NPN GPA
MPS3706	NPN GPA
MPS3707	NPN LL
MPS3708	NPN LL
MPS3709	NPN LL
MPS3710	NPN LL
MPS3711	NPN LL
MPS3721	NPN GP
MPS3826	NPN GP
MPS3827	NPN GP
MPS4354	PNP MEDP (will ship PN4354)
MPS4355	PNP MEDP (will ship PN4355)
MPS4356	PNP MEDP (will ship PN4356)
MPS5172	NPN LL
MPS6507	NPN UHF OSC
MPS6511	NPN IF
MPS6512	NPN GP
MPS6513	NPN GP
MPS6514	NPN GP
MPS6515	NPN GP
MPS6516	PNP GP
MPS6157	PNP GP
MPS6518	PNP GP
MPS6520	NPN GP
MPS6521	NPN GP
MPS6522	PNP GP
MPS6523	PNP GPA
MPS6530	NPN GPA
MPS6531	NPN GPA
MPS6532	NPN GPA
MPS6533	PNP MEDP
MPS6534	PNP MEDP
MPS6535	PNP SW
MPS6539	NPN RF
MPS6540	NPN RF
MPS6541	NPN UHF
MPS6542	NPN RF
MPS6543	NPN RF
MPS6544	NPN RF
MPS6546	NPN RF
MPS6547	NPN RF
MPS6548	NPN RF
MPS6560	NPN MEDP
MPS6561	NPN MEDP
MPS6562	PNP MEDP
MPS6563	PNP MEDP
MPS6564	NPN GPA
MPS6565	NPN LL
MPS6566	NPN LL
MPS6567	NPN RF
MPS6568A	NPN RF
MPS6569	NPN RF
MPS6570	NPN RF
MPS6571	NPN LL
MPS6573	NPN GP
MPS6574	NPN GP
MPS6575	NPN GP
MPS6576	NPN GP
MRF472	NPN RF PWR TO-126
MRF501	NPN RF
MRF502	NPN RF
MRF8004	NPN RF PWR TO-39
P1086E	PFET SW
P1087E	PFET SW
PF5101	NFET LNA
PF5102	NFET LNA
PF5103	PFET LNA
PN918	NPN LL
PN930	NPN LL
PN2221	NPN MEDP
PN2221A	NPN MEDP
PN2222	NPN MEDP
PN2222A	NPN MEDP
PN2369	NPN SW
PN2369A	NPN SW
PN2484	NPN LL
PN2906	PNP MEDP
PN2906A	PNP MEDP
PN2907	PNP MEDP
PN2907A	PNP MEDP
PN3563	NPN UHF
PN3564	NPN UHF
PN3565	NPN LL
PN3566	NPN MEDP
PN3567	NPN MEDP
PN3568	NPN MEDP
PN3569	NPN MEDP
PN3638	PNP MEDP
PN3638A	PNP MEDP
PN3640	PNP SW
PN3641	NPN MEDP
PN3642	NPN MEDP
PN3643	NPN MEDP
PN3644	NPN MEDP
PN3645	NPN MEDP
PN3646	NPN SW
PN3684	NFET LNA
PN3685	NFET LNA
PN3686	NFET LNA
PN3687	NFET LNA
PN3691	NPN LL
PN3692	NPN LL
PN3694	NPN LL
PN4091	NFET SW
PN4092	NFET SW
PN4093	NFET SW
PN4121	PNP GP
PN4122	PNP GP
PN4140	NPN MEDP
PN4141	NPN MEDP
PN4142	PNP MEDP
PN4143	PNP MEDP
PN4220	NFET GPA
PN4221	NFET GPA
PN4222	NFET GPA
PN4223	NFET RF
PN4224	NFET GPA
PN4248	PNP LL
PN4249	PNP LL
PN4250	PNP LL
PN4250A	PNP LL
PN4258	PNP SW
PN4258A	PNP SW
PN4274	NPN SW
PN4275	NPN SW
PN4302	NFET GPA
PN4303	NFET GPA
PN4304	NFET GPA
PN4342	PFET SW GPA
PN4343	PFET SW GPA
PN4354	PNP MEDP
PN4355	PNP MEDP
PN4356	PNP MEDP
PN4360	PFET SW GPA
PN4391	NFET SW
PN4392	NFET SW
PN4393	NFET SW
PN4416	NFET RF
PN4856	NFET SW
PN4857	NFET SW
PN4858	NFET SW
PN4859	NFET SW
PN4860	NFET SW
PN4861	NFET SW
PN4916	PNP GP
PN4917	PNP GP
PN5033	PFET LNA
PN5127	NPN LL
PN5128	NPN MEDP
PN5129	NPN MEDP
PN5130	NPN UHF
PN5131	NPN LL
PN5132	NPN LL
PN5133	NPN LL
PN5134	NPN SW
PN5135	NPN MEDP
PN5136	NPN MEDP
PN5137	NPN MEDP
PN5138	PNP LL
PN5139	PNP LL
PN5140	PNP SW
PN5142	PNP MEDP
PN5143	PNP MEDP
PN5163	NFET GPA
PN5179	NPN RF
PN5910	PNP SW
TIP110	NPN DARL PWR
TIP111	NPN DARL PWR
TIP112	NPN DARL PWR
TIP115	PNP DARL PWR
TIP116	PNP DARL PWR
TIP117	PNP DARL PWR
TIP120	NPN DARL PWR
TIP121	NPN DARL PWR
TIP122	NPN DARL PWR
TIP125	PNP DARL PWR
TIP126	PNP DARL PWR
TIP127	PNP DARL PWR
TIP130	NPN DARL PWR
TIP131	NPN DARL PWR
TIP132	NPN DARL PWR
TIP135	PNP DARL PWR
TIP136	PNP DARL PWR
TIP137	PNP DARL PWR
TIP29	NPN PWR TO-220
TIP29A	NPN PWR TO-220
TIP29B	NPN PWR TO-220
TIP29C	NPN PWR TO-220
TIP30	PNP PWR TO-220
TIP30A	PNP PWR TO-220
TIP30B	PNP PWR TO-220
TIP30C	PNP PWR TO-220
TIP31	NPN PWR TO-220
TIP31A	NPN PWR TO-220
TIP31B	NPN PWR TO-220
TIP31C	NPN PWR TO-220
TIP32	PNP PWR TO-220
TIP32A	PNP PWR TO-220
TIP32B	PNP PWR TO-220
TIP32C	PNP PWR TO-220
TIP41	NPN PWR TO-220
TIP41A	NPN PWR TO-220
TIP41B	NPN PWR TO-220
TIP41C	NPN PWR TO-220
TIP42	PNP PWR TO-220
TIP42A	PNP PWR TO-220
TIP42B	PNP PWR TO-220
TIP42C	PNP PWR TO-220
TIP61	NPN PWR TO-220
TIP61A	NPN PWR TO-220
TIP61B	NPN PWR TO-220
TIP61C	NPN PWR TO-220
TIP62	PNP PWR TO-220
TIP62A	PNP PWR TO-220
TIP62B	PNP PWR TO-220
TIP62C	PNP PWR TO-220
TIS34	NFET SW
TIS58	NFET RF
TIS59	NFET RF
TIS73	NFET SW
TIS74	NFET SW
TIS75	NFET SW
TIS86	NPN RF
TIS87	NPN RF
TN3724	NPN PWR 92 PLUS
TN3725	NPN PWR 92 PLUS

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

NATIONAL

Standard TTL Integrated Circuits

SERIES 54/74 TTL

NSC No.	Description
DM5400/DM7400	Quad 2-input NAND gate
DM5401/DM7401	Quad 2-input NAND gate (open coll.)
DM5402/DM7402	Quad 2-input NOR gate
DM5403/DM7403	Quad 2-input NAND gate (open coll.)
DM5404/DM7404	Hex inverter
DM5405/DM7405	Hex inverter (open coll.)
DM5406/DM7406	Hex inverter (open coll.) 30 mA, 30 V
DM5407/DM7407	Hex buffer (open coll.) 30 mA, 30 V
DM5408/DM7408	Quad 2-input AND gate
DM5409/DM7409	Quad 2-input AND gate (open coll.)
DM5410/DM7410	Triple 3-input NAND gate
DM5411/DM7411	Triple 3-input AND gate
DM5413/DM7413	Dual Schmitt trigger
DM5414/DM7414	Hex Schmitt trigger
DM5416/DM7416	Hex inverter (open coll.) 30 mA, 15 V
DM5417/DM7417	Hex buffer (open coll.) 30 mA, 15 V
DM5420/DM7420	Dual 4-input NAND gate
DM5423/DM7423	Exp. dual 4-input NOR gate
DM5425/DM7425	Dual 4-input NOR gate
DM5426/DM7426	Quad 2-input NAND gate (open coll.)
DM5427/DM7427	Triple 3-input NOR gate
DM5430/DM7430	8-input NAND gate
DM5432/DM7432	Quad 2-input OR gate
DM5437/DM7437	Quad 2-input NAND buffer
DM5438/DM7438	Quad 2-input NAND buffer (open coll.)
DM5440/DM7440	Dual 4-input NAND buffer
DM5441A/DM7441A	NIXIE driver
DM5442/DM7442	BCD-to-decimal decoder
DM5445/DM7445	BCD-to-decimal decoder/driver
DM5446A/DM7446A	BCD-to-7-segment decoder/driver
DM5447A/DM7447A	BCD-to-7-segment decoder/driver
DM5448/DM7448	BCD-to-7-segment decoder/driver (active high)
DM5450/DM7450	Exp. dual 2-input AND-OR-INVERT gate
DM5451/DM7451	Dual 2-input AND-OR-INVERT gate
DM5453/DM7453	Exp. 2-input AND-OR-INVERT gate
DM5454/DM7454	2-input AND-OR-INVERT gate
DM5460/DM7460	Dual 4-input expander
DM5470/DM7470	Edge-triggered J-K flip-flop
DM5472/DM7472	J-K M/S flip-flop
DM5473/DM7473	Dual J-K M/S flip-flop w/clear
DM5474/DM7474	Dual D type flip-flop with preset and clear
DM5475/DM7475	Quad latch
DM5476/DM7476	Dual J-K M/S flip-flop with preset and clear
DM5483/DM7483	4-bit binary full adder
DM5485/DM7485	4-bit comparator
DM5486/DM7486	Quad 2-input exclusive-OR gate
DM5490A/DM7490A	Decade counter
DM5491A/DM7491A	8-bit serial shift register
DM5492A/DM7492A	Divide-by-12 counter
DM5493A/DM7493A	4-bit binary counter
DM5495/DM7495	4-bit R-S, L-S register
DM5496/DM7496	5-bit PIPO shift register
DM54107/DM74107	Dual J-K flip-flop
DM54109/DM74109	Dual J-K flip-flop (FSC9024)
DM54121/DM74121	Monostable multivibrator
DM54123/DM74123	Dual monostable multivibrator
DM54125/DM74125	TRI-STATE quad 2-input buffer (DM8093)
DM54126/DM74126	TRI-STATE quad 2-input buffer (DM8094)
DM54132/DM74132	Quad Schmitt trigger
DM54141/DM74141	NIXIE driver
DM54145/DM74145	BCD-to-decimal decoder/driver
DM54147/DM74147	10/4 priority encoder
DM54148/DM74148	8/3 priority encoder (FSC9318)
DM54150/DM74150	16:1 multiplexer
DM54151A/DM74151A	8-channel multiplexer
DM54153/DM74153	Dual 4:1 multiplexer
DM54154/DM74154	4:16 decoder/demultiplexer
DM54155/DM74155	Dual 2:4 demultiplexer
DM54156/DM74156	Dual 2:4 demultiplexer (open coll.)
DM54157/DM74157	Quad 2-input multiplexer (FSC9322)
DM54160A/DM74160A	Presettable decade counter (FSC9310)
DM54161A/DM74161A	Presettable binary counter (FSC9316)
DM54162A/DM74162A	Presettable decade counter (sync. clear)
DM54163A/DM74163A	Presettable binary counter (sync. clear)
DM54164/DM74164	8-bit SIPO shift register (DM8570)
DM54165/DM74165	8-bit PISO shift register (DM8590)
DM54166/DM74166	8-bit PISO shift register
DM54170/DM74170	4 x 4 register file
DM54173/DM74173	TRI-STATE quad D register (DM8551)

NSC No.	Description
DM54174/DM74174	Hex D flip-flop
DM54175/DM74175	Quad D flip-flop
DM54176/DM74176	Presettable decade counter (SIG8280)
DM54177/DM74177	Presettable binary counter (SIG8281)
DM54180/DM74180	Parity generator/checker
DM54181/DM74181	Arithmetic logic unit
DM54182/DM74182	Carry look ahead
DM54184/DM74184	BCD-to-binary converter
DM54185A/DM74185A	Binary-to-BCD converter
DM54190/DM74190	Sync up/down decade counter (mode control)
DM54191/DM74191	Sync up/down binary counter (mode control)
DM54192/DM74192	Sync up/down decade counter (DM8560)
DM54193/DM74193	Sync up/down binary counter (DM8563)
DM54194/DM74194	4-bit bidirectional shift register
DM54195/DM74195	4-bit parallel shift register
DM54196/DM74196	Presettable decade counter (SIG8290)
DM54197/DM74197	Presettable binary counter (SIG8291)
DM54198/DM74198	8-bit PIPO shift register
DM54199/DM74199	8-bit PIPO shift register
DM54251/DM74251	TRI-STATE 8-channel multiplexer
DM54259/DM74259	8-bit addressable latch (DM9334)
DM54365/DM74365	TRI-STATE hex buffer (DM8095)
DM54366/DM74366	TRI-STATE hex inverter (DM8096)
DM54367/DM74367	TRI-STATE hex buffer (4-2) (DM8097)
DM54368/DM74368	TRI-STATE hex inverter (4-2) (DM8098)
DM7090/DM8090	Quad inverter, dual 2-input NAND buffer
DM7091/DM8091	Quad 2-input NAND buffer
DM7092/DM8092	Dual 5-input NAND gate
DM7093/DM8093	TRI-STATE quad 2-input buffer
DM7094/DM8094	TRI-STATE quad 2-input buffer
DM7095/DM8095	TRI-STATE hex buffer (DM74365)
DM7096/DM8096	TRI-STATE hex inverter (DM74366)
DM7097/DM8097	TRI-STATE hex buffer (4-2) (DM74367)
DM7098/DM8098	TRI-STATE hex inverter (4-2) (DM74368)
DM7099/DM8099	TRI-STATE 5400 gate
DM7121/DM8121	TRI-STATE DM74151 (DM74251)
DM7123/DM8123	TRI-STATE 9322
DM7130/DM8130	10-bit comparator
DM7131/DM8131	6-bit comparator w/hi Z inputs
DM7136/DM8136	6-bit comparator w/hi Z in, (open coll.)
DM7160/DM8160	6-bit comparator
DM7200/DM8200	4-bit digital comparator
DM7210/DM8210	8-channel multiplexer
DM7211/DM8211	8-channel multiplexer w/strobe
DM7214/DM8214	TRI-STATE DM74153
DM7219/DM8219	TRI-STATE DM74159
DM7220/DM8220	Parity generator/checker
DM7223/DM8223	1:8 demultiplexer
DM7230/DM8230	TRI-STATE demultiplexer
DM7511/DM8511	Dual gated D flip-flop
DM7512/DM8512	Dual gated J-K flip-flop
DM7520/DM8520	Modulo-N-divider
DM7542/DM8542	TRI-STATE quad I/O register
DM7544/DM8544	Contact bounce eliminator
DM7546/DM8546	TRI-STATE 8-bit univ. shift register
DM7551/DM8551	TRI-STATE quad D register (DM74173)
DM7552/DM8552	TRI-STATE decade counter/latch
DM7553/DM8553	TRI-STATE 8-bit latch
DM7554/DM8554	TRI-STATE binary counter/latch
DM7555/DM8555	TRI-STATE presettable decade counter
DM7556/DM8556	TRI-STATE presettable binary counter
DM7560/DM8560	Up/down decade counter (DM74192)
DM7563/DM8563	Up/down binary counter (DM74193)
DM7570/DM8570	8-bit SIPO shift register
DM7590/DM8590	8-bit PISO shift register
DM7613/DM8613	Quad gated D flip-flop
DM7853/DM8853	Dual monostable multivibrator (double edge)
DM7875A/DM8875A	TRI-STATE 4-bit multiplier
DM7875B/DM8875B	TRI-STATE 4-bit multiplier
DM8898	TRI-STATE DM74184
DM8899	TRI-STATE DM74185A

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

LOW POWER SCHOTTKY AND CMOS INTEGRATED CIRCUITS

NATIONAL

LOW POWER SCHOTTKY 54LS/74LS

NSC No.	Description
DM54LS00/DM74LS00	Quad 2-input NAND gate
DM54LS01/DM74LS01	Quad 2-input NAND gate (open coll.)
DM54LS02/DM74LS02	Quad 2-input NOR gate
DM54LS03/DM74LS03	Quad 2-input NAND gate (open coll.)
DM54LS04/DM74LS04	Hex inverter
DM54LS05/DM74LS05	Hex inverter (open coll.)
DM54LS08/DM74LS08	Quad 2-input AND gate
DM54LS09/DM74LS09	Quad 2-input AND gate (open coll.)
DM54LS10/DM74LS10	Triple 3-input NAND gate
DM54LS11/DM74LS11	Triple 3-input AND gate
DM54LS12/DM74LS12	Triple 3-input NAND gate (open coll.)
DM54LS13/DM74LS13	Dual 4-input NAND Schmitt trigger
DM54LS14/DM74LS14	Hex Schmitt trigger
DM54LS15/DM74LS15	Triple 3-input AND gate (open coll.)
DM54LS20/DM74LS20	Dual 4-input NAND gate
DM54LS21/DM74LS21	Dual 4-input AND gate
DM54LS22/DM74LS22	Dual 4-input NAND gate (open coll.)
DM54LS26/DM74LS26	Quad 2-input hi-volt NAND gate
DM54LS27/DM74LS27	Triple 3-input NOR gate
DM54LS30/DM74LS30	8-input NAND gate
DM54LS32/DM74LS32	Quad 2-input OR gate
DM54LS37/DM74LS37	Quad 2-input NAND buffer
DM54LS38/DM74LS38	Quad 2-input NAND buffer (open coll.)
DM54LS40/DM74LS40	Dual 4-input NAND buffer
DM54LS42/DM74LS42	BCD-to-decimal decoder
DM54LS47/DM74LS47	BCD-to-7-segment decoder/driver
DM54LS48/DM74LS48	BCD-to-7-segment decoder/driver
DM54LS49/DM74LS49	BCD-to-7-segment decoder/driver
DM54LS51/DM74LS51	Dual 2-input AND-OR-INVERT gate
DM54LS54/DM74LS54	2-input AND-OR-INVERT gate
DM54LS55/DM74LS55	Dual 4-input AND-OR-INVERT gate
DM54LS73/DM74LS73	Dual J-K M/S flip-flop w/clear
DM54LS74/DM74LS74	Dual D flip-flop w/preset and clear
DM54LS75/DM74LD75	Quad latch
DM54LS76/DM74LS76	Dual J-K M/S flip-flop w/preset and clear
DM54LS77/DM74LS77	Quad latch, no inverted Q
DM54LS78/DM74LS78	Dual J-K flip-flop w/preset common clock, common clear
DM54LS83A/DM74LS83A	4-bit binary full adder
DM54LS85/DM74LS85	4-bit magnitude comparator
DM54LS86/DM74LS86	Quad 2-input exclusive-OR gate
DM54LS90/DM74LS90	Decade counter
DM54LS92/DM74LS92	Divide-by-12 counter
DM54LS93/DM74LS93	4-bit binary counter
DM54LS107/DM74LS107	Dual J-K flip-flop
DM54LS109/DM74LS109	Dual J-K flip-flop
DM54LS112/DM74LS112	Dual J-K flip-flop w/preset and clear
DM54LS113/DM74LS113	Dual J-K flip-flop w/preset
DM54LS114/DM74LS114	Dual J-K flip-flop w/preset common clock, common clear
DM54LS122/DM74LS122	Retriggerable one shot w/clear
DM54LS123/DM74LS123	Dual monstable multivibrator
DM54LS125/DM74LS125	TRI-STATE quad buffer
DM54LS126/DM74LS126	TRI-STATE quad buffer
DM54LS132/DM74LS132	Quad 2-input NAND Schmitt trigger
DM54LS136/DM74LS136	Quad exclusive-OR gate (open coll.)
DM54LS138/DM74LS138	Expandable ⅜ decoder
DM54LS139/DM74LS139	Expandable dual 2/4 decoder
DM54LS151/DM74LS151	8-channel multiplexer

NSC No.	Description
DM54LS153/DM74LS153	Dual 4:1 multiplexer
DM54LS154/DM74LS154	4:16 decoder/demultiplexer
DM54LS155/DM74LS155	Dual 2-line to 4-line decoder/ demultiplexer
DM54LS156/DM74LS156	Dual 2-line to 4-line decoder/ demultiplexer
DM54LS157/DM74LS157	Quad 2-input multiplexer
DM54LS158/DM74LS158	Quad 2-input multiplexer
DM54LS160/DM74LS160	Presettable decade counter
DM54LS161/DM74LS161	Presettable binary counter
DM54LS162/DM74LS162	Presettable decade counter (sync clear)
DM54LS163/DM74LS163	Presettable binary counter (sync clear)
DM54LS164/DM74LS164	8-bit SIPO shift register
DM54LS165/DM74LS165	8-bit PISO shift register
DM54LS168/DM74LS168	Sync up/down decade counter
DM54LS169/DM74LS169	Sync up/down binary counter
DM54LS170/DM74LS170	4 x 4 register file
DM54LS173/DM74LS173	TRI-STATE quad D register
DM54LS174/DM74LS174	Hex D flip-flop
DM54LS175/DM74LS175	Quad D flip-flop
DM54LS190/DM74LS190	Sync up/down decade counter (mode control)
DM54LS191/DM74LS191	Sync up/down binary counter (mode control)
DM54LS192/DM74LS192	Sync up/down decade counter (2 clocks)
DM54LS193/DM74LS193	Sync up/down binary counter (2 clocks)
DM54LS196/DM74LS196	Presettable decade counter
DM54LS197/DM74LS197	Presettable binary counter
DM54LS221/DM74LS221	Dual one shot w/Schmitt trigger inputs
DM54LS247/DM74LS247	BCD-to-7-segment decoder/driver (open coll.)
DM54LS248/DM74LS248	BCD-to-7-segment decoder/driver
DM54LS249/DM74LS249	BCD-to-7-segment decoder/driver (open coll.)
DM54LS251/DM74LS251	TRI-STATE DM74LS151
DM54LS253/DM74LS253	TRI-STATE DM74LS153
DM54LS257/DM74LS257	TRI-STATE DM74LS157
DM54LS258/DM74LS258	TRI-STATE DM74LS158
DM54LS266/DM74LS266	Quad exclusive-NOR gate (open coll.)
DM54LS279/DM74LS279	Quad S-R latch
DM54LS283/DM74LS283	4-bit binary adder
DM54LS290/DM74LS290	DM74LS90 with corner power pins
DM54LS293/DM74LS293	DM74LS93 with corner power pins
DM54LS352/DM74LS352	Inverting version of DM74LS153
DM54LS353/DM74LS353	Inverting version of DM74LS253
DM54LS365/DM74LS365	TRI-STATE hex buffer
DM54LS366/DM74LS366	TRI-STATE hex buffer
DM54LS367/DM74LS367	TRI-STATE hex buffer
DM54LS368/DM74LS368	TRI-STATE hex buffer
DM54LS274/DM74LS274	TRI-STATE octal D flip-flop
DM54LS386/DM74LS386	Quad exclusive-OR gate
DM54LS670/DM74LS670	TRI-STATE 4 x 4 register file
DM71LS95/DM81LS95	TRI-STATE octal buffer
DM71LS96/DM81LS96	TRI-STATE octal buffer
DM71LS97/DM81LS97	TRI-STATE octal buffer
DM71LS98/DM81LS98	TRI-STATE octal buffer
DM76LS52/DM86LS52	8-bit univ. I/O register
DM76LS62/DM86LS62	8-bit univ. I/O register

SERIES 54C/74C CMOS

NSC No.	Description
MM54C00/MM74C00	Quad 2-input NAND gate
MM54C02/MM74C02	Quad 2-input NOR gate
MM54C04/MM74C04	Hex inverter
MM54C08/MM74C08	Quad 2-input AND gate
MM54C10/MM74C10	Triple 3-input AND gate
MM54C14/MM74C14	Hex Schmitt trigger
MM54C20/MM74C20	Dual 4-input NAND gate
MM54C30/MM74C30	8-input NAND gate
MM54C32/MM74C32	Quad 2-input OR gate
MM54C42/MM74C42	BCD-to-decimal decoder
MM54C48/MM74C48	BCD-to-7-segment decoder
MM54C73/MM74C73	Dual J-K flip-flop
MM54C74/MM74C74	Dual D flip-flop
MM54C76/MM74C76	Dual J-K flip-flop
MM54C83/MM74C83	4-bit binary full adder
MM54C85/MM74C85	4-bit magnitude comparator
MM54C86/MM74C86	Quad 2-input exclusive-OR gate
MM54C89/MM74C89	64-bit TRI-STATE RAM
MM54C90/MM74C90	4-bit decade counter
MM54C93/MM74C93	4-bit binary counter
MM54C95/MM74C95	4-bit R-S/L-S register
MM54C107/MM74C107	Dual J-K flip-flop
MM54C151/MM74C151	8-channel digital multiplexer
MM54C154/MM74C154	4:16 decoder/demultiplexer
MM54C157/MM74C157	Quad 2-input multiplexer
MM54C160/MM74C160	Sync decade counter

NSC No.	Description
MM54C161/MM74C161	Sync 4-bit binary counter
MM54C162/MM74C162	Sync decade counter
MM54C163/MM74C163	Sync 4-bit binary counter
MM54C164/MM74C164	8-bit SIPO shift register
MM54C165/MM74C165	8-bit PISO shift register
MM54C173/MM74C173	TRI-STATE Quad D flip-flop
MM54C174/MM74C174	Hex D flip-flop
MM54C175/MM74C175	Quad D flip-flop
MM54C192/MM74C192	Sync up/down decade counter
MM54C193/MM74C193	Sync up/down binary counter
MM54C195/MM74C195	4-bit parallel shift register
MM54C221/MM74C221	Dual monostable multivibrator
MM54C901/MM74C901	Hex inverting TTL buffer
MM54C902/MM74C902	Hex non-inverting TTL buffer
MM54C903/MM74C903	Hex inverting TTL buffer
MM54C904/MM74C904	Hex non-inverting TTL buffer
MM54C905/MM74C905	12-bit succ. approx. register
MM54C906/MM74C906	Hex open drain N-channel buffer
MM54C907/MM74C907	Hex open drain P-channel buffer
MM54C908/MM74C908	Dual high voltage CMOS driver
MM54C918/MM74C918	Dual high voltage CMOS driver
MM70C95/MM80C95	TRI-STATE hex non-inverting buffer
MM70C97/MM80C97	TRI-STATE hex non-inverting buffer
MM78C29/MM88C29	Quad single-ended line driver
MM78C30/MM88C30	Dual differential line driver

NATIONAL

CMOS and Linear Integrated Circuits

CD4000 SERIES CMOS

NSC No.	Description
CD4000	Dual 3-input NOR gate/inverter
CD4001	Quad 2-input NOR gate
CD4001B	Double buffered quad 2-in NOR gate
CD4002	Dual 4-input NOR gate
CD4002B	Double buffered dual 4-in NOR gate
CD4006	18-bit shift register
CD4007	Dual comp. pair plus inverter
CD4008B	4-bit full adder w/parallel carry
CD4009	Hex inverting buffer
CD4010	Hex buffer
CD4011	Quad 2-input NAND gate
CD4011B	Double buffered quad 2-in NAND gate
CD4012	Dual 4-input NAND gate
CD4012B	Double buffered dual 4-in NAND gate
CD4013B	Dual D flip-flop
CD4014	8-bit shift register
CD4015	Dual 4-bit shift register
CD4016	Quad bilateral switch
CD4017B	Decade counter/divider
CD4018B	Presettable divide-by-N counter
CD4019B	Quad AND-OR select gate
CD4020	14-bit ripple carry binary counter
CD4021	8-bit shift register
CD4022B	Divide-by-8 counter/divider
CD4023	Triple 3-input NAND gate
CD4023B	Double buffered triple 3-in NAND gate
CD4024B	7-bit binary counter
CD4025	Triple 3-input NOR gate
CD4025B	Double buffered triple 3-in NOR gate
CD4027B	Dual J-K flip-flop
CD4028B	BCD-to-decimal decoder
CD4029B	Presettable up/down counter
CD4030	Quad EX-OR gate (MM74C86)
CD4031B	64-bit shift register
CD4034B	8-bit shift register
CD4035B	4-bit PIPO shift register
CD4040	12-bit binary ripple counter
CD4041B	Quad true/complement buffer
CD4042B	Quad D latch
CD4043	Quad 3-state NOR R/S latch
CD4044	Quad 3-state NAND R/S latch
CD4046B	Phase locked loop
CD4047B	Mono/astable multivibrator
CD4048B	Expandable 8-input gate
CD4049UB	Hex inverting buffer

NSC No.	Description
CD4050B	Hex buffer
CD4051B	8-channel multiplexer
CD4052B	Diff. 4-channel multiplexer
CD4053B	Triple 2-channel multiplexer
CD4060B	14-stage ripple carry binary counter
CD4066B	Quad bilateral switch
CD4069UB	Hex inverter (MM74C04)
CD4070B	Quad exclusive-OR gate (MM74C86)
CD4071B	Quad 2-input OR gate
CD4072B	Dual 4-input OR gate
CD4073B	Triple 3-input AND gate
CD4075B	Triple 3-input OR gate
CD4076B	TRI-STATE quad D flip-flop (MM74C173)
CD4077B	Quad exclusive-NOR gate
CD4081B	Quad 2-input AND gate
CD4082B	Dual 4-input AND gate
CD4085B	Dual 2 w, 2-in AND-OR-INVERT gate
CD4089B	Binary rate multiplier
CD4093B	Quad 2-input NAND Schmitt trigger
CD4098B	Dual monostable multivibrator
CD4099B	8-bit addressable latch
CD40106B	Hex Schmitt trigger (MM74C14)
CD40160B	Sync decade counter (MM74C160)
CD40161B	Sync binary counter (MM74C161)
CD40162B	Fully sync decade counter (MM74C162)
CD40163B	Fully sync binary counter (MM74C163)
CD40192B	Sync up/down decade counter (MM74C192)
CD40193B	Sync up/down binary counter (MM74C193)
CD4503B	Hex bus driver (MM70C97)
CD4507B	Quad exclusive-OR gate (MM74C86)
CD4510B	BCD up/down counter
CD4511B	BCD-to-7-segment decoder/driver
CD4512B	8-channel data selector
CD4514B	4-bit latch/4-16 line decoder
CD4515B	4-bit latch/4-16 line decoder
CD4516B	Binary up/down counter
CD4518B	Dual BCD up counter
CD4519B	4-bit AND-OR selector
CD4520B	Dual binary up counter
CD4527B	BCD rate multiplier
CD4528B	Dual retrig./reset. mono. multi.
CD4529B	Dual 4-channel analog data selector
CD4584B	Hex Schmitt trigger (MM74C14N)
CD4723B	Dual 4-bit addressable latch
CD4724B	8-bit addressable latch

ORDERING INFORMATION

NSC No.	Package	Temperature Range
CD40XXCN	Molded DIP (N)	−40° C to +85° C
CD40XXCJ	Cavity DIP (J)	−40° C to +85° C
CD40XXMJ	Cavity DIP (J)	−55° C to +125° C
CD40XXMD	Cavity DIP (D)	−55° C to +125° C
CD40XXMF	Cavity flat pack (F)	−55° C to +125° C
CD40XXBCN	Molded DIP (N)	−40° C to +85° C
CD40XXBCJ	Cavity DIP (J)	−40° C to +85° C
CD40XXBMJ	Cavity DIP (J)	−55° C to +85° C

NSC No.	Package	Temperature Range
CD40XXBMD	Cavity DIP (D)	−55° C to +125° C
CD40XXBMF	Cavity flat pack (F)	−55° C to +125° C
CD45XXCN	Molded DIP (N)	−40° C to +85° C
CD45XXCJ	Cavity DIP (J)	−40° C to +85° C
CD45XXMJ	Cavity DIP (J)	−55° C to +125° C
CD45XXMD	Cavity DI (D)	−55° C to +125° C
CD45XXMF	Cavity flat pack (F)	−55° C to +125° C

LINEAR IC'S

NSC No.	Description
DAC-08(LF11008)	8-bit DAC
LF111/LF211/LF311	Voltage comparator
LF147/LF347	JFET quad BI-FET
LF151/LF351	Single BI-FET op amp
LF152/LF352	Input instru. op amp
LF153/LF353	Dual BI-FET
LF154/LF354	Dual BI-FET
LF155/LF255/LF355	JFET input op amp
LF155A/LF355A	JFET input op amp
LF156/LF256/LF356	JFET input op amp
LF156A/LF356A	JFET input op amp
LF157/LF257/LF357	JFET input op amp
LF157A/LF357A	JFET input op amp
LF198/LF298/LF398	Precision sample and hold
LF2700	CODEC
LF11201/LF12201/ LF13201	Quad FET analog switch
LF11202/LF12202/ LF13202	Quad FET analog switch
LF12300/LF13300	Dual slope A/D converter
LF113331/LF12331/ LF13331	Quad FET analog switch
LF11332/LF12332/ LF13332	Quad FET analog switch
LF11333/LF12333/ LF13333	Quad FET analog switch
LF11506	BI-FET 16-channel multiplexer
LF11508/LF13508	BI-FET 8-channel multiplexer
LF11509/LF13509	BI-FET 4-channel multiplexer
LF13741	JFET op amp
LH101/LH201	Compensated op amp
LM100/LM200/LM300	Positive voltage regulator
LM101/LM201	Op amp

NSC N .	Description
LM101A/LM201A/LM301A	Improved op amp
LM102/LM202/LM302	Voltage follower op amp
LM103	Voltage reference
LM104/LM204/LM304	Negative voltage regulator
LM105/LM205/LM305	Positive voltage regulator
LM106/LM206/LM306	Voltage comparator
LM107/LM207/LM307	Compensated op amp
LM108/LM208/LM308	Super gain op amp
LM108A/LM208A/LM308A	Op amp
LM109/LM209/LM309	5 V regulator
LM110/LM210/LM310	Voltage follower op amp
LM111/LM211/LM311	Voltage comparator
LM112/LM212/LM312	Comp. super gain op amp
LM113/LM313	Diode reference
LM114/LM114A/ LM115/LM115A	Matched dual transistors
LM117/LM217/LM317	3-term. adj. voltage regulator
LM118/LM218/LM318	High slew rate op amp
LM119/LM219/LM319	Dual voltage comparator
LM120/LM220/LM320	Neg. fixed voltage regulator
LM121/LM221/LM321	Precision preamp
LM121A/LM221A/LM321A	Precision preamp
LM122/LM222/LM322	Timer
LM123/LM223/LM323	5 V, 3 A regulator
LM124/LM224/LM324	Quad op amp
LM124/LM224/LM324	Quad op amp
LM124A/LM224A/LM324A	Quad op amp
LM125/LM225/LM325	Dual tracking voltage regulator
LM126/LM226/LM326	Dual tracking voltage regulator
LM127/LM227/LM327	Dual tracking voltage regulator
LM128/LM228/LM328	Dual tracking var. regulator
LM129/LM329	Temp. comp. voltage reference
LM130/LM230/LM330	Low dropout voltage regulator
LM134/LM334	Constant current source
LM135/LM335	Temperature sensor

LISTING CONTINUED ON FOLLOWING PAGE

LINEAR IC'S (CONTINUED)

NSC No.	Description
LM136/LM336	Constant voltage source
LM137/LM337	Negative 3-term. adj. regulator
LM139/LM239/LM339	Quad comparator
LM139A/LM239A/LM339A	Quad comparator
LM140/LM240/LM340	Fixed positive 1 A volt. regulator
LM140L/LM240L/LM340L	Fixed positive 1 A volt. regulator
LM143/LM343	High voltage op amp
LM144/LM344	High voltage op amp
LM145/LM245/LM345	Negative 3 A regulator
LM146/LM346	Quad micropower op amp
LM148/LM248/LM348	Quad LM741
LM149/LM249/LM349	Decomp. quad op amp
LM150/LM350	3 A adj. regulator
LM158/LM258/LM358	Dual op amp
LM158A/LM258A/LM358A	Dual op amp
LM160/LM260/LM360	High speed voltage comparator
LM161/LM261/LM361	High speed voltage comparator
LM170/LM270/LM370	ACC/squelch amplifier
LM171/LM271/LM371	RF/IF amplifier
LM172/LM272/LM372	AM/IF strip with detector
LM175/LM275/LM375	Crystal oscillator buffer
LM193/LM293/LM393	Dual comparator
LM193A/LM293A/LM393A	Dual comparator
LM194/LM394	Supermatch pair
LM195/LM295/LM395	Power transistor
LM199/LM299/LM399	Temp. comp. volt. reference
LM199A/LM299A/LM399A	Temp. comp. volt. reference
LM216/LM216A/ LM316/LM316A	Precision op amp
LM273/LM373	AM/FM/SSB IF amp and det.
LM274/LM374	AM/FM/SSB IF amp and det.
LM320L	Switching regulator
LM320M	Neg. fixed volt. regulator
LM320ML	Switching regulator
LM341	Series pos. regulator, 0.5 A
LM342	Series pos. regulator, 0.2 A
LM376	Pos. volt. regulator
LM377	Dual 2 W stereo power amp
LM378	Dual 4 W stereo power amp
LM379	Dual 6 W stereo power amp
LM380	2 W audio amp
LM381/LM381A	Low noise dual preamp
LM382	Low noise dual preamp
LM383	5 lead 8 W audio power amp
LM384	5 W audio amp
LM386	Low level audio amp
LM387/LM387A	Low noise dual preamp
LM388/LM388A	1.5 W audio amp
LM389	Low power audio amp & RF trans. array
LM390	1 W audio amp
LM391	High voltage audio driver
LM529	High speed comparator
LM555/LM555C	Timer
LM556/LM556C	Dual timer
LM565/LM565C	Phase locked loop
LM566/LM566C	Phase locked loop
LM567/LM567C	Tone decoder
LM703L	IF limiting amp
LM709/LM709A/LM709C	Op amp
LM710/LM710A/LM710C	Differential comparator
LM711/LM711C	Dual differential comparator
LM723/LM723C	Voltage regulator
LM725/LM725A/LM725C	Op amp
LM733/LM733C	Video amp
LM714A/LM714C/LM714E	Compensated op amp
LM746	Chroma demodulator
LM747A/LM747C/LM747E	Dual comp. op amp
LM747-1/LM747-1C	Split pos. supply dual comp. op amp
LM748/LM748C	Op amp
LM760	High speed comparator
LM78XX	Pos voltage regulator, 1 A
LM78LXX	3-term. pos. regulator, 50 mA
LM78MXX	3-term. pos. regulator, 500 mA
LM79XX	Neg. vclt. regulator, 1 A
LM79LXX	Neg. volt. regulator, 0.1 A
LM79MXX	Neg. volt. regulator, 0.5 A
LM1011	Dolby B-type
LM1303	Stereo preamp
LM1304	Stereo multiplex
LM1305	Stereo multiplex
LM1307/LM1307E	Stereo multiplex
LM1310	Stereo demodulator
LM1351	FM detector and limiter
LM1391	TV horiz. processor
LM1394	TV horiz. processor
LM1408	8-bit DAC
LM1414/LM1514	Dual voltage ccmparator
LM1436/LM1536	High voltage op amp
LM1458/LM1588	Dual comp. op amp
LM1496/LM1596	Balanced mod./demod.
LM1524	Switching regulator
LM1800	PLL stereo demodulator
LM1801	Smoke detector
LM1807	TV sync. IF detector
LM1808/LM2808	TV sound system
LM1810	Stereo demodulator
LM1812	Ultrasonic transceiver
LM1815	Adaptive sense amplifier
LM1818	Tape playback
LM1820	AM radio system
LM1821	45 MHz IF
LM1828	Chroma demodulator
LM1830	Fluid level sensor
LM1841	FM detector and limiter
LM1845	TV signal processor
LM1848	Chroma demodulator
LM1850	Ground fault interrupter
LM1852	Tate 4-channel sound
LM1853	Tate 4-channel sound
LM1860	CB/AM chip
LM1861/LM1862	CB synthesizer
LM1877	Dual 2 W audio amp
LM1887/LM2887	24/12 V chroma system
LM1889	TV video monitor
LM1900/LM2900/LM3900	Quad amplifier
LM2000/LM2001/LM2003	Low voltage audio driver
LM2111	FM detector and limiter
LM2113	FM detector and limiter
LM2704	Compander
LM2901	Quad comparator
LM2902	Quad op amp
LM2903	Dual comparator
LM2904	Dual op amp
LM2905/LM3905	Precision timer
LM2907	Freq. to voltage converter
LM2917	Freq. to voltage converter
LM3018/LM3018A	Darlington transistor array
LM3019	Diode bridge array
LM3026	Dual diff. transistor array
LM3028A/LM3028B	Differential amplifier
LM3039	Diode array
LM3045	Diff. pair transistor array
LM3046	Diff. pair transistor array
LM3053	Differential amplifier
LM3054	Dual diff. transistor array
LM3064	TV auto. freq. control
LM3065	TV sound IF
LM3067	Chroma demodulator
LM3070	Chroma subcarrier regenerator
LM3071	Chroma IF amplifier
LM3072	Chroma demodulator
LM3075	FM det/lim/audio preamp
LM3080	Transconductance amplifier
LM3086	Diff. pair transistor array
LM3089	FM receiver IF system
LM3118/LM3118A	Matched monolithic high voltage
LM3126	Chroma processor
LM3145/LM3145A	High volt. transistor array
LM3146/LM3146A	High volt. transistor array
LM3301	Quad op amp
LM3302	Quad comparator
LM3401	Quad op amp
LM3905	Precision timer
LM3909	LED flasher
LM3911	Temperature controller
LM3924	Comparator/op amp
LM3999	Precision reference
LM4250/LM4250C	Programmable op amp
LX5600/LX5600X	Temperature transducer
LX5700/LX5700X	Temperature transducer
TBA120S	IF amp and det
TBA440C	Mono. vido IF amp
TBA510	Chromainance comb.
TBA530	RGB matrix preamp
TBA540/Q	Reference combination
TBA560C/CQ	Luminance/chroma control comb.
TBA920/Q	Line oscillator comb.
TBA990/Q	Color demodulator
TDA2002	5 lead 8 W power amplifier

APPLICATION LITERATURE—LINEAR BRIEFS

NSC No.	Title
LB-21	Instrumentational Amplifiers
LB-22	Low Drift Amplifiers
LB-23	Precise Tri-Wave Generation
LB-24	Versatile IC Preamp Makes Thermocouple Amplifier with Cold Junction Compensation
LB-25	True RMS Detector
LB-26	Specifying Selected Op Amps and Comparators
LB-27	Microwave Thermometer
LB-28	General Purpose Power Supply
LB-29	Low Cost AM Radio System using LM1820 and LM386
LB-30	Low Cost LED Thermometer
LB-31	Crystal Oven Controller and Precision Voltage Reference
LB-32	Microvolt Comparator
LB-33	High Speed Warning Device for Automobiles
LB-34	A Micropower Voltage Reference

Integrated Circuits

INTERFACE IC'S

NSC No.	Description
ADD2500	2½ digit DVM chip
DP4201	4000 Series clock generator
DP8212	8-bit I/O port
DP8216	Quad transceiver
DP8224	8080 clock generator
DP8226	Quad transceiver
DP8228	8080 system controller
DP8238	8080 system controller
DP8300	PACE 8-bit bidir. transfer element
DP8301	Microprocessor input latch element
DP8302	PACE system timing element
DP8304	8-bit bidirectional buffer
DP8305	PACE system timing element
DS0025	Dual MOS clock driver
DS0026	Dual MOS clock driver
DS0056	Dual MOS clock driver
DS1488	Quad RS-232 line driver
DS1489(A)	Quad RS-232 line receiver
DS26LS31	Quad RS-422 line driver
DS26LS32	Quad RS-422/423 line receiver
DS26LS33	Quad line receiver
DS3486	Quad RS-422/423 line receiver
DS3487	Quad RS-422 line driver
DS3603	Dual TRI-STATE line receiver
DS3604	Dual TRI-STATE MOS sense amplifier
DS3605	Hex prog. TRI-STATE MOS sense amplifier
DS3606	Hex prog. TRI-STATE MOS sense amplifier
DS3607	Hex prog. TRI-STATE MOS sense amplifier
DS3608	Hex prog. TRI-STATE MOS sense amplifier
DS3611	Dual AND peripheral driver, 80 V
DS3612	Dual NAND peripheral driver, 80 V
DS3613	Dual OR peripheral driver, 80 V
DS3614	Dual NOR peripheral driver, 80 V
DS3622	Dual TTL-to-MOS driver
DS3623	Dual line driver
DS3624	Triple line receiver
DS3625	Dual TRI-STATE MOS sense amplifier
DS3628	8-bit TTL-MOS driver
DS3630	Hex CMOS buffer
DS3631	Dual CMOS AND peripheral driver
DS3632	Dual CMOS NAND peripheral driver
DS3633	Dual CMOS OR peripheral driver
DS3634	Dual CMOS
DS3640	DS3670, but with internal damping resistor
DS3642	DS3672, but with internal damping resistor
DS3643	DS3673, but with internal damping resistor
DS3644	DS3674, but with internal damping resistor
DS3645	DS3675, but with internal damping resistor
DS3646	DS3676, but with internal damping resistor
DS3647	Quad TRI-STATE MOS RAM I/O register
DS3648	DS3678, but with internal damping resistor
DS3649	DS3679, but with internal damping resistor
DS3650	Quad TRI-STATE line receiver
DS3651	Quad hi-speed MOS sense amplifier
DS3652	Quad line receiver (open coll.)
DS3653	Quad hi-speed MOS sense amplifier
DS3654	10-digit serial input power driver
DS3655	10-digit serial input power driver
DS3670	TRI-SHARE port driver
DS3671	Dual MOS clock driver
DS3672	Dual TTL IN MOS clock driver
DS3673	Quad decoded MOS clock driver
DS3674	Quad MOS clock driver
DS3675	Hex latch/MOS driver
DS3676	Hex MOS RAM refresh counter
DS3677	Quad TRI-STATE MOS RAM I/O register
DS3678	Quad TRI-STATE MOS RAM chip
DS3679	Hex TRI-STATE MOS RAM address driver
DS3686	Dual relay driver (positive)
DS3687	Dual relay driver (negative)
DS3691	Quad line driver, RS-423
DS3692	Quad TRI-STATE line driver
DS36143	Quad decoded MOS clock driver
DS36144	Quad MOS clock driver
DS36147	Quad MOS RAM I/O register (open coll.)
DS36149	DS36179, but with internal damping resistor
DS36173	Quad decoded MOS clock driver
DS36174	Quad MOS clock driver
DS36177	Quad MOS RAM I/O register (open coll.)
DS36179	Hex MOS RAM address driver
DS7520	Core memory sense amplifier
DS7521	Core memory sense amplifier
DS7522	Core memory sense amplifier
DS7523	Core memory sense amplifier
DS7524	Core memory sense amplifier
DS7525	Core memory sense amplifier
DS7528	Core memory sense amplifier
DS7529	Core memory sense amplifier
DS7534	Core memory sense amplifier
DS7535	Core memory sense amplifier
DS7538	Core memory sense amplifier
DS7539	Core memory sense amplifier
DS75107	Dual line receiver
DS75108	Dual line receiver
DS75113	Dual TRI-STATE line driver
DS75114	Dual line driver
DS75115	Dual line receiver
DS75121	Dual line driver
DS75122	Triple line receiver
DS75123	Dual line driver
DS75124	Triple line receiver
DS75150	Dual line driver
DS75154	Quad line receiver
DS75207	Dual MOS sense amplifier
DS75208	Dual MOS sense amplifier
DS75322	TTL-to-MOS clock driver
DS75324	Core memory driver

NSC No.	Description
DS75325	Core memory driver
DS75361	Dual clock driver
DS75362	Dual clock driver
DS75364	Dual clock driver
DS75365	Quad clock driver
DS75450	Dual peripheral driver, 30 V
DS75451	Dual AND peripheral driver, 30 V
DS75452	Dual NAND peripheral driver, 30 V
DS75453	Dual OR peripheral driver, 30 V
DS75454	Dual NOR peripheral driver, 30 V
DS75460	Dual peripheral driver, 35 V
DS75461	Dual AND peripheral driver, 35 V
DS75462	Dual NAND peripheral driver, 35 V
DS75463	Dual OR peripheral driver, 35 V
DS75464	Dual NOR peripheral driver, 35 V
DS75491	4-segment LED driver, 50 mA
DS75492	6-digit LED driver, 250 mA
DS75493	4-segment LED driver, 50 mA
DS75494	6-digit LED driver, 180 mA
DS8T26	Quad transceiver
DS8T28	Quad transceiver
DS86S10	Quad transceiver
DS86S11	Quad transceiver
DS8629	Divide-by-100 prescaler
DS8640	Quad bus receiver (no hysteresis)
DS8641	Quad bus transceiver, 50 mA
DS8642	Quad bus transceiver, 100 mA
DS8646	6-digit LED watch driver, 100 mA
DS8647	9-segment LED watch river, 12 mA
DS8648	9-segment LED watch driver, 12 mA
DS8654	8-bit buffer
DS8656	Diode matrix
DS8658	4-digit LED watch driver, 100 mA
DS8659	7-segment LED watch driver, 12 mA
DS8664	14-digit decoder/driver
DS8665	14-digit decoder/driver (high)
DS8666	14-digit decoder/driver
DS8669	2-digit BCD-to-7-segment driver
DS8692	Impact printer driver array
DS8693	Impact printer driver
DS8694	Impact printer driver
DS8700	2½ digit DVM chip
DS8703	4½ digit DVM chip
DS88C120	Dual CMOS compatible receiver
DS88C20	Dual CMOS compatible receiver
DS88L12	Hex inverter, 14 V
DS88LS120	Dual line receiver
DS8800	TTL-to-MOS converter
DS8802	Dual TRI-STATE MOS sense amplifier
DS8803	2-phase oscillator/driver
DS8806	Dual TRI-STATE MOS sense amplifier
DS8810	Quad 2-input TTL-to-MOS translator
DS8811	Quad 2-input TTL-to-MOS translator
DS8812	Hex inverter, 14 V
DS8819	Quad 2-input TTL-to-MOS translator
DS8820(A)	Dual line receiver
DS8822	Dual line receiver
DS8830	Dual differential line driver
DS8831	Quad TRI-STATE line driver
DS8832	Quad TRI-STATE line driver
DS8833	Quad TRI-STATE transceiver
DS8834	Quad TRI-STATE transceiver
DS8835	Quad TRI-STATE transceiver
DS8836	Quad bus receiver
DS8837	Hex bus receiver
DS8838	Quad bus transceiver
DS8839	Quad TRI-STATE transceiver
DS8856	BCD-to-7-segment LED driver, 6 mA
DS8857	BCD-to-7-segment LED driver, 50 mA
DS8858	BCD-to-7-segment LED driver, 50 mA
DS8859	Hex LED bus driver w/latch
DS8861	5-segment LED driver, 50 mA
DS8863	8-digit LED driver, 500 mA
DS8867	8-segment LED driver, 14 mA
DS8868	12-digit LED driver, 50 mA
DS8869	Hex LED driver w/latch
DS8870	6-digit LED driver, 300 mA
DS8871	8-digit LED driver
DS8872	9-digit LED driver, 50 mA
DS8873	9-digit LED driver, 50 mA
DS8874	9-digit LED driver, 50 mA
DS8877	6-digit LED driver, 40 mA
DS8880	7-segment decoder/driver
DS8881	16-digit VAC floor driver
DS8884A	7-segment Panaplex decoder/driver
DS8885	7-segment MOS-to-Panaplex driver
DS8887	8-digit Panaplex anode driver
DS8889	8-digit Panaplex cathode driver
DS8891	6-digit Panaplex anode driver
DS8892	6-digit LED driver, prog.
DS8895	4-segment LED driver, 15 mA
DS8897	8-digit Panaplex anode driver
DS8900	CB chip
DS8925	4-digit decoder/counter/latch/driver
DS8926	4-digit decoder/counter/latch/driver
DS8927	4-digit decoder/counter/latch/driver
DS8928	4-digit decoder/counter/latch/driver
DS8935	4-digit decoder/counter/latch/driver
DS8936	4-digit decoder/counter/latch/driver
DS8963	8-digit LED driver, 500 mA
DS8973	9-digit LED driver, 50 mA
DS8974	9-digit LED driver, 50 mA
DS8975	9-digit LED driver, 50 mA
DS8976	9-digit LED driver, 50 mA
DS8977	7-digit LED driver, 50 mA
DS8980	hi-volt 7-segment decoder/driver
DS8981	hi-volt 7-segment decoder/driver

National's Full Spectrum of Microprocessors

National's INS2650 Family
The 2650 Family consists of a series of memory and peripheral components built around the 2650A 8-bit microprocessor. This second-sourced processor family offers excellent byte and bit manipulation for a variety of applications.

Seventy-five variable-length instructions – one, two, and three bytes – comprise the instruction set, thus minimizing memory requirements. Some of National's INS2650 family features:

- Single-phase clock, using only one interface pin and requiring only a normal TTL voltage swing, no special clock driver is required
- Single 5-volt power supply
- TRI-STATE data and address signals, simplifying system design and allowing asynchronous memory and I/O interface signals – means DMA is easy to implement
- Single-level, address-vectoring interrupt mechanism – means that the interrupting device can force execution of code at a device-determined memory location

National's INS8080A Family
Positioned between the cost-effective SC/MP and the highly versatile PACE, National's INS8080A can be used in systems which range from a few family components to designs which utilize its full capabilities. National offers the broadest line of peripheral circuits and memories to complement the basic 8080A CPU, with most parts available *now*. National's 8080A features and benefits:

- Family approach to system design
- Complete CPU group
- Programmable input/output concepts
- Multiple source availability
- Complete line of support components
- Total product support

National's N8080 family is supported by industry-standard design kits, easy-to-use development systems, and a full complement of cross and resident assemblers. Various components and software also are available to support the N8080 family from experimentation to final production.

National's COPS Family
Calculator Oriented Processor Systems (COPS) provide a low-cost solution to low-end computing and control problems. Manufactured by National's volume-proven P-channel MOS/LSI calculator process, COPS offers an attractive, low-risk alternative to custom LSI.

The COPS Family includes three different CPU/memory controller chips, as well as a variety of special-purpose drivers and interfaces to handle displays, keyboards, printers, and other peripherals.

National's IDM 2900 Family
The IDM 2900 Bipolar Slice Family from National consists of a series of devices using low-power Schottky TTL technology. The heart of the IDM 2900 family is the IDM 2901A 4-Bit Slice CPU, which has become the industry standard in slice architecture. An outstanding feature of the IDM 2900 family is that they may be used in sundry combinations to emulate a multitude of CPU architectures – in contrast to fixed-instruction microprocessors, which can execute only one set of instructions. Also, the word length of an IDM 2900-based microprocessor may be any multiple of 4 bits. Each IDM 2900 device performs a basic function, which is controlled by an appropriate microinstruction of a microprogrammed system.

The fast bipolar speed, the design flexibility, and the 4-bit-slice feature of the IDM 2900 Family add to the already broad base of microprocessors and support devices available from National Semiconductor.

National's SC/MP Family
SC/MP is National's simplest true microprocessor. It is the lowest-cost replacement for electrical, mechanical and hydraulic control systems. Typical applications include business machines, scales, cash registers and other human-interface devices.

The growing family of SC/MP devices presently includes PMOS and a new, double-speed NMOS CPU (SC/MP-II), a RAM-I/O chip with 16 I/O lines, and a variety of bus-oriented interface and memory devices. The SC/MP CPU itself incorporates unique multiprocessor control logic to facilitate distributed processing systems with the lowest number of components. SC/MP also has a built-in Clock, Parallel and Serial I/O; it uses low power; and it can interface to standard memory and peripheral products. Also available is a BASIC high-level language called NIBL, which can be obtained in ROM form for fast software development.

SC/MP CPU, RAM, and ROM/PROM application cards are also available to help speed prototyping and production for users who need these functions ready-made. To develop programs, use the SC/MP Low Cost Development System – or the PACE Development System, which has a full complement of support software for preparing SC/MP programs.

National's FIPS Family
FIPS (INS4004) is National's second source to the MCS-4* family. This was the first production microprocessor system, and it is still a popular 4-bit microprocessor because of its simplicity and low cost. The INS4004 is fabricated using P-channel silicon gate MOS technology.

Some of National's INS4004 features:

- Four-bit parallel CPU
- Applicable for use in test systems, terminals, billing machines, process control, and random logic replacement
- Readily interfaces with keyboards, switches, displays, A/D converters, and various peripheral equipment
- Ability of CPU to address 4K 8-bit instruction words, 5120 bits of RAM, up to 16 4-bit input ports, and 16 4-bit output ports
- In volume production

*A registered trademark of Intel Corporation

National's PACE Family
PACE is a complete, 16-bit "minicomputer on a chip." Its wide word length, hardware-vectored interrupt structure, and sophisticated addressing modes make it ideal for laboratory instrumentation, data acquisition and process control applications, where number handling and fast response are most important.

Among the outstanding features of PACE are its 8-bit or 16-bit data handling, exceptional data-processing throughput, compatibility with National's IMP-16 microprocessors, large variety of support chips, CPU and memory application cards for prototyping and production runs, a low-cost development system, and a sophisticated and more-powerful development system (which includes a full complement of software). Best of all PACE, family components are in volume production NOW.

National's IMP-16 Family
IMP-16, brother to PACE, is the most versatile of the 16-bit processors. Offering the user an expandable, bit-slice architecture and a variety of instruction sets, IMP-16 is uniquely suited to complex control, analysis, and data-reduction tasks.

Included in the IMP-16 family is the IMP-16P development system, which is supported by a full complement of software. Additionally available are CPU, memory, arithmetic, and input/output application cards.

National's IMP-16 microprocessors have been the forerunners of the industry and have proven their usefulness and applicability, in National's own DATACHECKER point-of-sale system, for example.

8080A 8-Bit Microprocessor Family

	PART NUMBER	DESCRIPTION
Chips	INS8080AD/–1/–2	8-Bit CPU, 2μsec/1.3μsec/1.5μsec Cycle
	DP8224D/N	Clock Generator
	DP8228D/N	System Controller
	DP8238D/N	System Controller
	DP8212N/J	8-Bit I/O Port
	INS8255D	Programmable Peripheral Interface
	INS8251D	Programmable Communications Interface
	DP8216/26N/J	4-Bit Bi-Directional Bus Driver
	INS8253	Programmable Timer
	INS8257	Programmable DMA Controller
	INS8259	Programmable Interrupt Controller
	INS1671	ASTRO Communications Interface
	INS1771–1	Floppy Disc Controller
	INS2651	USART/Baud Rate Gen.
	INS2652	Multi Protocol Comm. (SDLC)
	BP8350	Programmable CRT Controller
	INS2656	ROM/RAM/I/O
	ISP-8A/650D/N	128 x 8 RAM with 16 Prog. I/O Ports
	MM2708Q	1K x 8 Erasable PROM
	MM2316A	2K x 8 ROM
	MM5235	8K x 8 ROM
Literature		INS8080A Data Sheet
		INS8080A–1/–2 Data Sheet
		DP8212 Data Sheet
		DP8224 Data Sheet
		DP8228/38 Data Sheet
		INS8255 Data Sheet
	INS-8A/900	System Design Manual

Series/80 Microcomputer Family

	PART NUMBER	DESCRIPTION
Cards	BLC 80/10	Board Level Computer
	BLC 016	16K RAM Memory Board
	BLC 406	6K ROM/PROM Expansion Board
	BLC 905	Universal Prototyping Board
	BLC 104	Memory I/O Expansion Board
	BLC 508	I/O Expansion Board
	BLC 416	16K ROM/PROM Expansion Board
Systems	BLC 80P	Prototyping Package
	BLC 604	Card Cage with Backplane
	BLC 614	Expansion Card Cage with Backplane
Firmware	BLC 910	Prototyping System Monitor
Chips	BLC 901	220Ω/330Ω Terminator
	BLC 902	1kΩ Terminator

SC/MP 8-Bit Microprocessor Family

	PART NUMBER	DESCRIPTION
Chips	ISP-8A/500D	SC/MP CPU Chip
	ISP-8A/600D/N	SC/MP-II CPU Chip
	DP8304D	Bus Transceiver
	ISP-8A/650D/N	128 x 8 RAM with 16 Prog. I/O Ports
	INS2656	ROM/RAM/I/O
	MM5235	8K x 8 ROM
Cards	ISP-8C/100	SC/MP CPU Card with 256 x 8 RAM, 512 x 8 ROM/PROM Socket
	ISP-8C/100N	SC/MP-II CPU Card with 256 x 8 ROM/PROM Socket
	ISP-8C/002N	RAM Card (2K x 8 Static Memory RAM, 512 x 8)
	ISP-8C/004B	PROM/ROM Socket Card – 4K x 8 (accepts 8 MM5204Q/MM5214)
	ISP-8C/004P	PROM/ROM Memory Card – 4K x 8 (with 8 blank MM5204Q)
	IPC-8C/801	Wire Wrap Prototyping Card
	ISP-8P/802	Common Bus Cable Card ASM
Systems	ISP-8P/301K	SC/MP-II LCDS Retrofit Kit
	ISP-8P/301	SC/MP Low-Cost Development System (includes CPU Application Card)
	ISP-8P/301N	SC-MP-II Low-Cost Development System (includes CPU Application Card)
	ISP-8K/200	SC/MP Kit – An Introductory Package for New Users
	ISP-8K/205	SC/MP-II Retrofit Kit
	ISP-8K/220	SC/MP Kit Fully Assembled and Tested
	ISP-8K/400	SC/MP Keyboard Kit – Hex Keyboard/Display
Software	ISP-8S/100C	IMP-16 Based Cross Assembler – 4K (paper tape)
	ISP-8S/101C	IMP-16 Based Macro Cross Assembler – 8K (paper tape)
	ISP-8S/103C	PACE-P Based Macro Cross Assembler – 8K (paper tape)
	ISP-8S/102P	Fortran IV Cross Assembler for 16-Bit Word or Larger Computers
	ISP-8F/111	SC/MP-II LCDS Firmware Assembler Package (SUPAK): Line Assembler, Source Editor, P/N Tape Generator (in 8 MM5214 ROMs)
	ISP-8F/351	SC/MP-II National Industrial Basic Lang. (NIBL) Firmware (in 8 MM5214 ROMs)
	ISP-8F/352	SC/MP-II NIBL Firmware (in 2 MM2316A ROMs)

2650 8-Bit Microprocessor Family

	PART NUMBER	DESCRIPTION
Chips	INS2650A	Single 5V, 8-Bit CPU
	INS2651	USART/Baud Rate Gen
	INS2652	Multi Protocol Comm. (SDLC)
	INS2655	Programmable I/O Parallel, Serial, Timer
	INS2656	RAM, ROM, I/O
Literature		2650 Series Data Sheets

RAM SELECTION GUIDE

Part Number	Type	Operation	Output	Maximum Access Time	Supply Voltage	Temperature Range °C	Package
64/16 x 4							
DM5489	TTL	Static	Open-Collector	60 ns	5	−55 to +125	16-pin
DM7489	TTL	Static	Open-Collector	60 ns	5	0 to +70	16-pin
DM7599	TTL	Static	TRI-STATE®	45 ns	5	−55 to +125	16-pin
DM8599	TTL	Static	TRI-STATE	45 ns	5	0 to +70	16-pin
DM54189	TTL	Static	TRI-STATE	45 ns	5	−55 to +125	16-pin
DM74189	TTL	Static	TRI-STATE	45 ns	5	0 to +70	16-pin
DM54S189	TTL	Static	TRI-STATE	50 ns	5	−55 to +125	16-pin
DM74S189	TTL	Static	TRI-STATE	35 ns	5	0 to +70	16-pin
DM54S289	TTL	Static	Open-Collector	50 ns	5	−55 to +125	16-pin
DM74S289	TTL	Static	Open-Collector	35 ns	5	0 to +70	16-pin
MM54C89D	CMOS	Static	TRI-STATE	650 ns	3—15	−55 to +125	16-pin
MM74C89D	CMOS	Static	TRI-STATE	650 ns	3—15	−40 to +85	16-pin
DM85S68	TTL	Static	TRI-STATE	40 ns	5	0 to +70	18-pin
64/32 x 2							
DM76S21	TTL	Static	Open-Collector	30 ns	5	−55 to +125	16-pin
DM86S21	TTL	Static	Open-Collector	30 ns	5	0 to +70	16-pin
256/256 x 1							
DM8582	TTL	Static	Open-Collector	80 ns	5	0 to +70	16-pin
DM8583	TTL	Static	TRI-STATE	80 ns	5	0 to +70	16-pin
DM54S200	TTL	Static	TRI-STATE	70 ns	5	−55 to +125	16-pin
DM54S206	TTL	Static	Open-Collector	80 ns	5	−55 to +125	16-pin
DM74S200	TTL	Static	TRI-STATE	50 ns	5	0 to +70	16-pin
DM74S206	TTL	Static	Open-Collector	60 ns	5	0 to +70	16-pin
MM1101A	PMOS	Static	TRI-STATE	1.5µs	5, —9	0 to +70	16-pin
MM1101A1	PMOS	Static	TRI-STATE	1µs	5, —9	0 to +70	16-pin
MM1101A2	PMOS	Static	TRI-STATE	500 ns	5, —9	0 to +70	16-pin
MM4250	PMOS	Static	TRI-STATE	650 ns	5, —9	−55 to +125	16-pin
MM54C200	CMOS	Static	TRI-STATE	400 ns	3—15	−55 to +125	16-pin
MM74C200	CMOS	Static	TRI-STATE	400 ns	3—15	−40 to +85	16-pin
256/64 x 4							
MM54C910	CMOS	Static	TRI-STATE	400 ns	5	−55 to +125	18-pin
MM74C910	CMOS	Static	TRI-STATE	400 ns	5	−40 to +85	18-pin
1024/1024 x 1							
MM54C929	CMOS	Static	TRI-STATE	275 ns	5	−55 to +125	16-pin
MM74C929	CMOS	Static	TRI-STATE	250 ns	5	−40 to +85	16-pin
MM54C930	CMOS	Static	TRI-STATE	275 ns	5	−55 to +125	18-pin
MM74C930	CMOS	Static	TRI-STATE	250 ns	5	−40 to +85	18-pin
MM2102A	NMOS	Static	TRI-STATE	350 ns	5	0 to +70	16-pin
MM2102	NMOS	Static	TRI-STATE	1µs	5	0 to +70	16-pin
MM2102MD	NMOS	Static	TRI-STATE	1µs	5	−55 to +125	16-pin
MM2102A-2	NMOS	Static	TRI-STATE	250 ns	5	0 to +70	16-pin
MM2102-1	NMOS	Static	TRI-STATE	500 ns	5	0 to +70	16-pin
MM2102A-4	NMOS	Static	TRI-STATE	450 ns	5	0 to +70	16-pin
MM2102-2	NMOS	Static	TRI-STATE	650 ns	5	0 to +70	16-pin
MM2102-2MD	NMOS	Static	TRI-STATE	650 ns	5	−55 to +125	16-pin
1024/256 x 4							
MM2101	NMOS	Static	TRI-STATE	1µs	5	0 to +70	22-pin
MM2101A	NMOS	Static	TRI-STATE	350 ns	5	0 to +70	22-pin
MM2101-1	NMOS	Static	TRI-STATE	500 ns	5	0 to +70	22-pin
MM2101-2	NMOS	Static	TRI-STATE	650 ns	5	0 to +70	22-pin
MM2111A	NMOS	Static	TRI-STATE	350 ns	5	0 to +70	18-pin
MM2111	NMOS	Static	TRI-STATE	1µs	5	0 to +70	18-pin
MM2111-1	NMOS	Static	TRI-STATE	500 ns	5	0 to +70	18-pin
MM2111-2	NMOS	Static	TRI-STATE	650 ns	5	0 to +70	18-pin
MM2112A	NMOS	Static	TRI-STATE	350 ns	5	0 to +70	16-pin
MM2112	NMOS	Static	TRI-STATE	1µs	5	0 to +70	16-pin
MM2112-2	NMOS	Static	TRI-STATE	650 ns	5	0 to +70	16-pin
MM5269A	NMOS	Static	TRI-STATE	350 ns	5	0 to +70	22-pin
MM5269	NMOS	Static	TRI-STATE	1µs	5	0 to +70	22-pin
MM5269-1	NMOS	Static	TRI-STATE	500 ns	5	0 to +70	22-pin
MM5269-2	NMOS	Static	TRI-STATE	650 ns	5	0 to +70	22-pin
MM54C920D	CMOS	Static	TRI-STATE	275 ns	5	−55 to +125	22-pin
MM74C920D	CMOS	Static	TRI-STATE	250 ns	5	−40 to +85	22-pin
MM54C921D	CMOS	Static	TRI-STATE	275 ns	5	−55 to +125	18-pin
MM74C921D	CMOS	Static	TRI-STATE	250 ns	5	−40 to +85	18-pin

YOU NEED ONLY CALL ONE TELEPHONE
NUMBER FOR YOUR ELECTRONIC NEEDS.

PMI PRECISION MONOLITHICS INCORPORATED

Integrated Circuits

OP-01 LOW COST, HIGH SPEED OPERATIONAL AMPLIFIER

Fully protected, internally compensated high-speed op amp settles to 0.1% in 1.0 µsec max. Op amp slews at 18 V/µs, providing full power bandwidth of 250 kHz. The output delivers ±12 volts into a 2K ohm load and the op amp fits standard 741 sockets.

	Maximum Parameter Values				Min.	Net Each, Lots of		
PMI Type	V_{OS} mV	TCV_{OS} µV/°C	I_B nA	I_{OS} nA	CMRR dB	1-24	25-99	100-999
−55° C to +125° C								
OP-01J	0.7	8.0	30	2.0	90	$13.50	$10.80	$ 9.00
OP-01Y	0.7	8.0	30	2.0	90	13.50	10.80	9.00
OP-01FJ	2.0	10.0	50	5.0	80	9.00	7.20	6.00
OP-01FY	2.0	10.0	50	5.0	80	9.00	7.20	6.00
OP-01GJ	5.0	20.0	100	20	80	6.00	4.80	4.00
OP-01GY	5.0	20.0	100	20	80	6.00	4.80	4.00
0° C to +70° C								
OP-01HJ	0.7	8.0	30	2.0	90	$ 6.75	$ 5.40	$ 4.50
OP-01HY	0.7	8.0	30	2.0	90	6.75	5.40	4.50
OP-01EJ	2.0	10.0	50	5.0	80	3.75	3.00	2.50
OP-01EY	2.0	10.0	50	5.0	80	3.75	3.00	2.50
OP-01CJ	5.0	20.0	100	20	80	2.50	2.00	1.65
OP-01CY	5.0	20.0	100	20	80	2.50	2.00	1.65

OP-02 HIGH PERFORMANCE OPERATIONAL AMPLIFIER

Low input offset voltage (V_{OS}), and offset drift (TCV_{OS}) provide improved performance over "premium" 741 type op amps. Input voltage range of ±12 volts and output of ±12 volts into 2K ohms are guaranteed. Fits standard 741 socket.

	Maximum Parameter Values				Min.	Net Each, Lots of		
PMI Type	V_{OS} mV	TCV_{OS} µV/°C	I_B nA	I_{OS} nA	CMRR dB	1-24	25-99	100-999
OP-02AJ	0.5	8.0	30	2.0	90	$14.95	$11.95	$ 9.95
OP-02AY	0.5	8.0	30	2.0	90	14.95	11.95	9.95
OP-02J	2.0	10	50	5.0	90	7.45	5.95	4.95
OP-02Y	2.0	10	50	5.0	90	7.45	5.95	4.95
OP-02EJ	0.5	8.0	30	2.0	90	4.45	3.55	2.95
OP-02EY	0.5	8.0	30	2.0	90	4.45	3.55	2.95
OP-02CJ	2.0	10	50	5.0	90	2.95	2.35	1.95
OP-02CY	2.0	10	50	5.0	90	2.95	2.35	1.95
OP-02CP	2.0	10	50	5.0	90	2.25	1.80	1.50

OP-04/OP-14 HIGH PERFORMANCE MATCHED COMPENSATED DUAL OP AMP

High performance in a dual op amp means matched V_{OS} (ΔV_{OS}) and CMRR (ΔCMRR). In addition, both input and output have ±12 volt operation guaranteed. The output will drive a 2K ohm load. The OP-04K is pin-for-pin compatible with 747 sockets. The OP-14J is pin-for-pin compatible with 1458/1558 sockets.

	Maximum Parameter Values				Min.	Net Each, Lots of		
PMI Type	V_{OS} mV	TCV_{OS} µV/°C	I_B nA	I_{OS} nA	CMRR dB	1-24	25-99	100-999
−55° C to +125° C								
OP-04AK/14AJ	1.0	8.0	50	2.0	94	$28.35	$22.70	$18.90
OP-04AY	1.0	8.0	50	2.0	94	28.35	22.70	18.90
OP-04K/14J	2.0	10	75	5.0	94	14.10	11.30	9.40
OP-04Y	2.0	10	75	5.0	94	14.10	11.30	9.40
0° C to +70° C								
OP-04EK/14EJ	1.0	8.0	50	2.0	94	$ 8.40	$ 6.70	$ 5.60
OP-04EY	1.0	8.0	50	2.0	94	8.40	6.70	5.60
OP-04CK/14CJ	2.0	10	75	5.0	94	5.55	4.45	3.70
OP-04CY	2.0	10	75	5.0	94	5.55	4.45	3.70

OP-05 LOW NOISE, LOW DRIFT, COMPENSATED INSTRUMENTATION OPERATIONAL AMPLIFIER

Guaranteed long term stability of 1µV/month makes the OP-05 an excellent replacement for chopper-stabilized types. In addition to eliminating chopper noise, this op amp has low frequency noise of 0.6µV P-P max. Low offset voltage and drift also contribute to the amplifier's ability to perform in very stringent applications. The device fits 725 & 108A sockets, and can deliver ±10.5 volts onto a 1K ohm load.

	Maximum Parameter Values				Min.	Net Each, Lots of		
PMI Type	V_{OS} mV	TCV_{OS} µV/°C	I_B nA	I_{OS} nA	CMRR dB	1-24	25-99	100-999
OP-05AJ	0.15	0.9	±2.0	2.0	114	$60.00	$48.00	$40.00
OP-05AY	0.15	0.9	±2.0	2.0	114	60.00	48.00	40.00
OP-05J	0.5	2.0	±3.0	2.8	114	25.50	20.40	17.00
OP-05Y	0.5	2.0	±3.0	2.8	114	25.50	20.40	17.00
OP-05EJ	0.5	2.0	±4.0	3.8	110	12.00	9.60	8.00
OP-05EY	0.5	2.0	±4.0	3.8	110	12.00	9.60	8.00
OP-05CJ	1.3	4.5	±7.0	6.0	100	9.00	7.20	6.00
OP-05CY	1.3	4.5	±7.0	6.0	100	9.00	7.20	6.00
OP-05CP	1.3	4.5	±7.0	6.0	100	4.15	3.30	2.75

OP-07 ULTRA-LOW OFFSET VOLTAGE OPERATIONAL AMPLIFIER

Ultra-low offset voltages of 25µV max. and 1µV/month drift rates are available in this high precision op amp. Since the OP-07 is pin-for-pin compatible with the OP-05, it may be used where the OP-05 is marginal. In addition, the OP-07 replaces 725, 108A, and 741 types. In most cases, V_{OS} of 25µV means the elimination of costly nulling potentiometers.

	Maximum Parameter Values				Min.	Net Each, Lots of		
PMI Type	V_{OS} mV	TCV_{OS} µV/°C	I_B nA	I_{OS} nA	CMRR dB	1-24	25-99	100-999
OP-07AJ	0.025	0.6	±2.0	2.0	110	$63.00	$50.40	$42.00
OP-07AY	0.025	0.6	±2.0	2.0	110	63.00	50.40	42.00
OP-07J	0.075	1.3	±3.0	2.8	110	27.75	22.20	18.50
OP-07Y	0.075	1.3	±3.0	2.8	110	27.75	22.20	18.50
OP-07EJ	0.075	1.3	±4.0	3.8	106	13.50	10.80	9.00
OP-07EY	0.075	1.3	±4.0	3.8	106	13.50	10.80	9.00
OP-07CJ	0.15	1.8	±7.0	6.0	100	9.75	7.80	6.50
OP-07CY	0.15	1.8	±7.0	6.0	100	9.75	7.80	6.50
OP-07DJ	0.15	2.5	±12	6.0	94	8.65	6.90	5.75
OP-07CP	0.15	1.8	±7.0	6.0	100	4.90	3.90	3.25

OP-08 (IMPROVED LM108/308) AND OP-12 (COMPENSATED OP-08) PRECISION LOW INPUT CURRENT OP AMPS

The OP-08 offers performance superior to 108A performance—improved V_{os}, TCV_{os}, and CMRR for demanding applications. In addition, the OP-12 offers the same outstanding features and is internally compensated. The OP-08E and OP-12E offer less than 260 μv V_{os} over the entire 0° C to 70° C range.

	Maximum Parameter Values				Min.	Net Each, Lots of		
PMI Type	V_{os} mV	TCV_{os} μV/°C	I_B nA	I_{os} nA	CMRR dB	1-24	25-99	100-999
				−55° C to +125° C				
OP-08/12AJ	0.15	2.5	2.0	0.2	104	$30.00	$24.00	$20.00
OP-08/12BJ	0.3	3.5	2.0	0.2	104	18.00	14.40	12.00
OP-08/12CJ	1.0	10	5.0	0.5	84	9.75	7.80	6.50
				0° C to +70° C				
OP-08/12EJ	0.15	2.5	2.0	0.2	104	$9.00	$7.20	$6.00
OP-08/12FJ	0.3	3.5	4.0	0.4	102	6.75	5.40	4.50
OP-08/12GJ	1.0	10	5.0	0.5	84	3.75	3.00	2.50

OP-10 DUAL MATCHED INSTRUMENTATION OPERATIONAL AMPLIFIER

The OP-10 offers true precision in a matched dual op amp. With a ΔV_{os} of 180μV max. and minimum ΔCMRR of 114 dB, a high-performance, low-cost instrumentation amplifier can be designed. The 14 pin DIP package is also compatible with automatic insertion equipment. The individual op amps offer performance similar to the OP-05.

	Maximum Parameter Values				Min.	Net Each, Lots of		
PMI Type	V_{os} mV	TCV_{os} μV/°C	I_B nA	I_{os} nA	CMRR dB	1-24	25-99	100-999
				−55° C to +125° C				
OP-10AY	0.18	2.0	±3.0	2.8	114	$45.00	$36.00	$30.00
OP-10Y	0.5	2.0	±3.0	2.8	106	33.75	27.00	22.50
				0° C to +70° C				
OP-10EY	0.5	2.0	±4.0	3.8	106	$26.25	$21.00	$17.50
OP-10CY	2.6	4.5	±7.0	6.0	94	18.00	14.40	12.00

OP-09 (IMPROVED RM4136/RC4136) AND OP-11 (IMPROVED LM148) PRECISION QUAD OP AMPS

The OP-09 and OP-11 offer V_{os} and CMRR matching between individual sections. The op amps are proven 741-type circuits and are available in two popular pinouts: the OP-09 fits 4136 sockets, and the OP-11 fits 148 sockets. With a ΔV_{os} of 750μV max. and 94 dB ΔCMRR, cost effective instrumentation amplifiers may be designed.

	Maximum Parameter Values				Min.	Net Each, Lots of		
PMI Type	V_{os} mV	TCV_{os} μV/°C	I_B nA	I_{os} nA	CMRR dB	1-24	25-99	100-999
				−55° C to +125° C				
OP-09/11AY	0.75	10	300	20	94	$13.50	$10.80	$ 9.00
OP-09/11BY	2.0	15	500	50	94	9.00	7.20	6.00
				0° C to +70° C				
OP-09/11EY	0.75	10	300	20	94	$ 6.75	$ 5.40	$ 4.50
OP-09/11FY	2.0	15	500	50	94	4.15	3.30	2.75

PM155A LOW POWER HIGH SPEED OPERATIONAL AMPLIFIER, PM156A HIGH SPEED OPERATIONAL AMPLIFIER AND PM157A DECOMPENSATED HIGH SPEED OPERATIONAL AMPLIFIER

The PM155, 156, and 157 BIFET op amps are pin-for-pin compatible with LF155/6/7 types. The slew rates vary from 3V/μsec (PM155) to 40V/μsec (PM157). BIFET technology produces low bias currents with the reliability of single-chip devices. For applications which require more precision, the OP-15, OP-16, and OP-17 are available.

	Maximum Parameter Values				Min.	Net Each, Lots of		
PMI Type	V_{os} mV	TCV_{os} μV/°C	I_B pA	I_{os} pA	CMRR dB	1-24	25-99	100-999
				−55° C to +125° C				
PM155/6/7AJ	2.0	5.0	50	10	85	$38.50	$30.80	$25.65
PM155/6/7J	5.0	—	100	20	85	5.10	4.10	3.40
				0° C to +70° C				
PM355/6/7AJ	2.0	5.0	50	10	85	$20.25	$16.20	$13.50
PM355/6/7J	10	—	200	50	80	3.30	2.65	2.20

OP-15 (IMPROVED LF155/355) PRECISION LOW-POWER BIFET OP AMP

The OP-15 is a precision BIFET op amp. With a maximum supply current of 4 mA, it offers the speed of the LF156 (10V/μsec min.) and the power consumption of an LF155. The 500μV max. offset voltage is less than ½ LSB of a 12-bit, 5 V DAC. For many applications 500μV is small enough to eliminate a nulling potentiometer. The op amp is pin-for-pin compatible with LF155/6 amplifiers. Input bias current is temperature compensated.

	Maximum Parameter Values				Min.	Net Each, Lots of		
PMI Type	V_{os} mV	TCV_{os} μV/°C	I_B pA	I_{os} pA	CMRR dB	1-24	25-99	100-999
				−55° C to +125° C				
OP-15AJ	0.5	5.0	110	22	86	$27.00	$21.60	$18.00
OP-15BJ	1.0	10	200	40	86	13.50	10.80	9.00
OP-15CJ	3.0	15	400	100	82	9.00	7.20	6.00
				0° C to +70° C				
OP-15EJ	0.5	5.0	110	22	86	$15.00	$12.00	$10.00
OP-15FJ	1.0	10	200	40	86	5.25	4.20	3.50
OP-15GJ	3.0	15	400	100	82	3.75	3.00	2.50

PMI PRECISION MONOLITHICS INCORPORATED

Integrated Circuits

OP-16 (IMPROVED LF156/356) PRECISION HIGH-SPEED BIFET OP AMP AND OP-17 (IMPROVED LF157/357) PRECISION DECOMPENSATED BIFET OP AMP

The OP-16 and OP-17 have guaranteed slew rates of 18V/µsec and 45V/µsec respectively. Both amplifiers have 500µV max. offset voltage which eliminates the need for a zero adjust potentiometer in a 10 V, 12-bit DAC system. The amplifiers are pin-for-pin compatible with 156 and 157 op amps. In addition both amplifiers have temperature compensated input bias currents.

PMI Type	Maximum Parameter Values				Min. CMRR dB	Net Each, Lots of		
	V_{OS} mV	TCV_{OS} µV/°C	I_B pA	I_{OS} pA		1-24	25-99	100-999
				−55° C to +125° C				
OP-16/17AJ	0.5	5.0	130	25	86	$27.00	$21.60	$18.00
OP-16/17BJ	1.0	10	250	50	86	13.50	10.80	9.00
OP-16/17CJ	3.0	15	500	125	82	9.00	7.20	6.00
				0° C to +70° C				
OP-16/17EJ	0.5	5.0	130	25	86	$15.00	$12.00	$10.00
OP-16/17FJ	1.0	10	250	50	86	5.25	4.20	3.50
OP-16/17GJ	3.0	15	500	125	82	3.75	3.00	2.50

SSS725 HIGH PERFORMANCE LOW NOISE, LOW DRIFT OP AMP AND PM-725 LOW NOISE, LOW DRIFT OP AMP

The 725 is very stable, low drift, low offset op amp. The unusually high CMRR coupled with external frequency compensation allows for some unique performance. When compensated for a closed loop gain of 1000, the 725 has a slew rate of 8µV/sec. The input is protected and, when compensation is removed, the 725 makes a very accurate comparator. The guaranteed open loop gain is 1 million.

PMI Type	Maximum Parameter Values				Min. CMRR dB	Net Each, Lots of		
	V_{OS} mV	TCV_{OS} µV/°C	I_B nA	I_{OS} nA		1-24	25-99	100-999
				−55° C to +125° C				
SSS725AJ	0.1	0.8	70	1.0	120	$60.00	$48.00	$40.00
SSS725AY	0.1	0.8	70	1.0	120	60.00	48.00	40.00
SSS725J	0.5	2.0	80	5.0	120	22.50	18.00	15.00
SSS725Y	0.5	2.0	80	5.0	120	22.50	18.00	15.00
PM725J	1.0	5.0	100	20	110	18.00	14.40	12.00
PM725Y	1.0	5.0	100	20	110	18.00	14.40	12.00
				0° C to +70° C				
SSS725EJ	0.5	2.0	80	5.0	120	$21.00	$16.80	$14.00
SSS725EY	0.5	2.0	80	5.0	120	21.00	16.80	14.00
SSS725CJ	1.3	4.5	110	13	100	6.00	4.80	4.00
SSS725CY	1.3	4.5	110	13	100	6.00	4.80	4.00
PM725CJ	2.5	—	125	35	94	4.90	3.90	3.25
PM725CY	2.5	—	125	35	94	4.90	3.90	3.25
PM725CP	2.5	—	125	35	94	3.00	2.40	2.00

MAT-01 MATCHED DUAL TRANSISTORS

Monolithic dual NPN transistors with extremely tight matching and temperature tracking characteristics for use in very low noise, low level preamps, log/anti-log and multiplier/divider circuits. Exceptional log conformance over a seven-decade collector current range with h_{FE} of 590 @ I_C = 10 nA. Low noise—0.23µV PP (0.1 Hz to 10 Hz). TCV_{OS} = 0.5µV/°C maximum with 40µV type. V_{BE} mismatch. High breakdown voltage of 45 V minimum. Six-pin TO-99 type package allows direct replacement of all monolithic dual transistors and many JEDEC (2N) part numbers.

PMI Type	Maximum		Minimum		Net Each, Lots of		
	I_B* nA	I_{OS}* nA	B*	LV_{CEO} V	1-24	25-99	100-999
MAT-01AH	20	0.6	500	45	$5.95	$4.75	$3.95
MAT-01GH	40	3.2	250	45	4.90	3.90	3.25
MAT-01H	30	0.8	330	60	4.15	3.30	2.75
MAT-01FH	40	3.2	250	60	3.75	3.00	2.50

*Values at I_C=10µA.

REF-01 AND REF-02 PRECISION VOLTAGE REFERENCE/THERMOMETER

These monolithic voltage reference sources employ an improved bandgap reference design to achieve high stability and low noise outputs while requiring only 15 mW typical power consumption. The REF-01 provides a stable +10 V output while the REF-02 features a +5 V output in conjunction with a high accuracy temp. output useful for sensing temperature over the −150° C to +150° C temperature range with less than 1° C error. ±3% adjustment of the output voltage may be accomplished with negligible effect on temperature stability. Fast settling, high output capability (20 mA) and operation with short-circuit protection are achieved with no external components.

PMI Type	Maximum			Net Each, Lots of		
	Untrimmed Output Offset % of Ideal	Output Voltage Temp. Coeff. ppm/°C	Line Reg %/V	1-24	25-99	100-999
REF-01AJ	0.3	8.5	0.010	$33.00	$26.40	$22.00
REF-01J	0.5	25	0.010	15.75	12.60	10.50
REF-01EJ	0.3	8.5	0.010	11.95	9.55	7.95
REF-01HJ	0.5	25	0.010	7.45	5.95	4.95
REF-01CJ	1.0	65	0.015	4.45	3.55	2.95
REF-01DJ	1.5	—	0.04	2.95	2.35	1.95
REF-02AJ	0.3	8.5	0.010	33.00	26.40	22.00
REF-02J	0.5	25	0.010	15.75	12.60	10.50
REF-02EJ	0.3	8.5	0.010	11.95	9.55	7.95
REF-02HJ	0.5	25	0.010	7.45	5.95	4.95
REF-02CJ	1.0	65	0.015	4.45	3.55	2.95
REF-02DJ	1.5	—	0.04	2.95	2.35	1.95

MUX-88 PROTECTED ANALOG MULTIPLEXER

Constructed with a proprietary BI-FET process, these monolithic 8-channel analog multiplexers feature overvoltage protection that is fail-safe with power loss, while offering low, constant "ON" resistance. A superior replacement for DG508, HI-508A and LF11508. These units provide performance advantages which include low (1.0 nA max.) leakage currents and fast settling time with low (−80dB) crosstalk to satisfy a wide variety of applications. These multiplexers do not suffer from latch-up or static charge blow-out problems associated with similar CMOS parts and operate from both TTL and CMOS logic levels with a break-before-make action.

PMI Type	Maximum "ON" Resistance Ohms	Maximum Output Leakage Current nA	Maximum Power Dissipation mW	Typical .025% Settling Time µS	Net Each, Lots of		
					1-24	25-99	100-999
MUX-88AQ	260	1.0	240	2.9	$30.00	$24.00	$20.00
MUX-88BQ	370	1.0	142	2.9	27.00	21.60	18.00
MUX-88EQ	260	1.0	240	2.9	11.25	9.00	7.50
MUX-88FQ	370	1.0	142	2.9	9.60	7.70	6.40

CMP-01 AND CMP-02 PRECISION VOLTAGE COMPARATOR

High speed monolithic voltage comparators featuring outstanding DC input parameters and ease of application. A superior replacement for 111-type devices with numerous performance advantages. High current TTL output has fanout of 4 loads without needing pullup resistors, yet allows wired OR operation. Operates from single +5 V or ±15 V supplies with guaranteed response times. For best DC accuracy select CMP-02 series. CMP-01 series offers fastest response times. Input slew rate, 92V/μs typ (CMP-01). High input impedance, 16 megohms (CMP-02) with 110 dB CMRR. TCV_{os} = 1.0μV/°C typ.

PMI Type	Maximum V_{os} mV	Maximum I_{os} nA	Maximum I_B nA	Min. Gain V/mV	Net Each, Lots of 1-24	25-99	100-999
CMP-01J	0.8	25	600	200	$18.00	$14.40	$12.00
CMP-01Y	0.8	25	600	200	18.00	14.40	12.00
CMP-01EJ	0.8	25	600	200	6.75	5.40	4.50
CMP-01EY	0.8	25	600	200	6.75	5.40	4.50
CMP-01CJ	2.8	80	900	100	4.50	3.60	3.00
CMP-01CY	2.8	80	900	100	4.50	3.60	3.00
CMP-02J	0.8	3.0	50	200	22.50	18.00	15.00
CMP-02Y	0.8	3.0	50	200	22.50	18.00	15.00
CMP-02EJ	0.8	3.0	50	200	6.75	5.40	4.50
CMP-02EY	0.8	3.0	50	200	6.75	5.40	4.50
CMP-02CJ	2.8	15	100	100	4.50	3.60	3.00
CMP-02CY	2.8	15	100	100	4.50	3.60	3.00

DAC-01 6-BIT MONOLITHIC D/A CONVERTER

Complete 6-bit voltage output DAC features settling time of 3 μsec max. P_d = 250 mW at +15 V; TTL/DTL compatible logic. Output voltage ranges of +10 V and ±5 V or ±10 V on bipolar models. Applications include audio encoding/decoding, programmable power supplies, positioning controls and analog meter drives. Packaged in 14-pin hermetic DIP.

PMI Type	Temperature Range (°C)	Nonlinearity Max. (%FS)	TC ppm/°C	Output Type	Net Each, Lots of 1-24	25-99	100-999
DAC-01Y	−55/+125	±0.45	80	Bipolar	$45.00	$36.00	$30.00
DAC-01BY	−55/+125	±0.45	120	Bipolar	37.50	30.00	25.00
DAC-01FY	−55/+125	±0.45	80	Unipolar	30.00	24.00	20.00
DAC-01CY	0/+70	±0.45	160	Bipolar	22.50	18.00	15.00
DAC-01HY	0/+70	±0.45	160	Unipolar	21.75	17.40	14.50
DAC-01DY	0/+70	0.8	160	Bipolar	9.75	7.80	6.50

DAC-03 10-BIT LOW COST MONOLITHIC D/A CONVERTER

Complete 10-bit voltage output DAC which also may be used for 8-bit and lower resolution applications. Bipolar output and internal reference with external reference (2-quadrant multiplying) capability. Fast 1.5 μsec settling time. Compatible with popular TTL, DTL and CMOS logic. P_d = 300 mW max. at ±15 V. Applications include CRT displays, data acquisition, A/D converters and servo positioning controls. Packaged in 18-pin hermetic DIP. Suffix **X1** indicates + 10 V output; suffix **X2** indicates +5 V output.

PMI Type	Temperature Range (°C)	Nonlinearity Max (% FS)	TC (Typ.) ppm/°C	Net Each, Lots of 1-24	25-99	100-999
DAC-03ADX1 (X2)	0/+70	±0.1	60	$27.00	$21.60	$18.00
DAC-03BDX1 (X2)	0/+70	±0.1	60	21.00	16.80	14.00
DAC-03CDX1 (X2)	0/+70	±0.2	60	15.00	12.00	9.95
DAC-03DDX1 (X2)	0/+70	±0.4	60	12.00	9.60	7.95

Note: All tests performed at 25° C.

DAC-05 10-BIT PLUS SIGN D/A CONVERTER

Complete monolithic sign/magnitude coded DAC with voltage output and internal reference. External reference can be used. Settles in 1.5 μsec and is compatible with TTL, DTL and CMOS logic. Designed for Hi. Rel. applications. All devices receive 100% burn-in and are packaged in 18-pin hermetic DIP. Parameters listed below are guaranteed over full temp. range. Ideal for applications requiring accuracy and reliability such as, instrumentation, control and communication. Suffix **X1** indicates ±10 V output; suffix **X2** indicates ±5 V out.

PMI Type	Temperature Range (°C)	Nonlinearity Max. (%FS)	TC (FS) ppm/°C	Monotonicity (bits)	Net Each, Lots of 1-24	25-99	100-999
DAC-05AX1 (X2)	−55/+125	±0.2	60	10	$202.50	$162.00	$135.00
DAC-05BX1 (X2)	−55/+125	±0.3	90	9	127.50	102.00	85.00
DAC-05CX1 (X2)	−55/+125	±0.5	120	8	90.00	72.00	60.00
DAC-05EX1 (X2)	0/+70	±0.2	100	10	67.50	54.00	45.00
DAC-05FX1 (X2)	0/+70	±0.3	100	9	33.00	26.40	22.00
DAC-05GX1 (X2)	0/+70	±0.5	100	8	22.50	18.00	15.00

DAC-06 TWO'S COMPLEMENT 10-BIT D/A CONVERTER

Complete 10-bit resolution voltage output monolithic DAC is similar to DAC-05, but features two's complement digital coding for direct interface with micro or minicomputers. Coding easily converted to straight or offset binary codes. Packaged in 18-pin hermetic DIP.

PMI Type	Temperature Range (°C)	Nonlinearity Max. (%FS)	TC (FS) ppm/°C	Monotonicity (bits)	Net Each, Lots of 1-24	25-99	100-999
DAC-06AX	−55/+125	±0.2	60	10	$202.50	$162.00	$135.00
DAC-06BX	−55/+125	±0.3	90	9	127.50	102.00	85.00
DAC-06CX	−55/+125	±0.5	120	8	90.00	72.00	60.00
DAC-06EX	0/+70	±0.2	100	10	67.50	54.00	45.00
DAC-06FX	0/+70	±0.3	100	9	33.00	26.40	22.00
DAC-06GX	0/+70	±0.5	100	8	22.50	18.00	15.00

DAC-08 8-BIT HIGH SPEED MONOLITHIC D/A CONVERTER

Differential current output, binary-coded, multiplying DAC with 8-bit resolution and 85 nsec settling time. Universal digital logic interface. Operates over ±4.5 V to ±18 V power supply range, with 33 mW power consumption attainable at ±5 V supplies. Features outstanding application flexibility. Ideal for 8-bit, 1 μsec A/D converters, waveform generators, programmable power supplies, CRT displays. Guaranteed monotonicity over temperature range. Output voltage compliance −10 V to +18 V. Packaged in 16-pin hermetic DIP.

PMI Type	Temperature Range (°C)	Nonlinearity Max. (%FS)	TC ppm/°C	Net Each, Lots of 1-24	25-99	100-999
DAC-08AQ	−55/+125	±0.1	50	$25.50	$20.40	$17.00
DAC-08Q	−55/+125	±0.19	50	10.15	8.10	6.75
DAC-08HQ	0/+70	±0.1	50	12.30	9.85	8.20
DAC-08EQ	0/+70	±0.19	50	5.95	4.75	3.95
DAC-08CQ	0/+70	±0.39	80	5.20	4.15	3.45

SSS1508A/1408A 8-BIT LOW COST MONOLITHIC D/A CONVERTER

Improved direct replacement for Motorola MC1408/1508 series with faster settling time and lower power consumption. Settling time (Typ.) 250 nsec; P_d (Typ.) of 157 mW; nonlinearity specified over full operating temperature range (max.). Packaged in 16-pin hermetic DIP.

PMI Type	Motorola Type	Temperature Range (°C)	Nonlinearity Max. (%FS)	Net Each, Lots of		
				1-24	25-99	100-999
SSS1508A-8Q	MC1508L-8	−55/+125	±0.19	$12.00	$ 9.60	$ 7.95
SSS1408A-8Q	MC1408L-8	0/+75	±0.19	8.25	6.60	5.50
SSS1408A-7Q	MC1408L-7	0/+75	±0.39	6.75	5.40	4.50
SSS1408A-6Q	MC1408L-6	0/+75	±0.78	5.25	4.20	3.50

DAC-20 2-DIGIT BCD SPEED MONOLITHIC D/A CONVERTER

Monolithic multiplying 2-digit BCD DAC similar to DAC-08 except for BCD coding. Low cost, low power consumption (33 mW at ±5 V) and compact size are featured. Ideal for portable and military/aerospace applications which include BCD audio attenuators, ADC's, and programmable instruments. Packaged in 16-pin hermetic DIP.

PMI Type	Temperature Range (°C)	Nonlinearity Max. (FS)	TC ppm/°C	Net Each, Lots of		
				1-24	24-99	100-999
DAC-20AQ	−55/+125	±¼ LSB	50	$12.75	$10.20	$ 8.50
DAC-20Q	−55/+125	±½ LSB	80	9.75	7.80	6.50
DAC-20EQ	0/+70	±¼ LSB	50	5.95	4.75	3.95
DAC-20CQ	0/+70	±½ LSB	80	4.45	3.55	2.95

DAC-76 COMPANDING D/A CONVERTER

Monolithic 8-bit DAC features 72 dB dynamic range in 7-bit + sign format. Conforms with Bell System μ-255 companding law. True current outputs with −5 V to +18 V voltage compliance, multiplying reference inputs; compatible with MOS/BIPOLAR logic families. Guaranteed monotonicity over temperature range. 12-bit accuracy and resolution around zero scale. Ideal for 8-bit microprocessor and transducer interfaces, PCM telemetry, process controllers and audio applications. Packaged in 18-pin hermetic DIP.

PMI Type	Temperature Range (°C)	Step Nonlinearity and Accuracy	Drift Max. FS (Step)	Net Each, Lots of		
				1-24	25-99	100-999
DAC-76BX	−55/+125	±½ LSS	±¼	$52.50	$42.00	$35.00
DAC-76X	−55/+125	± 1 LSS	±½	37.50	30.00	25.00
DAC-76EX	0/+70	+½ LSS	±¼	18.75	15.00	12.50
DAC-76CX	0/+70	± 1 LSS	±½	15.00	12.00	10.00

DAC-100 10-BIT, 2-CHIP MONOLITHIC D/A CONVERTER

Complete current output binary-coded (complementary) DAC, 10-bit resolution may also be used for 8-bit and lower resolution applications. Operates from ±6 V to ±18 V. P_d = 80 mW at ±6 V. Fast 375 nsec settling time max. Current output for direct use in ADC applications. Internal feedback resistor provided for external op amp. All units are TTL/DTL logic compatible. For 10 V or ±5 V operation, order suffix **Q1, Q3,** and **Q5.** Order suffix **Q2** and **Q4** for 5 V or ±2.5 V full scale outputs. All parameters listed are tested at temperature range specified. Packaged in 16-pin hermetic DIP; 24-pin flat-pak available on request.

PMI Type	Temperature Range (°C)	Nonlinearity Max. (%FS)	TC ppm/°C	Net Each, Lots of		
				1-24	25-99	100-999
DAC-100AAQ1 (Q2)	−25/+85	±0.05	15	$202.50	$162.00	$135.00
DAC-100ABQ1 (Q2)	−25/+85	±0.05	30	130.00	104.00	87.00
DAC-100ACQ1 (Q2)	−25/+85	±0.05	60	78.75	63.00	52.50
DAC-100BBQ1 (Q2)	−25/+85	±0.1	30	100.50	80.40	67.00
DAC-100BCQ1 (Q2)	−25/+85	±0.1	60	65.55	52.45	43.70
DAC-100CCQ1 (Q2)	−25/+85	±0.2	60	45.00	36.00	30.00
DAC-100DDQ1 (Q2)	−25/+85	±0.3	120	30.00	24.00	20.00
DAC-100ACQ3 (Q4)	0/+70	±0.05	60	46.80	37.45	31.20
DAC-100BCQ3 (Q4)	0/+70	±0.1	60	30.60	24.50	20.40
DAC-100CCQ3 (Q4)	0/+70	±0.2	60	21.60	17.30	14.40
DAC-100DDQ3 (Q4)	0/+70	±0.3	120	17.95	14.35	11.95
DAC-100ACQ5	−55/+125	±0.05	60	149.60	119.70	100.00
DAC-100BBQ5	−55/+125	±0.1	30	160.80	128.65	107.20
DAC-100CCQ5	−55/+125	±0.2	60	98.30	78.65	65.00
DAC-100DDQ5	−55/+125	±0.3	120	67.50	54.00	45.00

SSS562 12-BIT MULTIPLYING MONOLITHIC D/A CONVERTER

Monolithic 12-bit multiplying DAC consisting of reference current amplifier, R-2R ladder network, range and offset scaling resistors, and 12 high-speed current switches. Improved direct replacement for AD562 series. Improvements include faster settling time (1.5 μsec max.), lower power dissipation, greater negative supply range, and wider voltage compliance. No laser trimming recommended for hi-rel, high-speed, precision applications where single chip reliability, small size and low cost are important. Guaranteed monotonicity.

PMI Type	ADI Model No.	Temperature Range (°C)	Nonlinearity Max. (±LSB)	Gain TC ppm/°C	Net Each, Lots of		
					1-24	25-99	100-999
SSS562-SD-BIN	AD562SD/BIN	−55/+125	1/4	3	$150.00	$120.00	$100.00
SSS562-SD-BCD	AD562SD/BCD	−55/+125	1/10	3	150.00	120.00	100.00
SSS562-AD-BIN	AD562AD/BIN	−25/+85	1/2	3	73.50	58.80	49.00
SSS562-AD-BCD	AD562AD/BCD	−25/+85	1/2	3	73.50	58.80	49.00
SSS562-KD-BIN	AD562KD/BIN	0/+70	1/2	3	58.50	46.80	39.00
SSS562-KD-BCD	AD562KD/BCD	0/+70	1/2	3	58.50	46.80	39.00

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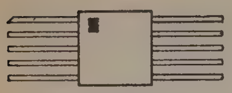
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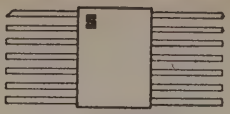
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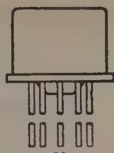
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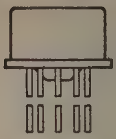
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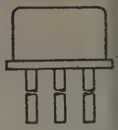
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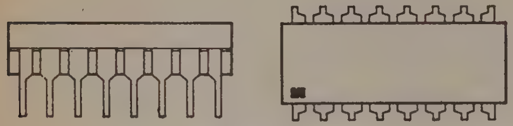
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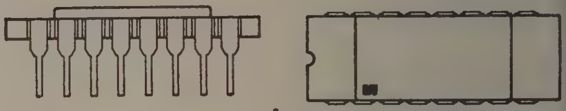
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7400/5400 SERIES

The 74/54XX logic family is medium speed TTL, and high speed TTL integrated circuits. The family includes a multiple number of functions in a variety of packages. The 74XX devices are characterized for the limited temperature range of 0° C to +70° C. The 54XX devices are characterized for the full military temperature range of −55° C to +125° C.

Prefix Indicates Temperature Range: **N** or **NE**, 0° C to +70° C; **S** or **SE**, −55° C to +125° C.

Final Suffix Indicates Package Type: Signetics packages are as follows: **DA**, 2-lead TO-5; **DB**, 3-lead TO-5; **DC**, 4-lead TO-46; **DE**, 4-lead TO-72; **F**, 14-, 16-, 18-, 22- or 24-lead ceramic (Cerdip) DIL; **I**, 14-, 16-, 18-, 22- or 28-lead ceramic DIL; **K**, 10-lead TO-100; **L**, 10-lead high profile TO-100; **N**, 8-, 14-, 16-, 18-, 20-, 22-, 24- or 28-lead plastic DIL; **PHA**, 12+1 GND pin DIL; **Q**, 10-, 14-, 16- or 24-lead ceramic flat; **S**, 3-lead TO-92 plastic; **T**, 8-lead TO-99; **U**, plastic power TO-220; **W**, 10-, 14-, 16- or 24-lead ceramic (Cerpak) flat.

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
N7400N	Quad 2-input positive NAND gate	$0.29	$0.25	$0.21
N7400F		.88	.75	.55
S5400F		.76	.70	.61
S5400W		.86	.79	.68
N7401N	Quad 2-input positive NAND gate with open collector output	.29	.25	.21
N7401F		.88	.75	.55
S5401F		.76	.70	.61
S5401W		.86	.79	.68
N7402N	Quad 2-input positive NOR gate	.29	.25	.21
N7402F		.88	.75	.55
S5402F		.76	.70	.61
S5402W		.86	.79	.68
N7403N	Quad 2-input positive NAND gate with open collector output	.29	.25	.21
N7403F		.88	.75	.55
S5403F		.76	.70	.61
N7404N	Hex inverter	.32	.28	.24
N7404F		1.09	.93	.68
S5404F		.86	.79	.68
S5404W		1.05	.96	.83
N7405N	Hex inverter with open collector output	.32	.28	.24
N7405F		1.09	.93	.68
S5405F		.86	.79	.68
S5405W		1.05	.96	.83
N7406N	Hex inverter buffer/driver with open collector high voltage outputs	.42	.36	.32
N7406F		4.00	3.45	2.53
S5406F		.86	.79	.68
S5406W		1.25	1.16	.97
N7407N	Hex buffer/driver with open collector high voltage outputs	.42	.36	.32
N7407F		4.00	3.45	2.53
S5407F		.86	.79	.68
S5407W		1.25	1.16	.97
N7408N	Quad 2-input positive AND gate	.29	.25	.21
N7408F		1.58	1.32	.97
S5408F		.76	.70	.61
S5408W		.86	.79	.68
N7409N	Quad 2-input AND gate with open collector outputs	.29	.25	.21
N7409F		1.58	1.32	.97
S5409F		.76	.70	.61
S5409W		.86	.79	.68
N7410N	Triple 3-input positive NAND gate	.29	.25	.21
N7410F		.88	.75	.55
S5410F		.76	.70	.61
S5410W		.86	.79	.68
N7411N	Triple 3-input positive AND gate	.29	.25	.21
N7411F		.88	.75	.55
S5411F		.76	.70	.61
S5411W		.86	.79	.68
N7412N	Triple 3-input positive NAND gate with open collector outputs	.29	.25	.21
S5412F		.76	.70	.61
S5412W		.86	.79	.68
N7413N	Dual NAND Schmitt trigger	.54	.46	.40
N7413F		2.24	1.92	1.41
S5413F		1.43	1.31	1.10
S5413W		1.84	1.70	1.35
N7414N	Hex Schmitt trigger	1.21	.91	.79
N7414F		5.78	5.08	4.60
S5414F		2.47	2.28	1.85
S5414W		2.91	2.66	2.30
N7416N	Hex inverter buffer/driver with open collector high voltage outputs	$0.41	$0.35	$0.31
N7416F		2.43	2.13	1.94
S5416F		.86	.79	.68
S5416W		1.65	1.52	1.25
N7417N	Hex buffer/driver with open collector high voltage outputs	.41	.35	.31
N7417F		2.43	2.13	1.94
S5417F		.86	.79	.68
S5417W		1.25	1.16	.97
N7420N	Dual 4-input positive NAND gate	.29	.25	.21
N7420F		.88	.75	.55
S5420F		.76	.70	.61
S5420W		.86	.79	.68
N7421N	Dual 4-input positive AND gate	.31	.26	.23
N7421F		.88	.75	.55
S5421F		.76	.70	.61
S5421W		.86	.79	.68
N7426N	Quad 2-input high voltage interface NAND gate	.32	.28	.24
N7426F		.88	.75	.55
S5426F		.76	.70	.61
N7427N	Triple 3-input positive NOR gate	.32	.28	.24
S5427F		.76	.70	.61
S5427W		.86	.79	.68
N7428N	Quad 2-input NOR buffer	.45	.39	.33
S5428F		.86	.79	.68
S5428W		1.25	1.16	.97
N7430N	8-input positive NAND gate	.29	.25	.21
N7430F		.88	.75	.55
S5430F		.76	.70	.61
S5430W		.86	.79	.68
N7432N	Quad 2-input positive-OR gate	.32	.28	.24
N7432F		1.23	1.05	.77
S5432F		.86	.79	.68
S5432W		1.05	.96	.83
N7433N	Quad 2-input NOR buffer	.32	.28	.24
N7433F		1.23	1.05	.77
S5433F		.86	.79	.68
S5433W		1.25	1.16	.97
N7437N	Quad 2-input positive NAND buffer	.38	.32	.28
N7437F		1.79	1.53	1.12
S5437F		.86	.79	.68
S5437W		1.25	1.16	.97
N7438N	Quad 2-input positive NAND buffer with open collector output	.38	.32	.28
N7438F		1.79	1.53	1.12
S5438F		.86	.79	.68
S5438W		1.25	1.16	.97
N7439N	Quad 2-input positive NAND buffer with open collector output	.59	.51	.44
N7439F		2.45	2.10	1.54
S5439F		1.43	1.31	1.10
S5439W		1.84	1.70	1.35
N7440N	Dual 4-input positive NAND buffer	.29	.25	.21
N7440F		.88	.75	.55
S5440F		.76	.70	.61
S5440W		.86	.79	.68
N7442N	BCD-to-decimal decoder	.77	.58	.50
N7442F		3.96	3.39	2.49
S5442F		1.84	1.70	1.35
S5442W		2.47	2.28	1.85
N7443N	Excess 3-to-decimal decoder	1.21	.91	.79
N7443F		5.71	4.89	3.59
S5443F		2.47	2.28	1.85
S5443W		2.91	2.66	2.30
N7444N	Excess 3-gray-to-decimal decoder	.99	.75	.64
N7444F		5.71	4.89	3.59
S5444F		2.47	2.28	1.85
S5444W		2.91	2.66	2.30
N7445N	BCD-to-decimal decoder/driver with 30 V output	1.43	1.08	.93
N7445F		7.20	6.34	5.76
S5445F		5.00	4.44	3.89
S5445W		2.91	2.66	2.30
N7446AN	BCD-to-seven segment decoder/driver with 30 V output	1.32	1.00	.86
N7446AF		5.25	5.25	4.38
S5446AF		2.47	2.28	1.85
S5446AW		2.91	2.66	2.30

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signetics TTL Integrated Circuits

7400/5400 SERIES (CONT'D)

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
N7447AN	BCD-to-seven segment decoder/driver with 15 V output	$1.32	$1.00	$0.86
N7447AF		5.25	4.38	3.50
S5447AF		2.47	2.28	1.85
S5447AW		2.91	2.66	2.30
N7448N	BCD-to-seven segment decoder/driver	1.32	1.00	.86
N7448F		10.50	9.25	8.40
S5448F		2.47	2.28	1.85
S5448W		2.91	2.66	2.30
N7450N	Expandable dual 2-wide 2-input AND-OR-INVERT gate	.29	.25	.21
N7450F		.88	.75	.55
S5450F		.76	.70	.61
S5450W		.86	.79	.68
N7451N	Expandable dual 2-wide 2-input AND-OR-INVERT gate	.29	.25	.21
N7451F		.88	.75	.55
S5451F		.76	.70	.61
S5451W		.86	.79	.68
N7453N	Expandable 4-wide 2-input AND-OR-INVERT gate	.29	.25	.21
N7453F		.88	.75	.55
S5453F		.76	.70	.61
S5453W		.86	.79	.68
N7454N	4-wide 2-input AND-OR-INVERT gate	.29	.25	.21
N7454F		.88	.75	.55
S5454F		.76	.70	.61
S5454W		.86	.79	.68
N7460W	Dual 4-input expander	.31	.26	.23
N7460F		.88	.75	.55
S5460F		.76	.70	.61
S5460W		.86	.79	.68
N7470N	Positive edge-triggered J-K flip-flops (AND inputs)	.50	.43	.37
N7470F		1.44	1.23	.90
S5470F		.86	.79	.68
S4570W		1.05	.96	.83
N7472N	J-K master-slave flip-flops (AND inputs)	.41	.35	.31
N7472F		1.44	1.23	.90
S5472F		.86	.79	.68
S5472W		1.05	.96	.83
N7473N	Dual J-K master-slave flip-flops	.41	.35	.31
N7473F		1.53	1.28	1.02
S5473F		.86	.79	.68
S5473W		1.25	1.16	.97
N7474N	Dual D-type edge-triggered flip-flops	.41	.35	.31
N7474F		1.53	1.28	1.02
S5474F		.86	.79	.68
S5474W		1.25	1.16	.97
N7475N	Quadruple bistable latches	.73	.55	.47
N7475F		2.88	2.40	1.92
S5475F		1.43	1.31	1.10
S5475W		1.84	1.70	1.35
N7476N	Dual J-K master-slave flip-flop with preset and clear	.41	.35	.31
N7476F		1.53	1.28	1.02
S5476F		.86	.79	.68
S5476W		1.25	1.16	.97
S5477W	Quadruple bistable latch	3.06	2.80	2.50
N7480N	Gated full adder	.99	.75	.64
N7480F		2.55	2.24	2.04
S5480F		.86	.79	.68
S5480W		1.25	1.16	.97
N7483N	4-bit binary full adder (look ahead carry)	.99	.75	.64
N7483F		4.30	3.78	3.44
S5483F		1.84	1.70	1.35
S5483W		2.47	2.28	1.85
N7485N	4-bit magnitude comparators	1.30	.98	.84
N7485F		7.50	6.60	6.00
S5485F		1.84	1.70	1.35
S5485W		2.47	2.28	1.85
N7486N	Quad 2-input exclusive-OR gate	.40	.34	.29
N7486F		1.83	1.60	1.46
S5486F		.86	.79	.68
S5486W		1.25	1.16	.97
N7490N	Decade counter	.73	.55	.47
N7490F		2.50	2.20	2.00
S5490F		1.43	1.31	1.10
S5490W		1.84	1.70	1.35
N7491N	8-bit shift register	.99	.75	.64
N7491F		3.75	3.30	3.00
S5491F		1.84	1.70	1.35
S5491W		2.47	2.28	1.85
N7492N	Divide-by-twelve counter (divide-by-two and divide-by-six)	.73	.55	.47
N7492F		2.65	2.33	2.12
S5492F		1.43	1.31	1.10
S5492W		3.38	3.00	2.63
N7493N	4-bit binary counter	.73	.55	.47
N7493F		2.65	2.33	2.12
S5493F		1.43	1.31	1.10
S5493W		1.84	1.70	1.35
N7494N	4-bit shift register (parallel-in, serial-out)	.88	.66	.57
N7494F		3.50	3.08	2.80
S5494F		1.84	1.70	1.35
S5494W		2.47	2.28	1.85
N7495N	4-bit universal shift registers (parallel-in, parallel-out)	.88	.66	.57
N7495F		3.50	3.08	2.80
S5495F		1.84	1.70	1.35
N7496N	5-bit shift registers (parallel-in, parallel-out)	$0.99	$0.75	$0.64
N7496F		5.00	4.40	4.00
S5496F		1.84	1.70	1.35
S5496W		2.47	2.28	1.85
N74100N	4-bit bistable latches	1.98	1.49	1.29
N74100F		7.20	6.35	5.75
S54100I		5.70	5.20	4.45
S54100Q		5.70	5.20	4.45
N74107N	Dual J-K master-slave flip-flops	.41	.35	.31
N74107F		3.00	2.64	2.40
S54107F		.86	.79	.68
N74109N	Dual J-K edge-triggered flip-flops	.41	.35	.31
N74109F		1.25	1.10	1.00
S54109F		.86	.79	.68
S54109W		1.25	1.16	.97
N74116N	Dual 4-bit latch with clear	1.98	1.49	1.29
N74116F		6.10	4.85	3.90
S54116I		5.70	5.20	4.45
S54116Q		5.70	5.20	4.45
N74121N	Monostable multivibrator	.41	.35	.31
N74121F		1.95	1.63	1.30
S54121F		.86	.79	.68
S54121W		1.25	1.16	.97
N74122N	Retriggerable monostable multivibrator with clear	.47	.40	.35
N74122F		2.37	1.98	1.58
N74123N	Dual retriggerable monostable multivibrator with clear	.77	.66	.57
N74123F		3.85	3.37	3.06
S54123F		1.84	1.70	1.35
S54123W		2.47	2.28	1.85
N74125N	Quad 3-state bus buffer gate	.59	.51	.44
N74125F		1.95	1.63	1.30
S54125F		.76	.70	.61
S54125W		.86	.79	.68
N74126N	Quad 3-state bus buffer gate	.59	.51	.44
N74126F		1.95	1.63	1.30
S54126F		.76	.70	.61
S54126W		.86	.79	.68
N74128N	Quad 2-input NOR buffer	.59	.51	.44
N74128F		1.89	1.58	1.26
S54128F		1.84	1.70	1.35
S54128W		2.47	2.28	1.85
N74132N	Quad Schmitt trigger	.99	.75	.64
N74132F		4.20	3.70	3.36
S54132F		1.84	1.70	1.35
S54132W		2.47	2.28	1.85
N74145N	BCD-to-decimal decoder/driver with 15 V output	1.21	.91	.79
N74145F		4.25	3.74	3.40
S54145F		2.47	2.28	1.85
S54145W		2.91	2.66	2.30
N74147N	10-to-4 priority encoder	1.98	1.49	1.29
N74147F		6.80	6.01	5.40
S54147F		1.84	1.70	1.35
S54147W		2.47	2.28	1.85
N74148N	8-to-3 priority encoder	1.98	1.49	1.29
N74148F		4.88	4.29	3.90
S54148F		1.84	1.70	1.35
S54148W		2.47	2.28	1.85
N74150N	16-line to 1-line data selector/multiplexer	1.50	1.13	.97
N74150F		9.00	7.92	7.20
S54150I		5.70	5.20	4.45
S54150Q		5.70	5.20	4.45
N74151N	8-line to 1-line data selector/multiplexer	1.10	.83	.72
N74151F		6.33	5.57	5.00
S54151F		1.84	1.70	1.35
S54151W		2.47	2.28	1.85
S54152F	8-line to 1-line data selector/multiplexer	1.84	1.70	1.35
S54152W		2.47	2.28	1.85
N74153N	Dual 4-line to 1-line data selector/multiplexer	1.10	.83	.72
N74153F		6.33	5.57	5.00
S54153F		1.84	1.70	1.35
S54153W		2.47	2.28	1.85
N74154N	4-line to 16-line decoder/demultiplexer	1.65	1.25	1.07
N74154F		9.80	8.80	7.00
S54154I		5.70	5.20	4.45
S54154Q		5.70	5.20	4.45
N74155N	Dual 2-line to 4-line decoder/demultiplexer (with open collector output)	.99	.75	.64
N74155F		6.00	5.00	3.90
S54155F		2.47	2.28	1.85
S54155W		2.91	2.66	2.30
N74156N	Dual 2-line to 4-line decoder/demultiplexer (with open collector output)	1.21	.91	.76
N74156F		6.00	5.00	3.90
S54156F		2.47	2.28	1.85
S54156W		2.91	2.66	2.30
N74157N	Quadruple 2-input data selector/multiplexer	1.10	.83	.72
N74157F		3.70	3.40	2.75
S54157F		1.84	1.70	1.35
S54157W		2.47	2.28	1.85
N74158N	Quadruple 2-input data selector/multiplexer	1.10	.83	.72
N74158F		3.70	3.40	2.75
S54158F		1.84	1.70	1.35
S54158W		2.47	2.28	1.85

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signetics TTL and HTTL Integrated Circuits

7400/5400 SERIES (CONT'D)

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
N74160N	Synchronous decade counter	$1.32	$1.00	$0.86
N74160F		9.00	7.00	5.00
S54160F		1.84	1.70	1.35
S54160W		2.47	2.28	1.85
N74161N	Synchronous 4-bit binary counter	1.32	1.00	.86
N74161F		9.00	7.00	5.00
S54161F		1.84	1.70	1.35
S54161W		2.47	2.28	1.85
N74162N	Fully synchronous decade counter	1.32	1.00	.86
N74162F		9.00	7.00	5.00
S54162F		1.84	1.70	1.35
S54162W		2.47	2.28	1.85
N74163N	Fully synchronous 4-bit binary counter	1.32	1.00	.86
N74163F		9.00	7.00	5.00
S54163F		1.84	1.70	1.35
S54163W		2.47	2.28	1.85
N74164N	8-bit parallel-out serial shift registers	1.43	1.08	.93
N74164F		8.18	7.19	6.54
S54164F		2.47	2.28	1.85
N74165N	Parallel-load 8-bit shift register	1.43	1.08	.93
N74165F		7.25	6.38	5.80
S54165F		2.47	2.28	1.85
S54165W		2.91	2.66	2.30
N74166N	8-bit shift register	1.43	1.08	.93
N74166F		7.00	6.10	4.94
S54166F		2.47	2.28	1.85
S54166W		2.91	2.66	2.30
N74170N	4 x 4 register file	2.42	1.83	1.57
N74170F		9.75	8.58	7.80
S54170F		5.70	5.20	4.45
N74174N	Hex D-type flip-flop with clear	1.21	.91	.79
N74174F		5.25	4.62	4.20
S54174F		2.47	2.28	1.85
S54174W		2.91	2.66	2.30
N74175N	Quadruple D-type edge-triggered flip-flops	1.21	.91	.79
N74175F		4.70	4.10	3.75
S54175F		1.84	1.70	1.35
S54175W		2.47	2.28	1.85
N74180N	8-bit odd/even parity generator/checker	1.21	.91	.79
N74180F		4.60	3.66	2.59
S54180F		2.47	2.28	1.85
S54180W		2.91	2.66	2.30
N74181N	High-speed arithmetic logic	2.75	2.08	1.79
N74181F		12.50	11.00	10.00
S54181F		1.84	1.70	1.35
S54181W		2.47	2.28	1.85
N74182N	Look-ahead carry generator	1.10	.83	.72
N74182F		3.50	3.10	2.80
S54182F		1.84	1.70	1.35
S54182W		2.47	2.28	1.85
N74190N	Synchronous BCD up/down counter	1.43	1.08	.93
N74190F		8.75	7.70	7.00
N74191N	Synchronous binary up/down counter	1.43	1.08	.93
N74191F		8.75	7.70	7.00
N74192N	Synchronous decade up/down counter with preset inputs	1.43	1.08	.93
N74192F		8.75	7.70	7.00
S54192F		2.47	2.28	1.85
S54192W		2.91	2.66	2.30
N74193N	Synchronous 4-bit binary up/down counter with preset inputs	1.43	1.08	.93
N74193F		8.75	7.70	7.00
S54193F		2.47	2.28	1.85
S54193W		2.91	2.66	2.30
N74194N	4-bit bidirectional universal shift registers	1.10	.83	.72
S54194F		1.84	1.70	1.35
N74195N	4-bit parallel-access shift register	1.10	.83	.72
S54195F		1.84	1.70	1.35
S54195W		2.47	2.28	1.85
N74198N	8-bit parallel-in, parallel-out, bidirectional shift register	2.20	1.66	1.43
N74198F		9.90	8.70	7.90
S54198I		5.70	5.20	4.45
N74199N	8-bit parallel-in, parallel-out shift register (J-K inputs to first stage)	2.20	1.66	1.43
N74199F		9.90	8.70	7.90
S54199I		5.70	5.20	4.45
N74221N	Dual monostable multivibrator	1.19	.90	.77
N74221F		3.83	3.37	3.06
N74279N	Quad S-R latch	.86	.65	.56
N74279F		1.75	1.54	1.40
S54279F		1.43	1.31	1.10
S54279W		1.84	1.70	1.35
N74298N	Quad 2-input multiplexer with storage	1.36	1.03	.89
N74298F		4.68	4.10	3.74
S54298F		2.47	2.28	1.85
N74H00N	Quadruple 2-input positive NAND gate	.74	.63	.46
N74H00F		1.05	.90	.66
S54H00F		1.62	1.44	1.26
S54H00W		2.03	1.80	1.58
N74H01N	Quadruple 2-input positive NAND gate with open collector output	.74	.63	.46
N74H01F		1.05	.90	.66
S54H01F		1.62	1.44	1.26
S54H01W		2.03	1.80	1.58

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
N74H04N	Hex inverter	$0.84	$0.72	$0.53
N74H04F		1.58	1.35	.99
S54H04F		1.85	1.64	1.44
S54H04W		2.34	2.08	1.82
N74H05N	Hex inverter with open collector output	.84	.72	.53
N74H05F		1.58	1.35	.99
S54H05F		1.85	1.64	1.44
S54H05W		2.34	2.08	1.82
N74H08N	Quadruple 2-input positive AND gate	.84	.72	.53
N74H08F		1.05	.90	.66
S54H08F		1.62	1.44	1.26
S54H08W		2.03	1.80	1.58
N74H10N	Triple 3-input positive NAND gate	.74	.63	.46
N74H10F		1.05	.90	.66
S54H10F		1.62	1.44	1.26
S54H10W		2.03	1.80	1.58
N74H11N	Triple 3-input positive AND gate	.74	.63	.46
N74H11F		1.05	.90	.66
S54H11F		1.62	1.44	1.26
S54H11W		2.03	1.80	1.58
N74H20N	Dual 4-input positive NAND gate	.74	.63	.46
N74H20F		1.05	.90	.66
S54H20F		1.62	1.44	1.26
S54H20W		2.03	1.80	1.58
N74H21N	Dual 4-input positive AND gate	.74	.63	.46
N74H21F		1.05	.90	.66
S54H21F		1.62	1.44	1.26
S54H21W		2.03	1.80	1.58
N74H22N	Dual 4-input positive NAND gate with open collector output	.74	.63	.46
N74H22F		1.05	.90	.66
S54H22F		1.62	1.44	1.26
S54H22W		2.03	1.80	1.58
N74H30N	8-input positive NAND gate	.74	.63	.46
N74H30F		1.05	.90	.66
S54H30F		1.62	1.44	1.26
S54H30W		2.03	1.80	1.58
N74H40N	Dual 4-input positive NAND buffer	.74	.63	.46
N74H40F		1.05	.90	.66
S54H40F		1.62	1.44	1.26
S54H40W		2.03	1.80	1.58
N74H50N	Expandable dual 2-wide 2-input AND-OR-INVERT gate	.74	.63	.46
N74H50F		1.05	.90	.66
S54H50F		1.62	1.44	1.26
S54H50W		2.03	1.80	1.58
N74H51N	Dual 2-wide 2-input AND-OR-INVERT gate	.74	.63	.46
N74H51F		1.05	.90	.66
S54H51F		1.62	1.44	1.26
S54H51W		2.03	1.80	1.58
N74H52N	Expandable 2-2-2-3-input AND-OR gate	.74	.63	.46
N74H52F		1.05	.90	.66
S54H52F		1.62	1.44	1.26
S54H52W		2.03	1.80	1.58
N74H53N	Expandable 2-2-2-3-input AND-OR-INVERT gate	.74	.63	.46
N74H53F		1.05	.90	.66
S54H53F		1.62	1.44	1.26
S54H53W		2.03	1.80	1.58
N74H54N	4-wide 2-input AND-OR-INVERT gate	.74	.63	.46
N74H54F		1.05	.90	.66
S54H54F		1.62	1.44	1.26
S54H54W		2.03	1.80	1.58
N74H55N	Expandable 2-wide 4-input AND-OR-INVERT gate	.74	.63	.46
N74H55F		1.05	.90	.66
S54H55F		1.62	1.44	1.26
S54H55W		2.03	1.80	1.58
N74H60N	Dual 4-input expander	.74	.63	.46
N74H60F		1.05	.90	.66
S54H60F		1.62	1.44	1.26
S54H60W		2.03	1.80	1.58
N74H61N	Triple 3-input expander	.74	.63	.46
N74H61F		1.05	.90	.66
S54H61F		1.62	1.44	1.26
S54H61W		2.03	1.80	1.58
N74H62N	3-2-2-3-input AND-OR-expander	.74	.63	.46
N74H62F		1.05	.90	.66
S54H62F		1.62	1.44	1.26
S54H62W		2.03	1.80	1.58
N74H71N	J-K master-slave flip-flop (AND-OR inputs)	1.12	.96	.70
N74H71F		1.79	1.53	1.12
S54H71F		2.44	2.17	1.90
S54H71W		3.04	2.70	2.36
N74H72N	J-K master-slave flip-flop (AND inputs)	.98	.84	.62
N74H72F		1.79	1.53	1.12
S54H72F		1.85	1.64	1.44
S54H72W		2.34	2.08	1.82
N74H73N	Dual J-K master-slave flip-flop	1.61	1.38	1.01
N74H73F		2.45	2.10	1.54
S54H73F		2.44	2.17	1.90
S54H73W		3.04	2.70	2.36

signetics Schottky Integrated Circuits

SCHOTTKY-CLAMPED 74S SERIES

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
N74S00N	Quad 2-input NAND gate	$0.46	$0.38	$0.33
N74S00F		.98	.80	.68
S54S00F		1.25	1.16	.97
S54S00W		1.25	1.16	.97
N74S02N	Quad 2-input NOR gate	.46	.38	.33
N74S02F		.98	.80	.68
S54S02F		1.25	1.16	.97
S54S02W		1.25	1.16	.97
N74S03N	Quad 2-input NAND gate with open collectors	.46	.38	.33
N74S03F		.98	.80	.68
S54S03F		1.25	1.16	.98
S54S03W		1.25	1.16	.98
N74S04N	Hex inverter	.54	.45	.39
N74S04F		1.22	1.00	.85
S54S04F		1.25	1.16	.97
S54S04W		1.65	1.52	1.25
N74S05N	Hex inverter with open collectors	.54	.45	.39
N74S05F		1.22	1.00	.85
S54S05F		1.25	1.16	.97
S54S05W		1.65	1.52	1.25
N74S08N	Quad 2-input AND gate	.46	.38	.33
N74S08F		1.00	.82	.69
S54S08F		1.25	1.16	.97
S54S08W		1.25	1.16	.97
N74S09N	Quad 2-input AND gate with open collectors	.46	.38	.33
N74S09F		1.00	.82	.69
S54S09F		1.25	1.16	.97
S54S09W		1.25	1.16	.97
N74S10N	Triple 3-input NAND gate	.46	.38	.33
N74S10F		.98	.80	.68
S54S10F		1.25	1.16	.97
S54S10W		1.25	1.16	.97
N74S11N	Triple 3-input AND gate	.46	.38	.33
N74S11F		.98	.80	.68
S54S11F		1.25	1.16	.97
S54S11W		1.25	1.16	.97
N74S15N	Triple 3-input AND gate with open collectors	.46	.38	.33
N74S15F		.98	.80	.68
S54S15F		1.25	1.16	.97
S54S15W		1.25	1.16	.97
N74S20N	Dual 4-input NAND gate	.46	.38	.33
N74S20F		.98	.80	.68
S54S20F		1.25	1.16	.97
S54S20W		1.25	1.16	.97
N74S22N	Dual 4-input NAND gate with open collectors	.46	.38	.33
N74S22F		.98	.80	.68
S54S22F		1.25	1.16	.97
S54S22W		1.25	1.16	.97
N74S32N	Quad 2-input OR gate	.46	.38	.33
N74S32F		.98	.80	.68
S54S32F		1.25	1.16	.97
S54S32W		1.65	1.52	1.25
N74S37N	Quad 2-input NAND buffer	1.08	.90	.77
N74S37F		1.89	1.55	1.31
N74S38N	Quad 2-input NAND buffer with open collectors	1.08	.90	.77
N74S38F		1.89	1.55	1.31
N74S40N	Dual 4-input NAND buffer	.46	.38	.33
N74S40F		.98	.80	.68
S54S40F		1.25	1.16	.97
S54S40W		1.25	1.16	.97
N74S51N	Dual 2-wide 2-input AND-OR-INVERT gate	.46	.38	.33
N74S51F		.98	.80	.68
S54S51F		1.25	1.16	.97
S54S51W		1.25	1.16	.97
N74S64N	4-2-3-2-input AND-OR-INVERT gate	.46	.38	.33
N74S64F		.98	.80	.68
S54S64F		1.25	1.16	.97
S54S64W		1.65	1.52	1.25
N74S65N	4-2-3-2-input AND-OR-INVERT gate	.46	.38	.33
N74S65F		.98	.80	.68
S54S65F		1.25	1.16	.97
S54S65W		1.65	1.52	1.25
N74S74N	Dual D-type edge-triggered flip-flop	.70	.58	.50
N74S74F		2.00	1.64	1.39
S54S74F		1.84	1.70	1.35
S54S74W		2.19	2.01	1.70
N74S85N	4-bit magnitude comparator	2.64	2.16	1.80
N74S85F		8.95	7.28	6.15
S54S85F		4.55	4.16	3.60
N74S86N	Quad 2-input exclusive-OR gate	1.00	.83	.72
N74S86F		1.67	1.37	1.15
S54S86F		1.84	1.70	1.35
S54S86W		2.19	2.01	1.70
N74S89N	16 x 4-bit RAM with open collectors	3.43	2.64	1.96
N74S89F		5.02	3.96	2.89
N74S112N	Dual J-K negative edge-triggered flip-flop	.78	.65	.56
N74S112F		1.89	1.55	1.31
S54S112F		1.84	1.70	1.35
S54S112W		2.19	2.01	1.70
N74S113N	Dual J-K positive edge-triggered flip-flop	.78	.65	.56
N74S113F		1.89	1.55	1.31
S54S113F		1.84	1.70	1.35
S54S113W		2.19	2.01	1.70
N74S114N	Dual J-K negative edge-triggered flip-flop	$ 0.78	$ 0.65	$ 0.56
N74S114F		1.89	1.55	1.31
S54S114F		1.84	1.70	1.35
S54S114W		2.19	2.01	1.70
N74S133N	13-input NAND gate	.46	.38	.33
N74S133F		.98	.80	.68
S54S133F		1.25	1.16	.97
S54S133W		1.65	1.52	1.25
N74S134N	13-input NAND gate with tri-state output	.58	.48	.41
N74S134F		1.09	.89	.75
S54S134F		1.25	1.16	.97
S54S134W		1.65	1.52	1.25
N74S135N	Quad exclusive-OR-NOR gate	1.54	1.26	1.05
N74S135F		3.34	2.73	2.31
N74S138N	3 to 1 of 8 decoder/demultiplexer	2.20	1.80	1.50
N74S138F		6.11	5.00	4.23
N74S139N	Dual 2 to 10 of 4 decoder/demultiplexer	2.20	1.80	1.50
N74S139F		6.11	5.00	4.23
S54S139F		3.06	2.80	2.50
S54S139W		3.68	3.36	2.95
N74S140N	Dual 4-input NAND line driver	.74	.61	.53
N74S140F		1.09	.89	.75
S54S140F		1.84	1.70	1.35
S54S140W		2.19	2.01	1.70
N74S151N	8 to 1 multiplexer	2.09	1.71	1.43
N74S151F		5.55	4.55	3.85
S54S151F		3.06	2.80	2.50
S54S151W		3.68	3.36	2.95
N74S153N	Dual 4 to 1 multiplexer	2.09	1.71	1.43
N74S153F		5.55	4.55	3.85
S54S153F		3.06	2.80	2.50
S54S153W		3.68	3.36	2.99
N74S157N	Quad 2-input data selector	2.09	1.71	1.43
N74S157F		5.00	4.10	3.46
S54S157F		3.06	2.80	2.50
S54S157W		3.68	3.36	2.95
N74S158N	Quad 2-input data selector	2.09	1.71	1.43
N74S158F		5.00	4.10	3.46
S54S158F		3.06	2.80	2.50
S54S158W		3.68	3.36	2.95
N74S172N	16-bit multiple port register file	7.15	5.85	4.99
N74S172F		15.00	12.00	9.25
N74S178N	4-bit parallel shift register	3.30	2.70	2.25
N74S179N		3.30	2.70	2.25
N74S181N	4-bit ALU	6.05	4.95	4.13
N74S181F		17.75	14.55	12.30
S54S181I		9.00	8.25	7.49
N74S182N	Look ahead carry generator	2.31	1.89	1.58
N74S182F		5.55	4.55	3.85
N74S189N	16 x 4 RAM	3.43	2.64	1.96
N74S189F		5.02	3.96	2.89
N74S194N	4-bit bidirectional shift register	2.75	2.25	1.88
N74S194F		7.22	6.13	5.00
N74S195N	4-bit parallel shift register	2.75	2.25	1.88
N74S195F		7.22	6.13	5.00
N74S196N	Decade counter/latch with preset	4.07	3.33	2.78
N74S196F		7.22	6.13	5.00
N74S197N	Binary counter/latch with preset	4.07	3.33	2.78
N74S197F		7.22	6.13	5.00
N74S200N	256 x 1 RAM	5.00	4.20	3.10
N74S200F		6.00	5.00	4.00
S54S200F		7.53	6.88	5.95
N74S201N	256 x 1 RAM	5.00	4.20	3.10
N74S201F		6.00	5.00	4.00
S54S201F		7.53	6.88	5.95
N74S251N	Data selector/multiplexer with 3-state outputs	2.20	1.80	1.50
N74S251F		6.11	5.00	4.23
N74S253N	Dual 4 to 1 data selector/multiplexer	2.20	1.80	1.50
N74S253F		6.11	5.00	4.23
S54S253F		3.06	2.80	2.50
S54S253W		3.68	3.36	2.95
N74S257N	Quad 2 to 1 data selector/multiplexer	2.20	1.80	1.50
N74S257F		5.55	4.55	3.85
N74S258N	Quad 2 to 1 data selector/multiplexer	2.20	1.80	1.50
N74S258F		5.55	4.55	3.85
N74S260N	Dual 5-input NOR gate	.50	.42	.34
N74S260F		1.00	.82	.69
S54S260F		1.25	1.16	.97
S54S260W		1.65	1.52	1.25
N74S280N	9-bit odd/even parity element	2.75	2.25	1.88
N74S280F		7.75	6.35	5.40
N74S301N	256 x 1 RAM	5.00	4.20	3.10
N74S301F		6.00	5.00	4.00
S54S301F		7.53	6.88	5.95

signetics LOW POWER SCHOTTKY INTEGRATED CIRCUITS

LOW POWER SCHOTTKY 74LS/54LS SERIES

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
N74LS00N	Quad 2-input NAND gate	$0.34	$0.28	$0.24
N74LS00F		1.59	1.22	1.00
S54LS00F		.76	.70	.61
S54LS00W		1.05	.96	.83
N74LS01N	Quad 2-input NAND gate	.34	.28	.24
N74LS01F		1.32	1.10	.88
S54LS01F		.76	.70	.61
S54LS01W		1.05	.96	.83
N74LS02N	Quad 2-input NOR gate	.34	.28	.24
N74LS02F		1.32	1.10	.88
S54LS02F		.76	.70	.61
S54LS02W		1.05	.96	.83
N74LS03N	Quad 2-input NAND gate	.34	.28	.24
N74LS03F		1.32	1.10	.88
S54LS03F		.76	.70	.61
S54LS03W		1.05	.96	.83
N74LS04N	Hex inverter	.38	.32	.27
N74LS04F		1.44	1.20	.96
S54LS04F		.86	.79	.68
S54LS04W		1.25	1.16	.97
N74LS05N	Hex inverter with open collectors	.38	.32	.27
N74LS05F		1.44	1.20	.96
S54LS05F		.86	.79	.68
S54LS05W		1.25	1.16	.97
N74LS08N	Quad 2-input AND gate	.84	.72	.53
N74LS08F		1.05	.90	.66
S54LS08F		.76	.70	.61
S54LS08W		1.05	.96	.83
N74LS09N	Quad 2-input AND gate with open collectors	.34	.28	.24
N74LS09F		1.32	1.20	.88
S54LS09F		.76	.70	.61
S54LS09W		1.05	.96	.83
N74LS10N	Triple 3-input NAND gate	.34	.28	.24
N74LS10F		1.32	1.20	.88
S54LS10F		.76	.70	.61
S54LS10W		1.05	.96	.83
N74LS11N	Triple 3-input AND gate	.34	.28	.24
N74LS11F		1.32	1.20	.88
S54LS11F		.76	.70	.61
S54LS11W		1.05	.96	.83
N74LS12N	Triple 3-input NAND gate with open collectors	.34	.28	.24
N74LS12F		1.32	1.10	.88
S54LS12F		.76	.70	.61
S54LS12W		1.43	1.31	1.10
N74LS13N	Dual NAND Schmitt trigger	.78	.65	.56
N74LS13F		2.15	1.89	1.72
S54LS13F		1.05	.96	.83
S54LS13W		1.65	1.52	1.25
N74LS14N	Hex Schmitt trigger	1.20	1.03	.80
N74LS14F		5.70	5.02	4.56
S54LS14F		2.65	2.41	2.15
S54LS14W		3.06	2.80	2.50
N74LS15N	Triple 3-input AND gate with open collectors	.34	.28	.24
N74LS15F		1.32	1.10	.88
S54LS15F		.76	.70	.61
S54LS15W		1.05	.96	.83
N74LS20N	Dual 4-input NAND gate	.34	.28	.24
N74LS20F		1.32	1.10	.88
S54LS20F		.76	.70	.61
S54LS20W		1.05	.96	.83
N74LS21N	Dual 4-input AND gate	.34	.28	.24
N74LS21F		1.32	1.10	.88
S54LS21F		.76	.70	.61
S54LS21W		1.05	.96	.83
N74LS22N	Dual 4-input NAND gate with open collectors	.34	.28	.24
N74LS22F		1.32	1.10	.88
S54LS22F		.76	.70	.61
S54LS22W		1.05	.96	.83
N74LS26N	Quad 2-input NAND gate with open collectors	.42	.35	.30
N74LS26F		1.32	1.10	.88
S54LS26F		.76	.70	.61
S54LS26W		1.05	.96	.83
N74LS27N	Triple 3-input NOR gate	.42	.35	.30
N74LS27F		1.32	1.10	.88
S54LS27F		.76	.70	.61
S54LS27W		1.05	.96	.83
N74LS28N	Quad 2-input buffer	.42	.35	.30
N74LS28F		1.45	1.28	1.16
S54LS28F		1.05	.96	.83
S54LS28W		1.65	1.52	1.25
N74LS30N	8-input NAND gate	.34	.28	.24
N74LS30F		1.32	1.10	.88
S54LS30F		.76	.70	.61
S54LS30W		1.05	.96	.83
N74LS32N	Quad 2-input OR gate	.46	.38	.33
N74LS32F		1.44	1.20	.96
S54LS32F		.86	.79	.68
S54LS32W		1.25	1.16	.97
N74LS33N	Quad 2-input NOR buffer	.46	.38	.33
N74LS33F		1.45	1.28	1.16
S54LS33F		1.05	.96	.83
S54LS33W		1.65	1.52	1.25

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
N74LS73N	Quad 2-input NAND buffer	$0.46	$0.38	$0.33
N74LS37F		1.45	1.28	1.16
S54LS37F		1.05	.96	.83
S54LS37W		1.65	1.52	1.25
N74LS38N	Quad 2-input NAND buffer with open collectors	.46	.38	.33
N74LS38F		1.45	1.28	1.16
S54LS38F		1.05	.96	.83
S54LS38W		1.65	1.52	1.25
N74LS40N	Dual 4-input NAND buffer	.34	.28	.24
N74LS40F		1.45	1.28	1.16
S54LS40F		.76	.70	.61
S54LS40W		1.43	1.31	1.10
N74LS42N	BCD to decimal decoder	.92	.79	.62
N74LS42F		2.80	2.30	1.95
S54LS42F		2.00	1.84	1.50
S54LS42W		2.65	2.41	2.15
N74LS51N	Dual 2-wide 2-input AND-OR-INVERT gate	.34	.28	.24
N74LS51F		1.32	1.10	.88
S54LS51F		.76	.70	.61
S54LS51W		1.05	.96	.83
N74LS54N	4-wide 2-input AND-OR-INVERT gate	.34	.28	.24
N74LS54F		1.32	1.10	.88
S54LS54F		.76	.70	.61
S54LS54W		1.05	.96	.83
N74LS55N	2-wide 4-input AND-OR-INVERT gate	.34	.28	.24
N74LS55F		1.32	1.10	.88
S54LS55F		.76	.70	.61
S54LS55W		1.05	.96	.83
N74LS73N	Dual J-K master-slave flip-flop	.50	.42	.36
N74LS73F		2.10	1.75	1.40
S54LS73F		1.05	.96	.83
S54LS73W		1.65	1.52	1.25
N74LS74N	Dual D type edge-triggered flip-flop	.54	.45	.39
N74LS74F		2.10	1.75	1.40
S54LS74F		1.05	.96	.83
S54LS74W		1.65	1.52	1.25
N74LS75N	Quad bistable latch	.82	.70	.55
N74LS75F		2.13	1.89	1.72
S54LS75F		2.00	1.84	1.50
S54LS75W		2.65	2.41	2.15
N74LS76N	Dual J-K master-slave flip-flop	.50	.42	.36
N74LS76F		2.10	1.75	1.40
S54LS76F		1.05	.96	.83
S54LS76W		1.65	1.52	1.25
N74LS78N	Dual J-K negative edge-triggered flip-flop	.50	.42	.36
N74LS78F		2.10	1.75	1.40
S54LS78F		1.05	.96	.83
S54LS78W		1.65	1.52	1.25
N74LS83AN	4-bit binary full adder	1.37	1.17	.91
S54LS83AF		2.65	2.41	2.15
S54LS83AW		3.06	2.80	2.50
N74LS85N	4-bit magnitude comparator	1.58	1.35	1.05
S54LS85F		2.65	2.41	2.15
S54LS85W		3.06	2.80	2.50
N74LS86N	Quad 2-input exclusive-OR gate	.58	.48	.41
N74LS86F		1.90	1.67	1.52
S54LS86F		1.05	.96	.83
S54LS86W		1.65	1.52	1.25
N74LS90N	Decade counter	.82	.70	.55
N74LS90F		2.80	2.29	1.95
S54LS90F		2.00	1.84	1.50
S54LS90W		2.65	2.41	2.15
N74LS92N	Divide by 12 counter	.95	.81	.63
N74LS92F		2.80	2.29	1.95
S54LS92F		2.00	1.84	1.50
S54LS92W		2.65	2.41	2.15
N74LS93N	4-bit binary counter	.95	.81	.63
N74LS93F		2.80	2.29	1.95
S54LS93F		2.00	1.84	1.50
S54LS93W		2.65	2.41	2.15
N74LS95AN	4-bit left-right shift register	1.30	1.12	.87
N74LS95AF		2.58	2.15	1.72
S54LS95AF		2.19	2.01	1.70
S54LS95AW		2.65	2.41	2.15
N74LS96N	5-bit shift register	1.30	1.12	.87
S54LS96F		2.19	2.01	1.70
S54LS96W		2.65	2.41	2.15
N74LS107N	Dual J-K master-slave flip-flop	.60	.50	.43
N74LS107F		2.10	1.75	1.40
S54LS107F		1.05	.96	.83
S54LS107W		1.65	1.52	1.25
N74LS109N	Dual J-K edge-triggered flip-flop	.60	.50	.43
N74LS109F		2.10	1.75	1.40
S54LS109F		1.05	.96	.83
S54LS109W		1.65	1.52	1.25
N74LS113N	Dual J-K edge-triggered flip-flop	.60	.50	.43
N74LS113F		2.10	1.75	1.40
S54LS113F		1.05	.96	.83
S54LS113W		1.65	1.52	1.25

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LOW POWER SCHOTTKY 74LS/54LS SERIES (CONT'D)

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
N74LS114N	Dual J-K edge-triggered flip-flop	$0.60	$0.50	$0.43
N74LS114F		2.10	1.75	1.40
S54LS114F		1.05	.96	.83
S54LS114W		1.65	1.52	1.25
N74LS125N	Quad 3-state bus buffer	.72	.60	.51
S54LS125F		.76	.70	.61
S54LS125W		1.05	.96	.83
N74LS126N	Quad 3-state bus buffer	.72	.60	.51
S54LS126F		.76	.70	.61
S54LS126W		1.05	.96	.83
N74LS132N	Quad Schmitt trigger	1.20	1.03	.80
N74LS132F		3.63	2.95	2.50
S54LS132F		2.19	2.01	1.70
S54LS132W		2.65	2.41	2.15
N74LS136N	Quad exclusive-OR gate with open collectors	.69	.57	.48
N74LS136F		1.58	1.29	1.09
S54LS136F		1.05	.96	.83
S54LS136W		1.65	1.52	1.25
N74LS138N	3 to 1 of 8 decoder/ demultiplexer	.95	.81	.63
N74LS138F		4.35	3.83	3.48
S54LS138F		2.00	1.84	1.50
S54LS138W		2.65	2.41	2.15
N74LS139N	Dual 2 to 10 of 4 decoder/ demultiplexer	.95	.81	.63
N74LS139F		4.35	3.83	3.48
S54LS139F		2.00	1.84	1.50
S54LS139W		2.65	2.41	2.15
N74LS151N	8 to 1 multiplexer	.84	.72	.56
N74LS151F		4.15	3.65	3.32
N74LS153N	Dual 4 to 1 multiplexer	.84	.72	.56
N74LS153F		4.35	3.83	3.48
S54LS153F		2.00	1.84	1.50
S54LS153W		2.65	2.41	2.15
N74LS154N	4 to 16 decoder/ demultiplexer	2.10	1.80	1.40
S54LS154I		5.70	5.20	4.45
S54LS154W		6.56	6.00	5.10
N74LS155N	Dual 2 to 4 decoder/ demultiplexer	1.55	1.32	1.02
S54LS155F		3.22	2.86	2.50
S54LS155W		3.96	3.52	3.08
N74LS156N	Dual 2 to 4 decoder/ demultiplexer	1.55	1.32	1.02
S54LS156F		3.22	2.86	2.50
S54LS156W		3.96	3.52	3.08
N74LS157N	Quad 2-input data selector	.84	.72	.56
S54LS157F		2.00	1.84	1.50
S54LS157W		2.65	2.41	2.15
N74LS158N	Quad 2-input data selector (non-inverting)	.95	.81	.63
S54LS158F		2.00	1.84	1.50
S54LS158W		2.65	2.41	2.15
N74LS161N	Sync. 4-bit binary counter with clear	1.20	1.03	.80
S54LS161F		2.19	2.01	1.70
S54LS161W		2.65	2.41	2.15
N74LS163N	Sync. 4-bit binary counter	1.20	1.03	.80
N74LS163F		4.19	3.40	2.88
S54LS163F		2.19	2.01	1.70
S54LS163W		2.65	2.41	2.15
N74LS164N	8-bit parallel-out serial shift register	1.20	1.03	.80
N74LS164F		3.39	2.75	2.33
S54LS164F		2.65	2.41	2.15
S54LS164W		3.06	2.80	2.50
N74LS170N	4 x 4 register file	3.15	2.70	2.10
N74LS170F		9.17	7.40	6.30
S54LS170F		5.70	5.20	4.45
S54LS170W		6.56	6.00	5.10
N74LS173N	Quad D-type flip-flop 3-state	1.89	1.62	1.26
N74LS174N	Hex D-type flip-flop with clear	.95	.81	.63
N74LS174F		4.65	4.09	3.70
S54LS174F		2.65	2.41	2.15
S54LS174W		3.06	2.80	2.50
N74LS175N	Quad D-type edge-triggered flip-flop with clear	.95	.81	.63
N74LS175F		4.65	4.09	3.70
S54LS175F		2.10	2.01	1.70
S54LS175W		2.65	2.41	2.15
N74LS181N	4-bit arithmetic logic unit	3.57	3.06	2.38
N74LS181F		13.95	12.28	11.16
S54LS181I		5.70	5.20	4.45
S54LS181Q		6.56	6.00	5.10
N74LS190N	Sync. BCD up/down counter	1.43	1.22	.95
S54LS190F		2.65	2.41	2.15
S54LS190W		3.06	2.80	2.50
N74LS191N	Sync. binary up/down counter	$1.43	$1.22	$0.95
S54LS191F		2.65	2.41	2.15
S54LS191W		3.06	2.80	2.50
N74LS192N	Sync. decade up/down counter	1.16	.99	.77
N74LS192F		4.65	4.09	3.72
S54LS192F		2.65	2.41	2.15
S54LS192W		3.06	2.80	2.50
N74LS193N	Sync. 4-bit up/down counter	1.13	.97	.76
N74LS193F		4.65	4.09	3.72
S54LS193F		2.65	2.41	2.15
S54LS193W		3.06	2.80	2.50
N74LS194AN	4-bit bidirectional shift register	1.26	1.08	.84
N74LS194AF		4.65	4.09	3.72
S54LS194AF		3.22	2.86	2.50
S54LS194AW		3.96	3.52	3.08
N74LS195AN	4-bit parallel shift register	.95	.81	.63
N74LS195AF		4.65	4.09	3.72
S54LS195AF		2.19	2.01	1.70
S54LS195AW		2.65	2.41	2.15
N74LS221N	Dual monostable multivibrator	1.70	1.46	1.13
N74LS251N	3-state data selector/ multiplexer	1.05	.90	.70
N74LS251F		4.35	3.83	3.48
N74LS253N	Dual 4 to 1 data selector/ multiplexer	1.05	.90	.70
N74LS253F		4.65	4.09	3.72
S54LS253F		2.19	2.01	1.70
S54LS253W		2.65	2.41	2.15
N74LS260N	Dual 5-input NOR gate	.38	.32	.27
N74LS260F		1.10	.97	.88
S54LS260F		.86	.79	.68
S54LS260W		1.25	1.16	.97
N74LS261N	2 x 4-bit multiplexer	2.63	2.25	1.75
S54LS261F		5.70	5.20	4.45
S54LS261W		6.56	6.00	5.10
N74LS266N	Quad exclusive-NOR gate	.66	.55	.47
N74LS266F		1.58	1.29	1.09
S54LS266F		1.05	.96	.83
S54LS266W		1.65	1.52	1.25
N74LS273N	Octal D-type flip-flop	1.80	1.55	1.21
N74LS279N	Quad S-R latch	.88	.76	.59
S54LS279F		2.10	1.87	1.63
S54LS279W		3.34	2.97	2.60
N74LS283N	4-bit adder	1.76	1.51	1.18
N74LS290N	Decade counter	1.26	1.08	.84
N74LS290F		2.80	2.30	1.95
S54LS290F		2.65	2.41	2.15
S54LS290W		3.06	2.80	2.50
N74LS293N	4-bit binary counter	1.26	1.08	.84
N74LS293F		2.80	2.30	1.95
S54LS293F		2.61	2.41	2.15
S54LS293W		3.06	2.80	2.50
N74LS295N	4-bit shift register 3-state	1.58	1.35	1.05
N74LS298N	Quad 2-input multiplexer with storage	1.58	1.35	1.05
S54LS298F		2.65	2.41	2.15
S54LS298W		3.06	2.80	2.50
N74LS365N	Hex buffer/inverter	.88	.76	.59
S54LS365F		1.05	.96	.83
S54LS365W		1.65	1.52	1.25
N74LS366N	Hex buffer/inverter	.88	.76	.59
S54LS366F		1.05	.96	.83
S54LS366W		1.65	1.52	1.25
N74LS367N	Hex buffer/inverter	.88	.76	.59
S54LS367F		1.05	.96	.83
S54LS367W		1.65	1.52	1.25
N74LS368N	Hex buffer/inverter	.88	.76	.59
S54LS368F		1.05	.96	.83
S54LS368W		1.65	1.52	1.25
N74LS375N	Quad latch	.88	.76	.59
S54LS375F		2.10	1.87	1.63
S54LS375W		2.62	2.33	2.04
N74LS377N	Octal D-type flip-flop	2.17	1.85	1.42
N74LS386N	Exclusive-OR gate	.69	.59	.46
N74LS386F		1.58	1.29	1.09
S54LS386F		1.05	.96	.83
S54LS386W		1.65	1.52	1.25
N74LS395N	4-bit casc. shift register 3-S	2.21	1.89	1.47
N74LS670N	4 x 4 register file 3-state	3.57	3.06	2.38
N74LS670F		9.17	7.40	6.30
S54LS670F		6.56	6.00	5.10
S54LS670W		7.53	6.88	5.95

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Signetics BIPOLAR DIGITAL INTEGRATED CIRCUITS

8200 SERIES BIPOLAR DIGITAL TTL

Signetics Type	Description	Net Each, Lots of 1-24	25-99	100-999
N8200N	Dual 5-bit buffer register	$ 4.95	$ 3.74	$ 3.22
S8200I		49.80	36.52	29.88
S8200Q		71.82	52.67	43.09
N8201N	Dual 5-bit buffer register	4.95	3.74	3.22
S8201I		49.80	36.52	29.88
S8201Q		71.82	52.67	43.09
N8202N	10-bit buffer register	4.95	3.74	3.22
S8202I		49.80	36.52	29.88
S8202Q		71.82	52.67	43.09
N8203N	10-bit buffer register	4.95	3.74	3.22
S8203I		49.80	36.52	29.88
S8203Q		71.82	52.67	43.09
N8230N	8-input digital multiplexer	1.65	1.25	1.07
N8230F		4.06	3.25	2.71
S8230F		16.38	12.01	9.83
S8230W		25.95	19.03	15.57
N8231N	8-input digital multiplexer	1.65	1.25	1.07
N8231F		4.06	3.25	2.71
S8231F		16.38	12.01	9.83
S8231W		25.95	19.03	15.57
N8232N	8-input digital multiplexer	2.42	1.83	1.57
N8232F		4.06	3.25	2.71
S8232F		16.38	12.01	9.83
S8232W		25.95	19.03	15.57
N8233N	2-input, 4-bit digital multiplexer	1.98	1.49	1.29
N8233F		3.96	3.17	2.64
S8233F		16.38	12.01	9.83
S8233W		25.95	19.03	15.57
N8234N	2-input, 4-bit digital multiplexer	1.98	1.49	1.29
N8234F		3.96	3.17	2.64
S8234F		16.38	12.01	9.83
S8234W		25.95	19.03	15.57
N8235N	2-input, 4-bit digital	1.98	1.49	1.29
N8235F		3.96	3.17	2.64
S8235F		16.38	12.01	9.83
S8235W		25.95	19.03	15.57
N8241N	Quad exclusive-OR gate	1.65	1.25	1.07
N8241F		2.91	2.33	1.94
S8241F		10.14	7.44	6.08
S8241W		15.99	11.73	9.59
N8242N	Quad exclusive-NOR gate	1.54	1.16	1.00
N8242F		2.91	2.33	1.94
S8242F		6.08	5.40	4.73
S8242W		15.99	11.73	9.59
N8243N	8-bit position scaler	6.16	4.65	4.00
S8243I		54.60	40.04	32.76
S8243Q		110.01	80.67	66.01
N8250N	Binary-to-octal decoder	1.98	1.49	1.29
N8250F		4.21	3.37	2.81
S8250F		21.96	16.10	13.18
S8250W		42.03	30.82	25.22
N8251N	BCD-to-decimal decoder	2.20	1.66	1.43
N8251F		4.21	3.37	2.81
S8251F		21.96	16.10	13.18
S8251W		42.03	30.82	25.22
N8252N	BCD-to-decimal decoder	1.74	1.31	1.13
N8252F		4.21	3.37	2.81
S8252F		17.16	12.58	10.30
S8252W		18.87	13.84	11.32
N8260N	Arithmetic logic unit	9.35	7.06	6.08
S8260I		99.00	72.60	59.40
S8260Q		156.75	114.95	94.05
N8261N	Fast carry extender	1.65	1.25	1.07
N8261F		2.28	1.82	1.52
S8261F		11.49	8.43	6.89
S8261W		16.68	12.23	10.01
N8262N	9-bit parity generator	2.75	2.08	1.79
S8262F		26.01	19.07	15.61
S8262W		41.37	30.34	24.82
N8263N	3-input, 4-bit digital multiplexer	4.95	3.74	3.22
S8263I		43.38	31.81	26.03
S8263Q		56.40	41.36	33.84
N8264N	3-input, 4-bit digital multiplexer	6.60	4.98	4.29
S8264I		43.38	31.81	26.03
S8264Q		56.40	41.36	33.84
N8266N	2-input, 4-bit digital multiplexer	2.20	1.66	1.43
N8266F		4.89	3.91	3.26
S8266F		16.38	12.01	9.83
S8266W		25.95	10.93	15.57
N8267N	2-input, 4-bit digital multiplexer	2.20	1.66	1.43
N8267F		4.89	3.91	3.26
S8267F		16.38	12.01	9.83
S8267W		15.23	12.13	10.34

Signetics Type	Description	Net Each, Lots of 1-24	25-99	100-999
N8268N	Gated full adder	$ 1.65	$ 1.25	$ 1.07
N8269N	4-bit comparator	2.97	2.24	1.93
N8269F		10.20	8.16	6.80
S8269F		38.28	28.07	22.97
S8269W		55.80	40.92	33.48
N8270N	4-bit shift register	1.43	1.08	.93
N8270F		5.13	4.10	3.42
S8270F		18.90	13.86	11.34
S8270W		35.49	26.03	21.29
N8271N	4-bit shift register	1.43	1.08	.93
N8271F		5.68	4.55	3.79
S8271F		21.00	15.40	12.60
S8271W		39.06	28.64	23.44
N8273N	10-bit serial-in, parallel-out shift register	3.30	2.49	2.15
N8273F		6.00	4.80	4.00
S8273F		31.80	23.32	19.08
S8273W		36.69	26.91	22.01
N8274N	10-bit serial-in, parallel-out shift register	3.30	2.49	2.15
N8274F		6.22	4.98	4.15
S8274F		36.69	26.91	22.01
S8274W		40.35	29.59	24.21
N8275N	Quad bistable latch	1.65	1.25	1.07
N8275F		3.99	3.19	2.66
S8275F		13.83	10.14	8.30
S8275W		30.36	22.26	18.22
N8276N	8-bit serial shift register	1.87	1.41	1.22
N8276F		8.10	6.48	5.40
N8277N	Dual 8-bit decade counter	2.86	2.16	1.86
N8277F		13.42	10.74	8.95
N8280N	Presettable decade counter	1.32	1.00	.86
N8280F		3.90	3.12	2.60
S8280F		17.64	12.94	10.58
S8280W		35.37	25.94	21.22
N8281N	Presettable binary counter	1.32	1.00	.86
N8281F		3.90	3.12	2.60
S8281F		17.64	12.94	10.58
S8281W		35.37	25.94	21.22
N8284N	Binary up/down counter	3.08	2.32	2.00
N8284F		5.05	4.04	3.37
S8284F		29.19	21.41	17.51
S8284Q		55.26	40.52	33.16
N8285N	Decade up/down counter	3.74	2.82	2.43
N8285F		5.05	4.04	3.37
S8285F		29.19	21.41	17.51
S8285Q		55.26	40.52	33.16
N8288N	Divide-by-twelve counter	1.98	1.49	1.29
N8288F		3.90	3.12	2.60
S8288F		17.64	12.94	10.58
S8288W		35.37	25.94	21.22
N8290N	Presettable high-speed decade counter	1.21	.91	.79
N8290F		5.28	4.22	3.52
S8290F		19.62	14.39	11.77
S8290W		38.88	28.51	23.33
N8291N	Presettable high-speed binary counter	1.21	.91	.79
N8291F		5.28	4.22	3.52
S8291F		19.62	14.39	11.77
S8291W		38.88	28.51	23.33
N8292N	Presettable low-power decade counter	2.42	1.83	1.57
N8292F		5.28	4.22	3.52
S8292F		19.62	14.39	11.77
S8292W		38.88	28.51	23.33
N8293N	Presettable low-power binary counter	2.42	1.83	1.57
N8293F		5.28	4.22	3.52
S8293F		19.62	14.39	11.77
S8293W		38.88	28.51	23.33
S9300F	4-bit shift register	2.47	2.28	1.85
S9300W		2.91	2.66	2.30
S9308F	Dual 4-bit latch with clear	5.70	5.20	4.45
S9308Q		5.70	5.20	4.45
S9309F	Dual 4-input multiplexer	1.84	1.70	1.35
S9309W		2.47	2.28	1.85
S9310F	4-bit decade counter	1.84	1.70	1.35
S9310W		2.47	2.28	1.85
S9316F	4-bit binary counter	1.84	1.70	1.35
S9316W		2.47	2.28	1.85
S9322F	Data selector/multiplexer	1.84	1.70	1.35
S9322W		2.47	2.28	1.85
S9602F	Dual monostable multivibrator	5.70	5.20	4.45
S9602W		5.70	5.20	4.45

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

signetics INTERFACE AND LINEAR INTEGRATED CIRCUITS

8T00 SERIES INTERFACE

The 8T00 Series provides a line of integrated circuits for applications such as line driving and receiving, level shifting and tri-state bus interfacing. Both gold-doped and Schottky technologies are used in manufacture.

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
N8T04N N8T04F S8T04F S8T04W	7-segment decoder/driver (active low)	$ 3.63 6.84 30.12 36.12	$ 2.97 5.47 22.09 26.49	$ 2.48 4.56 18.07 21.67
N8T05N N8T05F S8T05F S8T05W	7-segment decoder/driver (active high)	3.52 6.12 12.50 32.40	2.88 4.90 11.30 23.76	2.40 4.08 10.10 19.44
N8T06N N8T06F S8T06F S8T06W	7-segment decoder/driver	2.42 6.15 30.12 36.18	1.98 4.92 22.09 26.53	1.65 4.10 18.07 21.71
N8T09N N8T09F S8T09F S8T09W	Quad 3-state bus driver	1.14 2.82 12.10 23.70	.94 2.26 10.80 17.38	.78 1.88 9.90 14.22
N8T10N N8T10F S8T10F S8T10W	Quad D-type 3-state flip-flop	2.86 8.70 34.74 41.76	2.16 6.96 25.48 30.62	1.86 5.80 20.84 25.06
N8T13N N8T13F S8T13F S8T13W	Dual line driver	1.87 5.19 12.10 24.54	1.41 4.15 10.88 18.00	1.22 3.46 9.90 14.72
N8T14N N8T14F S8T14F S8T14W	Triple line receiver	1.87 6.52 20.40 40.02	1.41 5.22 14.96 29.35	1.22 4.35 12.24 24.01
N8T15N N8T15F	Dual EIA/MIL line driver	4.58 6.75	3.74 5.40	3.12 4.50
N8T16N N8T16F	Dual EIA/MIL line receiver	3.85 6.75	3.15 5.40	2.63 4.50
N8T18N S8T18F S8T18W	Dual 2-input NAND gate	3.85 16.50 39.60	3.15 12.10 29.04	2.63 9.90 23.76
N8T20N N8T20F	Bidirectional monostable multivibrator	4.07 9.90	3.33 7.92	2.78 7.13
N8T22N N8T22F	Retriggerable monostable multivibrator	.77 3.75	.58 3.00	.50 2.50
N8T23N N8T23F	Dual IBM 360/370 line driver	2.42 5.70	1.83 4.56	1.57 3.80
N8T24N N8T24F	Triple IBM 360/370 line receiver	2.42 7.15	1.83 5.72	1.57 4.77
N8T25N	Dual MOS sense amplifier	2.97	2.43	2.03
N8T26AN N8T26AF S8T26AF	Quad 3-state bus driver/ receiver	$ 2.75 6.25 11.49	$ 2.25 4.90 8.43	$ 1.88 4.00 6.89
N8T28N S8T28F	Quad 3-state bus driver/ receiver	2.75 11.49	2.25 8.43	1.88 6.89
N8T30N	Dual TTL/DTL to MOS transceiver	2.31	1.89	1.58
N8T31N N8T31F	8-bit bidirectional I/O port	3.95 5.75	3.40 5.25	3.00 4.35
N8T32N N8T32F	Programmable 8-bit I/O port (3-state)	4.65 6.45	4.00 5.55	3.50 4.85
N8T33N N8T33F	Programmable 8-bit I/O port (open collector)	4.65 6.45	4.00 5.55	3.50 4.85
N8T34N	Quad bus transceiver	2.31	1.74	1.50
N8T35N N8T35F	Asynchronous programmable 8-bit I/O port (open collector)	4.65 6.45	4.00 5.55	3.50 4.85
N8T36N N8T36F	Asynchronous programmable 8-bit I/O port (3-state)	4.65 6.45	4.00 5.55	3.50 4.85
N8T37N S8T37F S8T37W	Hex bus receiver with hysteresis	2.31 12.50 27.48	1.74 11.30 20.15	1.50 10.10 16.49
N8T38N	Quad bus transceiver	2.31	1.74	1.50
N8T80N S8T80F S8T80W	Quad 2-input NAND gate	1.87 12.10 39.60	1.53 10.80 29.04	1.28 9.90 23.76
N8T90N S8T90F S8T90W	Hex inverter	1.65 12.10 39.60	1.35 10.80 29.04	1.13 9.90 23.76
N8T93N	High speed hex inverter	1.86	1.53	1.28
N8T94N	High speed hex inverter	1.65	1.35	1.13
N8T95N N8T95F S8T95F	Hex buffer/inverter	1.65 3.75 3.50	1.35 3.00 3.20	1.13 2.47 2.80
N8T96N N8T96F S8T96F	Hex buffer/inverter	1.65 3.75 3.50	1.35 3.00 3.20	1.13 2.47 2.80
N8T97N N8T97F S8T97F	Hex buffer/inverter	1.65 3.75 3.50	1.35 3.00 3.20	1.13 2.47 2.80
N8T98N N8T98F S8T98F	Hex buffer/inverter	1.65 3.75 3.50	1.35 3.00 3.20	1.13 2.47 2.80
N8T363N	Dual zero crossing detector	3.54	2.90	2.42
N8T380N	Quad bus receiver	1.10	.83	.72

LINEAR INTEGRATED CIRCUITS

CONSUMER/COMMUNICATIONS CIRCUITS

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
NE540L SE540L	Power driver	$3.35 5.10	$2.72 4.10	$2.30 3.40
NE541PHA	Power driver, 80 V	4.00	3.60	3.20
NE542N	Low noise dual preamp	1.20	.95	.80
NE543K	Servo driver	2.80	2.55	2.35
NE544N	Servo amplifier	2.75	2.40	2.05
NE546N	AM radio	1.95	1.50	1.25
NE570N	Compander	7.66	7.13	6.33
NE571N	Compander	7.21	6.68	5.88
NE644N NE644W	Servo amplifier	2.85 3.50	2.50 2.95	2.15 2.60
μA758N	Stereo multiplex decoder	2.53	1.69	1.35
ULN2111N	FM detector/limiter	1.50	1.20	1.00
ULN2208N ULN2209N	FM gain block	1.93 2.02	1.54 1.62	1.29 1.35
TCA440N	AM receiver	2.70	2.30	1.90
CA3089N	FM IF system	2.38	1.52	1.22
PA239N	Dual low noise preamp	4.56	4.56	3.75
LM381N LM381AN	Dual low noise preamp	2.10 3.04	1.75 2.03	1.40 1.62
LM382N	Dual low noise preamp	1.75	1.40	1.15
LM387N	Dual low noise preamp	1.45	1.16	.95
MC1496N MC1496F MC1496K	Balanced modulator/ demodulator	1.15 1.23 1.27	.90 1.02 1.02	.75 .85 .85

OPERATIONAL AMPLIFIERS

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
NE531T NE531N SE531T	High slew rate op amp	$3.00 3.00 6.00	$2.40 2.40 4.80	$2.00 2.00 4.00
NE532T NE532N SE532T SE532N	Dual op amp	.99 .82 5.20 5.40	.85 .67 4.15 4.29	.65 .55 3.50 3.55
NE535T NE535N SE535T	High slew rate op amp	1.45 1.35 3.11	1.16 1.06 2.49	1.00 .90 2.12
NE536T	FET input op amp	3.37	2.70	2.28
NE538T NE538N SE538T	High slew rate op amp	3.00 2.40 9.60	2.40 2.00 7.70	2.00 1.70 6.50
MC1456N MC1456T MC1456F	High performance op amp	1.45 1.95 2.15	1.20 1.60 1.80	.95 1.30 1.42
MC1458N MC1458T MC1458F	Dual op amp	.67 .97 1.00	.56 .81 .85	.45 .65 .68
MC1556N MC1556T MC1556F	High performance op amp	1.50 1.80 1.90	1.25 1.40 1.60	1.00 1.20 1.25
MC1558N MC1558T MC1558F	Dual op amp	1.45 1.65 1.85	1.20 1.35 1.55	.95 1.10 1.25
μA709T μA709F μA709CN μA709CT μA709CF	Op amp	1.25 1.00 .51 .86 .87	1.05 .86 .42 .70 .72	.87 .67 .34 .55 .60

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LINEAR INTEGRATED CIRCUITS (CONT'D)

OPERATIONAL AMPLIFIERS (CONT.)

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
μA740CT	FET input op amp	$10.00	$9.00	$7.50
μA741T	General purpose op amp	1.25	1.03	.81
μA741F		1.45	1.20	.95
μA741CN		.47	.39	.31
μA741CT		.54	.45	.36
μA741CF		.91	.76	.61
μA747K	Dual op amp	2.05	1.69	1.35
μA747F		2.25	1.86	1.49
μA747CN		.70	.57	.45
μA747CK		.95	.80	.65
μA747CF		1.15	.95	.75
μA748T	General purpose op amp	1.25	1.05	.85
μA748F		1.45	1.20	.95
μA748CN		.51	.42	.34
μA748CT		.71	.59	.47
μA748CF		.92	.76	.61
LM101T	High performance op amp	2.25	1.80	1.50
LM101F		3.55	2.95	2.35
LM101AF		3.55	2.95	2.35
LM107T	General purpose op amp	2.85	2.40	1.90
LM107F		3.55	2.95	2.35
LM108T	Precision op amp	9.75	7.80	6.50
LM108F		10.95	8.80	7.30
LM108AT		19.25	16.00	12.80
LM108AF		20.25	16.90	13.50
LM124N	Quad op amp	2.85	2.40	1.90
LM124F		3.60	2.90	2.40
LM201N	High performance op amp	.75	.60	.50
LM201T		.90	.75	.60
LM201F		1.00	.80	.67
LM201AN		.90	.75	.60
LM201AT		1.30	1.05	.85
LM201AF		1.85	1.55	1.25
LM207N	General purpose op amp	.90	.75	.60
LM207T		1.15	.95	.75
LM207F		2.05	1.70	1.35
LM208T	Precision op amp	3.80	2.85	2.25
LM208F		4.05	3.40	2.70
LM208AT		12.00	10.00	8.10
LM224N	Quad op amp	1.80	1.50	1.20
LM224F		2.05	1.69	1.35
LM258N	Dual op amp	1.75	1.40	1.15
LM258T		2.50	2.00	1.65
LM301AN	High performance op amp	.47	.39	.31
LM301AT		.54	.45	.36
LM307N	General purpose op amp	.68	.54	.45
LM307T		.90	.75	.60
LM307F		1.10	.90	.75
LM308N	Precision op amp	.75	.60	.50
LM308T		1.35	1.08	.88
LM308F		1.90	1.50	1.25
LM308AN		4.05	3.40	2.70
LM308AT		5.10	4.25	3.40
LM308AF		5.65	4.75	3.80
LM324N	Quad op amp	.90	.75	.60
LM324F		1.35	1.15	.90
LM358N	Dual op amp	.73	.61	.49
LM358T		1.65	1.35	1.15

PERIPHERAL INTERFACE

Signetics Type	Description	1-24	25-99	100-999
NE501N	Video amplifier	$3.60	$2.65	$2.35
NE501K		6.15	4.95	4.15
SE501N		12.75	10.20	8.90
SE501K		14.00	11.20	9.35
NE592N	Video amplifier	1.35	1.15	.90
NE592F		1.80	1.50	1.20
NE592K		2.00	1.65	1.35
SE592F		6.20	4.95	4.35
SE592K		5.70	4.55	4.00
μA733K	Differential video amplifier	2.35	1.95	1.55
μA733F		2.65	2.20	1.75
μA733CN		.98	.80	.65
μA733CF		1.20	1.00	.80
μA733CK		1.35	1.15	.90
DS3611N	Dual hi-volt AND driver	1.19	.97	.85
DS3612N	Dual hi-volt NAND driver	1.19	.97	.85
DS3613N	Dual hi-volt OR driver	1.19	.97	.85
DS3614N	Dual hi-volt NOR driver	1.19	.97	.85
UDN5711N	Dual hi-volt AND driver	1.50	1.20	1.00
UDN5712N	Dual hi-volt NAND driver	1.50	1.20	1.00
UDN5713N	Dual hi-volt OR driver	1.50	1.20	1.00
UDN5714N	Dual hi-volt NOR driver	1.50	1.20	1.00
MC1488N	Quad line driver	1.20	1.00	.80
MC1488F		1.90	1.60	1.25
MC1489N		1.20	1.00	.80
MC1489AN		1.20	1.00	.80
MC1489AF		1.90	1.60	1.25
DM7820F	Dual line receiver	6.50	5.40	4.35
DM7820AF		7.15	5.95	4.75
DM7830F	Dual differential line receiver	6.50	5.40	4.35

PERIPHERAL INTERFACE (CONT.)

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
DM8820N	Dual line receiver	$1.15	$0 95	$0.75
DM8820F		1.60	1.30	1.05
DM8820AN		1.20	1.00	.80
DM8820AF		1.60	1.30	1.05
DM8830N	Dual differentia. line driver	1.15	.95	.75
DM8830F		1.60	1.30	1 05

DISPLAY INTERFACE

Signetics Type	Description	1-24	25-99	100-999
DM8880N	7-segment decoder driver	$1.50	$1.25	$1.00
NE584-8N	Gas disc. display driver	3.75	3.00	2.50
NE584-9N		4.13	3.30	2.75
NE585-6N	Gas disc. display driver	3.00	2.40	2.00
NE585-9N		3.75	3.00	2.50
NE582N	Hex LED digit driver/buffer	2.40	1.92	1.60
NE582F		2.70	2.16	1.80

MEMORY INTERFACE

Signetics Type	Description	1-24	25-99	100-999
N3207AF	MOS clock driver	$3.20	$2.70	$2.15
N3207A-1F		4.05	3.40	2.70
7520N	Dual core memory sense amplifier	1.35	1.15	.90
7520F		1.85	1.55	1.25
7522N	Dual core memory sense amplifier	1.35	1.15	.90
7522F		1.85	1.55	1.25
7524N	Dual core memory sense amplifier	1.35	1.15	.90
7524F		1.85	1.55	1.25
75S207N	Dual high speed sense amplifier	5.48	4.38	3.65
75S207F		5.78	4.62	3.85
75S208N	Dual high speed sense amplifier	5.48	4.38	3.65
75S208F		5.78	4.62	3.85
75324N	Dual sense amplifier	2.65	2.20	1.80
75324F		3.05	2.55	2.05
75325N	Dual sense amplifier	2.65	2.20	1.80
75325F		3.05	2.55	2.05

MOSFET DIGITAL SWITCHES

Signetics Type	Description	1-24	25-99	100-999
SD210DE	D-MOSFET switch	$2.25	$2.00	$1.65
SD211DE		2.25	2.00	1.65
SD212DE		1.20	1.05	.90
SD213DE		1.20	1.05	.90
SD214DE		1.50	1.30	1.10
SD215DE		1.50	1.30	1.10
SD5000N	D-MOSFET quad switch array	4.45	4.00	3.65
SD5001N		3.80	3.40	3.15
SD5002N		4.10	3.70	3.40
SD5100N	D-MOSFET quad multiplexer	3.80	3.40	3.15
SD5101N		3.20	2.90	2.70
SD5200N	D-MOSFET quad driver	4.25	3.85	3.50
SD5301N	D-MOSFET crosspoint switch	6.30	5.50	4.90
SD5350N	8-bit shift register control	5.20	4.25	3.70
DMP4025DB	D-MOSFET RF power amplifier	5.00	3.85	3.35
DMS4025DE		5.25	4.05	3.55

D/A/D CONVERTERS

Signetics Type	Description	1-24	25-99	100-999
MC1408-7N	8-bit D/A converter	$3.38	$2.70	$2.25
MC1408-7F		4.13	3.30	2 75
MC1408-8N		3.68	2.94	2.45
MC1408-8F		4.43	3.54	2.95
NE5007N	8-bit D/A converter	5.18	4.14	3.45
NE5007F		5.93	4.74	3.95
NE5008N	8-bit D/A converter	5.93	4.74	3.95
NE5008F		6.68	5.34	4.45
SE5008F		12.75	10.20	8.50

MOFSET RF

Signetics Type	Description	1-24	25-99	100-999
SD200DC	Single gate UHF	$7.00	$5.00	$4.25
SD201DC		7.00	5.00	4.25
SD202DC		8.00	7.00	6.00
SD203DC		8.00	7.00	6.00
SD300DC	Dual gate UHF	5.00	4.00	3.25
SD303DC		1.25	1.15	1.05
SD304DE	Dual gate VHF	1.50	1.35	1.20
SD305DE	Dual gate VHF mixer	.80	.75	.70
SD306DE	Dual gate VHF amplifier	.80	.75	.70
SD6000N	VHF mixer/amplifier	1.25	1.15	1.05

TIMERS

Signetics Type	Description	1-24	25-99	100-999
NE558N	Quad timer	$2.79	$2.23	$1.86
NE559N		2.79	2.23	1.86
NE555N	Timer	.51	.42	.34
NE555T		.81	.68	.54
NE555F		2.10	1.75	1.50
NE556N	Dual timer	.90	.75	.59
NE556F		1.30	1.05	.85

LISTING CONTINUED ON NEXT PAGE

signetics Linear Integrated Circuits

LINEAR INTEGRATED CIRCUITS (CONT'D)

PHASE LOCKED LOOPS

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
NE560N	Phase locked loop	$3.70	$3.00	$2.55
NE560F		4.90	4.05	3.25
SE560F		60.00	48.00	36.00
NE561N	Phase locked loop	3.70	3.00	2.55
NE561F		4.90	4.05	3.25
SE561F		60.00	48.00	36.00
NE562N	Phase locked loop	3.70	3.00	2.55
NE562F		4.90	4.05	3.25
SE562F		60.00	48.00	36.00
NE564N	Phase locked loop	5.50	4.75	4.25
NE565N	Phase locked loop	1.40	1.20	.95
NE565K		2.25	1.80	1.50
NE565F		2.94	2.45	1.96
SE565K		12.25	10.00	8.50
SE565F		12.25	10.00	8.50
NE566N	Function generator	1.72	1.45	1.15
NE566T		2.25	1.80	1.50
NE566F		2.64	2.20	1.76
SE566T		7.50	6.00	5.00
SE566F		11.00	9.00	7.50
NE567N	Tone decoder	1.83	1.52	1.22
NE567T		1.80	1.50	1.20
NE567F		2.73	2.27	1.82
SE567T		7.10	5.90	4.75
SE567F		8.65	7.20	5.75

HYBRIDS

Signetics Type	Description	1-24	25-99	100-999
LH2101AF	Dual op amp	$23.45	$18.75	$15.70
LH2108F	Dual precision op amp	37.50	30.00	25.00
LH2108AF		93.85	74.95	62.75
LH2111F	Dual comparator	39.10	31.25	26.15

TRANSISTOR ARRAYS

Signetics Type	Description	1-24	25-99	100-999
ULN2001N	Darlington transistor array	$1.75	$1.40	$1.15
ULM2002N		1.75	1.40	1.15
ULN2003N		1.75	1.40	1.15
ULM2004N		1.75	1.40	1.15
NE5501N	Darlington transistor array, high voltage	2.20	1.75	1.40
NE5502N		2.20	1.75	1.40
NE5503N		2.20	1.75	1.40
NE5504N		2.20	1.75	1.40

DIFFERENTIAL AMPLIFIERS

Signetics Type	Description	1-24	25-99	100-999
NE510N	Dual differential amplifier	$3.60	$2.85	$2.35
NE510F		4.25	3.40	3.00
SE510F		8.50	6.80	5.95
NE511N	Dual differential amplifier	3.25	2.60	2.25
NE511F		4.25	3.40	3.00
SE511N		8.50	6.80	5.95
SE511F		8.50	6.80	5.95
NE515N	Differential amplifier	4.15	3.30	2.90
NE515K		4.85	3.90	3.40
SE515N		11.90	9.50	8.30
SE515K		12.00	9.60	8.40

VOLTAGE REGULATORS

Signetics Type	Description	1-24	25-99	100-999
LM109DA	5 volt regulator	$16.80	$14.65	$12.95
LM209DA		3.00	2.50	2.00
LM209DB		2.85	2.35	1.90
LM309DA		2.05	1.70	1.35
LM309DB		1.85	1.55	1.25
NE550N	Precision regulator	1.30	1.10	.95
NE550L		1.50	1.20	1.00
NE550F		2.10	1.75	1.50
SE550L		3.00	2.40	2.00
SE550F		5.70	4.65	3.95
μA723L	Precision regulator	1.85	1.40	1.10
μA723F		1.82	1.55	1.25
μA723CN		.60	.50	.40
μA723CL		1.05	.85	.68
μA723CF		1.15	.93	.75
78LxxACS	3-terminal positive regulator Replace **xx** with voltage rating 02, 05, 06, 12, 15 volts	.43	.35	.28
78LxxCDB		1.00	.84	.68
78LxxCS		.36	.30	.24
78LxxACDB	3-terminal positive regulator Replace **xx** with voltage rating 05, 06, 08, 12, 15 volts	1.22	1.00	.81
78xxDA		8.25	6.80	5.45
78xxCU		1.20	1.00	.80
78xxCDA		2.25	1.88	1.50

VOLTAGE REGULATORS (CONT.)

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
78HVxxDA	High breakdown, 1 amp regulator Replace **xx** with voltage rating 05, 06, 08, 12, 15, 18, 24	$16.20	$13.00	$11.00
78HVxxCU		2.52	2.28	1.56
78HVxxCDA		3.30	2.73	2.26
79xxDA	3-terminal negative regulator Replace **xx** with voltage rating 05, 05.2, 06, 08, 12, 15, 18, 24	13.50	10.80	9.00
79xxCU		1.90	1.56	1.25
79xxCDA		3.45	2.75	2.20
78GCU1	1 A adj. positive regulator	1.90	1.75	1.35
78MGCU1	.5 A adj. positive regulator	1.80	1.50	1.15
79GCU1	1 A adj. negative regulator	1.90	1.75	1.35
79MGCU1	.5 A adj. negative regulator	1.80	1.50	1.15
LM340-xxDA	Positive regulator Replace **xx** with voltage rating 05, 06, 08, 12, 15, 18, 24	2.25	1.90	1.50
LM340-xxU		1.45	1.20	.95
NE5554N	Dual tracking regulator	1.60	1.25	1.00

COMPARATORS

Signetics Type	Description	1-24	25-99	100-999
NE521N	Dual high-speed differential comparators	$5.48	$4.38	$3.65
NE521F		5.78	4.62	3.85
NE522N	Dual high-speed differential comparator	5.48	4.38	3.65
NE522F		5.78	4.62	3.85
NE526N	Voltage comparator	6.25	5.00	4.40
NE526K		7.80	6.25	5.45
NE526F		11.26	9.00	7.90
SE526K		19.50	15.60	13.55
SE526F		21.40	17.00	14.90
NE527N	High-speed comparator	3.00	2.40	2.10
NE527K		3.00	2.40	2.10
SE527K		6.00	4.80	4.00
SE527F		6.90	5.52	4.83
NE529N	High-speed comparator	3.00	2.40	2.10
NE529K		3.00	2.40	2.10
SE529K		6.00	4.80	4.00
μA710T	Differential voltage comparator	1.35	1.15	.90
μA710F		1.65	1.40	1.10
μA710CN		.50	.42	.33
μA710CT		.66	.55	.44
μA710CF		.90	.75	.60
μA711K	Dual voltage comparator	1.35	1.15	.90
μA711F		1.60	1.40	1.10
μA711CN		.50	.42	.33
μA711CK		.66	.55	.44
LM111T	Voltage comparator	4.60	3.85	3.05
LM111F		5.00	4.20	3.35
LM119K	Dual comparator	11.10	9.20	7.35
LM119F		12.00	10.50	8.00
LM139N	Quad comparator	2.80	2.35	1.85
LM139F		3.00	2.40	2.00
LM139AF		21.75	17.40	14.50
LM193T	Dual comparator	5.10	4.25	3.40
LM211T	Voltage comparator	2.25	1.90	1.50
LM211F		2.85	2.35	1.90
LM219K	Dual comparator	5.10	4.75	3.80
LM219F		6.00	5.00	4.00
LM239N	Quad comparator	1.70	1.40	1.15
LM239F		2.40	2.00	1.60
LM239AF		9.00	7.50	6.00
LM293N	Dual comparator	2.40	1.90	1.60
LM293T		4.10	3.30	2.75
LM311N	Voltage comparator	.85	.68	.55
LM311T		1.35	1.10	.90
LM311F		1.80	1.45	1.20
LM319N	High-speed dual comparator	3.05	2.55	2.05
LM319K		3.65	3.05	2.45
LM339N	Quad comparator	1.15	.90	.75
LM339F		1.95	1.65	1.30
LM339AN		1.95	1.65	1.30
LM339AF		3.00	2.50	2.00
LM393N	Dual comparator	1.35	1.10	.90
LM393T		1.65	1.30	1.10
MC3302N	Quad comparator	.85	.69	.55

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

signetics Bipolar Memories

BIPOLAR MEMORIES

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
10155F	8 x 2-bit CAM, OC	$21.20	$18.93	$16.50
N82S12F	8 x 4-bit SAM, OC	24.00	19.40	15.50
N82S12N		22.65	18.20	14.50
B82S112N	8 x 4-bit SAM, 3-state	22.65	18.20	14.50
N82S25F	16 x 4-bit RAM, OC	5.02	3.96	2.89
N82S25N		3.43	2.64	1.96
S82S25F		5.70	5.20	4.45
N3101AF	16 x 4-bit RAM, OC	5.02	3.96	2.89
N3101AN		3.43	2.64	1.96
N74S89F	16 x 4-bit RAM, OC	5.02	3.96	2.89
N74S89N		3.43	2.64	1.96
N74S189F	16 x 4-bit RAM, 3-state	5.02	3.96	2.89
N74S189N		3.43	2.64	1.96
N82S21F	32 x 2-bit RAM, OC	9.35	8.15	7.05
N82S21N		8.00	6.95	6.05
N82S16F	256 x 1-bit RAM, 3-state	6.00	5.00	4.00
N82S16N		5.00	4.20	3.10
S82S16F		7.53	6.88	5.95
N82S116F	256 x 1-bit RAM, 3-state	12.60	11.25	9.81
N82S116N		11.20	10.00	8.72
N82S17F	256 x 1-bit RAM, OC	6.00	5.00	4.00
N82S17N		5.00	4.20	3.10
S82S17F		7.53	6.88	5.95
N82S117F	256 x 1-bit RAM, OC	12.60	11.25	9.81
N82S117N		11.20	10.00	8.72
N74S200F	256 x 1-bit RAM, 3-state	6.00	5.00	4.00
N74S200N		5.00	4.20	3.10
S54S200F		7.53	6.88	5.95
N74S201F	256 x 1-bit RAM, 3-state	6.00	5.00	4.00
N74S201N		5.00	4.20	3.10
S54S201F		7.53	6.88	5.95
N74S301F	256 x 1-bit RAM, OC	6.00	5.00	4.00
N74S301N		5.00	4.20	3.10
S54S301F		7.53	6.88	5.95
N82S09I	64 x 9-bit RAM, OC	29.50	24.90	19.90
N82S09N		22.00	17.50	15.50
S82S09I		60.75	51.75	45.00
N82S10F	1024 x 1-bit RAM, OC	19.90	15.50	11.25
N82S10N		17.60	14.20	9.75
S82S10F		43.05	34.15	31.50
N82S110F	1024 x 1-bit RAM, OC	21.70	17.40	13.05
N82S110N		19.60	16.25	11.70
N82S11F	1024 x 1-bit RAM, 3-state	19.90	15.50	11.25
N82S11N		17.60	14.20	9.75
S82S11F		43.05	34.15	31.50
N82S111F	1024 x 1-bit RAM, 3-state	21.70	17.40	13.05
N82S111N		19.60	16.25	11.70
N93415AF	1024 x 1-bit RAM, OC	21.70	17.40	13.05
N93415AN		19.60	16.25	11.70
N93425AF	1024 x 1-bit RAM, 3-state	21.70	17.40	13.05
N93425AN		19.60	16.25	11.70
N82S226F	1024 x 1-bit ROM, OC	......	......	6.50
N82S226N		......	......	5.40
N82S229F	256 x 4-bit ROM, 3-state	......	......	6.50
N82S229N		......	......	5.40

Signetics Type	Description	Net Each, Lots of		
		1-24	25-99	100-999
N82S214F	256 x 8-bit ROM, 3-state	......	......	$18.00
N82S230F	512 x 4-bit ROM, OC	......	......	10.00
N82S231F	512 x 4-bit ROM, 3-state	......	......	10.00
N82S215F	512 x 8-bit ROM, 3-state	......	......	19.32
N8228I	1024 x 4-bit ROM	......	......	18.00
N82S280I	1024 x 8-bit ROM	......	......	22.50
N82S281I	1024 x 8-bit ROM, 3-state	......	......	22.50
N82S23F	32 x 8-bit PROM, OC	$ 3.48	$ 2.65	2.01
N82S23N		2.75	2.11	1.57
S82S23F		4.03	3.68	3.15
N82S123F	32 x 8-bit PROM, 3-state	3.48	2.65	2.01
N82S123N		2.75	2.11	1.57
S82S123F		4.03	3.68	3.15
10139F	32 x 8-bit PROM, OE	33.70	24.60	18.85
N82S27F	256 x 4-bit PROM, OC	25.35	23.70	20.70
N82S126F	256 x 4-bit PROM, OC	4.94	3.63	2.83
N82S126N		3.63	3.16	2.24
S82S126F		5.70	5.20	4.45
N82S129F	256 x 4-bit PROM, 3-state	4.94	3.63	2.83
N82S129N		3.63	3.16	2.24
S82S129F		5.70	5.20	4.45
10149I	256 x 4-bit PROM, OE	38.20	27.90	21.30
N82S114F	256 x 8-bit PROM, 3-state	21.60	17.05	12.22
N82S114N		19.50	15.50	11.80
S82S114I		54.00	47.25	44.55
N82S130F	512 x 4-bit PROM, OC	8.25	7.29	5.30
N82S130N		7.50	6.67	5.14
S82S130F		12.50	11.30	10.10
N82S131F	512 x 4-bit PROM, 3-state	8.25	7.29	5.30
N82S131N		7.50	6.67	5.14
S82S131F		12.50	11.30	10.10
N82S115I	512 x 8-bit PROM, 3-state	40.00	35.00	33.00
N82S115F		23.38	18.90	13.10
N82S115N		21.60	17.05	12.22
S82N115I		48.90	45.65	39.95
N82S140F	512 x 8-bit PROM, OC	19.61	14.38	11.30
N82S140N		18.42	13.20	10.31
S82S140I		36.60	34.17	29.90
N82S141F	512 x 8-bit PROM, 3-state	19.61	14.38	11.30
N82S141N		18.42	13.20	10.31
S82S141I		36.60	34.17	29.90
N82S136F	1024 x 4-bit PROM, OC	16.03	11.78	8.90
S82S136I		35.40	33.00	28.90
N82S137F	1024 x 4-bit PROM, 3-state	16.03	11.78	8.90
S82S137I		35.40	33.00	28.90
N82S180F	1024 x 8-bit PROM, OC	36.00	31.50	25.70
S82S180I		65.00	60.00	53.00
N82S181F	1024 x 8-bit PROM, 3-state	36.00	31.50	25.70
S82S181I		65.00	60.00	53.00
N82S2708F	1024 x 8-bit PROM, 3-state	38.50	33.60	26.90
N82S184I	2048 x 4-bit PROM, OC	32.80	30.85	24.25
N82S184F		32.80	30.85	24.25
S82S184I		61.00	57.00	49.50
N82S185I	2048 x 4-bit PROM, 3-state	32.80	30.85	24.25
N82S185F		32.80	30.85	24.25
S82S185I		61.00	57.00	49.50
N82S100I	16 x 8 x 48 FPLA, 3-state	25.00	22.00	19.00
N82S100N		22.00	19.00	16.00
S82S100I		60.00	55.00	48.00
N82S101I	16 x 8 x 48 FPLA	25.00	22.00	19.00
N82S101N		22.00	19.00	16.00
S82S101I		60.00	55.00	48.00

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

signetics MICROPROCESSOR AND MEMORY PRODUCTS

BIPOLAR AND LSI

BIT SLICE MICROPROCESSORS

PROCESSORS

Signetics Type	Description	Net Each, Lots of 1-24	25-99	100-999
N8X02I	Control store sequencer	$32.50	$30.15	$28.15
N8X02N		22.45	20.85	19.45
N3001I	Microprogram control unit	28.00	24.50	22.50
N3002I	Central processing element	19.95	14.60	11.70
N3002N		13.40	9.75	7.65

DEVELOPMENT HARDWARE

Signetics Type	Description	Net Each, Lots of 1-24	25-99	100-999
3000KT1000SK	Designer's evaluation kit	100.00	100.00	100.00
3000KT8080SK	8080 Emulator kit	299.00	299.00	299.00

MEMORIES

Signetics Type	Description	Net Each, Lots of 1-24	25-99	100-999
N82S215F	512 x 8 ROM	......	......	$19.32
N82S214F	256 x 8 ROM	......	......	18.00
N82S226F	1024 x 1 ROM	......	......	6.50
N82S226N		......	......	5.40
N82S229F	256 x 4 ROM	......	......	6.50
N82S229N		......	......	5.40
N82S115I	512 x 8 PROM	$40.00	$35.00	33.00
N82S115F		23.38	18.90	13.10
N82S115N		21.60	17.05	12.22
S82S115I		48.90	45.65	39.95
N82S114F	256 x 8 PROM	21.60	17.05	12.22
N82S114N		19.50	15.50	11.80
S82S114I		54.00	47.25	44.55
N82S126F	256 x 4 PROM	4.94	3.63	2.83
N82S126N		3.63	3.16	2.24
S82S126F		5.70	5.20	4.45
N82S129F	256 x 4 PROM	4.94	3.63	2.83
N82S129N		3.63	3.16	2.24
S82S129F		5.70	5.20	4.45
N82S09I	64 x 9 RAM	29.50	24.90	19.90
N82S09N		22.00	17.50	15.50
S82S09I		60.75	51.75	45.00
N82S10F	1024 x 1 RAM	19.90	15.50	11.25
N82S10N		17.60	14.20	9.75
S82S10F		43.05	34.15	31.50
N82S25F	16 x 4 RAM	5.02	3.96	2.89
N82S25N		3.43	2.64	1.96
S82S25F		5.70	5.20	4.45
N82S16F	256 x 1 RAM	6.00	5.00	4.00
N82S16N		5.00	4.20	3.10
S82S16F		7.53	6.88	5.95

FIELD PROGRAMMABLE LOGIC ARRAY

Signetics Type	Description	Net Each, Lots of 1-24	25-99	100-999
N82S100I	16 x 8 x 48 FPLA	$25.00	$22.00	$19.00
N82S100N		22.00	19.00	16.00
S82S100I		60.00	55.00	48.00
N82S101I		25.00	22.00	19.00
N82S101N		22.00	19.00	16.00
S82S101I		60.00	55.00	48.00

I/O SUPPORT CIRCUITS

Signetics Type	Description	Net Each, Lots of 1-24	25-99	100-999
N8T26AF	Quad line transceiver, 3-state	$ 6.25	$ 4.90	$ 4.00
N8T26AN		2.75	2.25	1.88
S8T26F		11.49	8.43	6.89
N8T28N	Quad line transceiver, 3-state	2.75	2.25	1.88
S8T28F		11.49	8.43	6.89
N8T31F	8-bit bidirectional I/O port	5.75	5.25	4.35
N8T31N		3.95	3.40	3.00
N8T95F	Hex buffers, 3-state	3.75	3.00	2.47
N8T95N		1.64	1.35	1.13
S8T95F		3.50	3.20	2.80
N8T96F	Hex buffers, 3-state	3.75	3.00	2.47
N8T96N		1.65	1.35	1.13
S8T96F		3.50	3.20	2.80
N8T97F	Hex buffers, 3-state	3.75	3.00	2.47
N8T97N		1.65	1.35	1.13
S8T97F		3.50	3.20	2.80
N8T98F	Hex buffers, 3-state	3.75	3.00	2.47
N8T98N		1.65	1.35	1.13
S8T98F		3.50	3.20	2.80
N74S182F	Look-ahead-carry block	5.55	4.55	3.85
N74S182N		2.31	1.89	1.58

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

FIXED INSTRUCTION MICROPROCESSORS

PROCESSORS

Signetics Type	Description	Net Each, Lots of 1-24	25-99	100-999
N8X300I	8-bit fixed instruction	$65.00	$55.70	$48.75

MEMORIES

Signetics Type	Description	Net Each, Lots of 1-24	25-99	100-999
N82S215F	512 x 8 ROM	......	......	$19.32
N82S214F	256 x 8 ROM	......	......	18.00
N82S226F	1024 x 1 ROM	......	......	6.50
N82S226N		......	......	5.40
N82S229F	256 x 4 ROM	......	......	6.50
N82S229N		......	......	5.40
N82S115I	512 x 8 PROM	$40.00	$35.00	33.00
N82S115F		23.38	18.90	13.10
N82S115N		21.60	17.05	12.22
S82S115I		48.90	45.65	39.95
N82S114F	256 x 8 PROM	21.60	17.05	12.22
N82S114N		19.50	15.50	11.80
S82S114I		54.00	47.25	44.55
N82S126F	256 x 4 PROM	4.94	3.63	2.83
N82S126N		3.63	3.16	2.24
S82S126F		5.70	5.20	4.45
N82S129F	256 x 4 PROM	4.94	3.63	2.83
N82S129N		3.63	3.16	2.24
S82S129F		5.70	5.20	4.45
N82S09I	64 x 9 RAM	29.50	24.90	19.90
N82S09N		22.00	17.50	15.50
S82S09I		60.75	51.75	45.00
N82S10F	1024 x 1 RAM	19.90	15.50	11.25
N82S10N		17.60	14.20	9.75
S82S10F		43.05	34.15	31.50
N82S25F	16 x 4 RAM	5.02	3.96	2.89
N82S25N		3.43	2.64	1.96
S82S25F		5.70	5.20	4.45
N82S16F	256 x 1 RAM	6.00	5.00	4.00
N82S16N		5.00	4.20	3.10
S82S16F		7.53	6.88	5.95
N82S116F	256 x 1 RAM	12.60	11.25	9.81
N82S116N		11.20	10.00	8.72
N82S117F	256 x 1 RAM	12.60	11.25	9.81
N82S117N		11.20	10.00	8.72

I/O CIRCUITS

Signetics Type	Description	Net Each, Lots of 1-24	25-99	100-999
N8T32F	Interface vector byte	$6.45	$5.55	$4.85
N8T32N		4.65	4.00	3.50
N8T33F		6.45	5.55	4.85
N8T33N		4.65	4.00	3.50
N8T35F		6.45	5.55	4.85
N8T35N		4.65	4.00	3.50
N8T36F		6.45	5.55	4.85
N8T36N		4.65	4.00	3.50

DEVELOPMENT SOFTWARE

Signetics Type	Description	Net Each, Lots of 1-24	25-99	100-999
8X300AS100SS	Cross assembler	775.00	775.00	775.00
8X300KT100SK	8X30 evaluation kit	299.00	299.00	299.00

DEVICES

Signetics Type	Description	Net Each, Lots of 1-24	25-99	100-999
2650	8-bit N-channel microprocessor	$26.50	$23.75	$21.50

DEVELOPMENT HARDWARE

Signetics Type	Description	Net Each
2650KT9000SK	Prototyping kit	$ 95.00
2650KT9500SK	Prototyping kit	190.00
2650PC1001SC	Prototyping card	495.00
2650PC1500SC	Prototyping card	275.00
2650PC2000SC	4K byte memory card	395.00
2650PC3000SC	Demonstration module	149.00
2650DS2000SD	Demo. board and power supply	775.00

DEVELOPMENT SOFTWARE

Signetics Type	Description	Net Each
2650AS1000	Cross assembler for 32-bit computer	$ 1250.00
2650AS1100	Cross assembler for 16-bit computer	1250.00
2650SM1000	Cross simulator for 32-bit computer	750.00
2650SM1100	Cross simulator for 16-bit computer	750.00
2650PL1000	Cross assembler for 32-bit computer	1250.00
TW09110050JA	Super Twin disk based prototyping system for 50 Hz operation	13,900.00
TW9110060JA	Same as above, except 60 Hz operation	13,900.00
TW0910050JA	Basic Twin disk based prototyping system for 50 Hz operation	9,625.00
TW9100060JA	Same as above, except 60 Hz operation	9,625.00
TW09001001JJ	Formatted blank diskettes, box of 10	120.00
TW90012041JE	Standard 4K RAM memory card	400.00
TW90012071JE	1702 PROM programmer card	295.00
TW90012081JE	82S115 PROM programmer card	295.00
TW90012011JE	General purpose I/O card	310.00
TW90019021JE	Maintenance panel	770.00
TW09210050JH	Line printer w/cable for 50 Hz	2,530.00
TW09210060JH	Same, except 60 Hz operation	2,530.00
TW09201050JI	CRT terminal w/cables for 50 Hz	1,990.00
TW09201060JI	Same, except 60 Hz operation	1,990.00

Siliconix incorporated

Junction and MOS Fets

GENERAL PURPOSE JFET'S AND AMPLIFIERS

Siliconix Type	Case TO-	Max. I_{GSS} nA	Min. BV_{GSS} V	Max. I_{DSS} mA	Min. g_{fs} µmho	Max. C_{iss} pF	Net Each, Lots of	
							1-99	100-999
2N2608*	18	10	30	4.5	1000	17	$2.06	$1.44
2N2609*	18	30	30	10	2500	30	2.24	1.56
2N2843*	18	10	30	1	540	17	1.34	.94
2N2844*	18	30	30	2.2	1400	30	2.77	1.94
2N3329*	72	10	20	3	1000	20	2.24	1.56
2N3330*	72	10	20	6	1500	20	2.06	1.44
2N3331*	72	10	20	15	2000	20	2.51	1.75
2N3332*	72	10	20	6	1000	20	1.97	1.38
2N3368	18	5	40	12	1000	20	.98	.69
2N3369	18	5	40	2.5	600	20	1.16	.81
2N3370	18	5	40	.6	300	20	1.34	.94
2N3382*	72	15	30	30	4500	......	3.95	2.77
2N3384*	72	15	30	30	7500	......	7.06	4.96
2N3386*	72	15	30	50	7500	......	3.95	2.77
2N3436	18	.5	50	15	2500	18	1.51	1.06
2N3437	18	.5	50	4	1500	18	1.34	.94
2N3438	18	.5	50	1	800	18	1.85	1.30
2N3458	18	.25	50	15	2500	18	1.43	1.00
2N3459	18	.25	50	4	1500	18	1.43	1.00
2N3460	18	.25	50	1	800	18	1.76	1.24
2N3684	72	.1	50	7.5	2000	4	1.61	1.13
2N3685	72	.1	50	3	1500	4	1.61	1.13
2N3686	72	.1	50	1.2	1000	4	1.97	1.38
2N3687	72	.1	50	.5	500	4	2.18	1.53
2N3819	92	2	25	20	2000	8	**	**
2N3821	72	.1	50	2.5	1500	6	2.06	1.44
2N3822	72	.1	50	10	3000	6	1.79	1.25
2N3823	72	.5	30	20	3500	6	1.43	1.00
2N3909*	72	10	20	15	1000	32	1.16	.81
2N4117	72	.01	40	.1	70	3	2.44	1.71
2N4117A	72	.001	40	.1	70	3	2.69	1.89
2N4118	72	.01	40	.24	80	3	1.97	1.38
2N4118A	72	.001	40	.24	90	3	3.22	2.25
2N4119	72	.01	40	.6	100	3	1.70	1.19
2N4119A	72	.001	40	.6	100	3	3.04	2.13
2N4220	72	.1	30	3	1000	6	1.25	.88
2N4220A	72	.1	30	3	1000	6	1.52	1.06
2N4221	72	.1	30	6	2000	6	1.25	.88
2N4221A	72	.1	30	6	2000	6	1.52	1.06
2N4222	72	.1	30	15	2500	6	1.16	.81
2N4222A	72	.1	30	15	2500	6	1.43	1.00
2N4223	72	.25	30	18	3000	6	1.07	.75
2N4224	72	.5	30	20	2000	6	1.07	.75
2N4302	106	1	30	5	1000	6	.56	.39
2N4303	106	1	30	10	2000	6	.58	.41
2N4304	106	1	30	15	1000	6	.48	.34
2N4338	18	.1	50	.6	600	7	1.52	1.06
2N4339	19	.1	50	1.5	800	7	1.34	.94
2N4340	18	.1	50	3.6	1300	7	1.34	.94
2N4341	18	.1	50	9	2000	7	1.70	1.19
2N4416	72	.1	30	15	4500	4	1.43	1.00
2N4416A	72	.1	35	15	4500	4	1.70	1.19
2N4867	72	.25	40	1.2	700	25	4.83	3.38
2N4867A	72	.25	40	1.2	700	25	10.16	7.14
2N4868	72	.25	40	3	1000	25	4.56	3.19
2N4868A	72	.25	40	3	1000	25	9.49	6.67
2N4869	72	.25	40	7.5	1300	25	3.49	2.44
2N4869A	72	.25	40	7.5	1300	25	9.16	6.43
2N5078	72	.25	30	25	4500	6	2.86	2.00
2N5163	106	10	25	40	2000	20	.42	.29
2N5457	92	1	25	5	1000	7	.50	.35
2N5458	92	1	25	9	1500	7	.44	.31
2N5459	92	1	25	16	2000	7	.50	.35
2N5484	92	1	25	5	3000	5	.50	.35
2N5485	92	1	25	10	3500	5	.52	.37
2N5486	92	1	25	20	4000	5	.52	.37
2N5556	72	.1	30	2.5	1500	6	1.97	1.38
2N5557	72	.1	30	5	1500	6	1.88	1.31
2N5558	72	.1	30	10	1500	6	1.70	1.19
2N5668	92	2	25	5	1500	7	.56	.39
2N5669	92	2	25	10	2000	7	.52	.37
2N5670	92	2	25	20	3000	7	.56	.39
BF244A	92	5	30	6.5	3000	4	**	**
BF244B	92	5	30	15	3000	4	**	**
BF244C	92	5	30	25	3000	4	**	**
BF246	92	5	25	300	......	12	**	**
BF246A	92	5	25	80	......	12	**	**
BF246B	92	5	25	140	......	12	**	**
BF246C	92	5	25	250	......	12	**	**
BF247	92	5	25	300	......	12	**	**
BF247A	92	5	25	80	......	12	**	**
BF247B	92	5	25	140	......	12	**	**
BF247C	92	5	25	250	......	12	**	**
BF256LA	92	5	30	7	4500	4.5	**	**
BF256LB	92	5	30	13	4500	4.5	**	**
BF256LC	92	5	30	18	4500	4.5	**	**
E201	106	.1	40	1	500	......	.54	.38
E202	106	.1	40	4.5	1000	......	.48	.34
E203	106	.1	40	20	1500	......	.52	.37
E204	106	.1	25	......	......	......	.46	.32
E210	106	.1	25	15	4000	......	.56	.39
E211	106	.1	25	20	7000	......	.56	.39
E212	106	.1	25	40	7000	......	.56	.39
E230	106	.25	40	3	1000	......	.56	.39
E231	106	.25	40	6	1500	......	.52	.37
E232	106	.25	40	10	2500	......	.60	.42
E270*	106	.2	30	15	6000	......	.87	.61
E271*	106	.2	30	50	8000	......	.87	.61
E300	106	.5	25	30	4500	5.5	.46	.32
E304	106	.1	30	15	4500	......	.46	.32
E305	106	.1	30	8	3000	......	.44	.31
J270*	92	.2	30	15	6000	......	.87	.61
J271*	92	.2	30	50	8000	......	.87	.61

GENERAL PURPOSE JFET'S AND AMPLIFIERS (Con'td)

Siliconix Type	Case TO-	Max. I_{GSS} nA	Min. BV_{GSS} V	Max. I_{DSS} mA	Min. g_{fs} µmho	Max. C_{iss} pF	Net Each, Lots of	
							1-99	100-999
J308	92	1	25	60	8000	......	$0.67	$0.47
J309	92	1	25	30	10000	7.5	.79	.55
J310	92	1	25	60	8000	7.5	.79	.55
KE4416	106	1	30	15	4500	4	.73	.51
MPF102	92	2	25	20	2000	7	.44	.31
MPF108	92	1	25	24	2000	6.5	.85	.60
MPF109	92	1	25	24	800	7	.64	.45
MPF111	92	100	20	20	500	......	.33	.23
MPF112	92	100	25	25	1000	......	.33	.23
U308	52	.15	25	60	10000	7.5	2.15	1.50
U309	52	.15	25	30	10000	7.5	2.33	1.63
U310	52	.15	25	60	10000	7.5	2.33	1.63
U311	72	.15	25	60	10000	7.5	4.65	3.25
U312	52	.1	25	30	6000	5	3.49	2.44
U320	39	3	25	500	75000	30	11.01	7.69
U321	39	3	25	250	75000	30	11.55	8.06
U322	39	3	25	700	75000	30	11.01	7.69
U1837E	106	.25	30	25	4500	6	.56	.39
U1994E	106	.1	30	15	4500	4	.71	.50
W245A	106	5	30	6.5	3000	......	**	**
W245B	106	5	30	15	3000	......	**	**
W245C	106	5	30	25	3000	......	**	**
W300	106	.5	25	45	4500	5.5	**	**
W300A	106	.5	25	9	4500	5.5	**	**
W300B	106	.5	25	15	4500	5.5	**	**
W300C	106	.5	25	25	4500	5.5	**	**
W300D	106	.5	25	45	4500	5.5	**	**

*P-channel; all others N-channel. **Prices on request.

HIGH RELIABILITY JFET's

Siliconix Type	Case TO-	Max. I_{GSS} nA	Min. BV_{GSS} V	Max. I_{DSS} mA	Min. g_{fs} µmhos	Max. C_{iss} pF	Net Each, Lots of	
							1-99	100-999
JAN2N2608	18	10	30	4.5	1000	17	$3.13	$2.19
JAN2N2609	18	30	30	10	2500	30	2.95	2.06
JAN2N4856	18	.25	40	......	......	18	3.67	2.56
JANTX2N4856	18	.25	40	......	......	18	4.65	3.25
JANTXV2N4856	18	.25	40	......	......	18	**	**
JAN2N4857	18	.25	40	100	......	18	3.13	2.19
JANTX2N4857	18	.25	40	100	......	18	4.30	3.00
JANTXV2N4857	18	.25	40	100	......	18	**	**
JAN2N4858	18	.25	40	80	......	18	2.60	1.81
JANTX2N4858	18	.25	40	80	......	18	3.85	2.69
JANTXV2N4858	18	.25	40	80	......	18	**	**
JAN2N4859	18	.25	30	......	......	18	2.95	2.06
JANTX2N4859	18	.25	30	......	......	18	4.12	2.98
JANTXV2N4859	18	.25	30	......	......	18	**	**
JAN2N4860	18	.25	30	100	......	18	2.77	1.94
JANTX2N4860	18	.25	30	100	......	18	3.76	2.63
JANTXV2N4860	18	.25	30	100	......	18	**	**
JAN2N4861	18	.25	30	80	......	18	2.60	1.81
JANTX2N4861	18	.25	30	80	......	18	3.67	2.56
JANTXV2N4861	18	.25	30	80	......	18	**	**

**Prices on request.

MOSFET's

Siliconix Type	Case TO-	*	Max. $V_{GS.(th)}$ V	Max. $I_{D(on)}$ mA	Min. BV_{DSS} V	Max. C_{iss} pF	Net Each, Lots of	
							1-99	100-999
2N3631	18	D	6#	10	20	7.5	$3.04	$2.13
3N163	72	E	5	30	40	2.5	1.07	.75
3N164	72	E	5	30	30	2.5	.90	.63
3N187†	72	D	4	30	20	......	2.60	1.91
3N201†‡	72	D	5#	30	25	......	1.52	1.06
3N202†‡	72	D	5#	30	25	......	1.43	1.00
3N203†‡	72	D	5#	15	25	......	1.43	1.00
BF900†	OD-84	D	5#	30	20	......	1.06	.74
M100	18	D	5#	4.5	20	7.5	1.61	1.13
M101	....	D	8#	12	20	7.5	2.95	2.06
M103‡	72	E	5.5	......	30	......	2.79	1.75
M104‡	72	E	6	......	30	......	2.79	1.75
M106‡§	99	E	6	......	30	......	5.73	4.00
M107‡§	99	E	6	......	30	......	5.73	4.00
M108§	99	E	8	......	30	......	6.44	4.50
M113‡	72	E	3	......	30	......	2.72	1.90
M114‡	72	E	4.5	35	40	......	2.72	1.90
M116‡	72	E	5	......	30	10	1.97	1.38
M117	72	E	5	......	30	8	2.06	1.44
MEM511‡	72	E	6	......	30	......	2.18	1.53
MEM511C‡	72	E	6	......	25	......	1.85	1.30
MFE823	18	E	6	......	25	6	.96	.67

*Operating mode: **D**, depletion; E, enhancement. †Dual gate. #$V_{GS(off)}$. ‡Zener protected. §Dual.

POWER PERIPHERAL DRIVERS

Siliconix Type	Case TO-	Output		Diss. W	Net Each, Lots of		
		V	A		1-29	30-99	100-999
S55V01	3	60	2.0	25	$6.66	$5.58	$4.79
S55V11	3	35	2.0	25	9.34	7.83	6.72
S55V12	3	90	2.0	25	7.40	6.20	5.32
S55V02	39	60	2.0	6.25	4.63	3.88	3.33
S55V21	39	35	2.0	6.25	6.48	5.43	4.66
S55V22	39	90	2.0	6.25	5.09	4.26	3.66

Siliconix incorporated Junction Fets

N-CHANNEL DUAL FET's

Siliconix Type	Case TO-	Max. I_{GSS} nA	Min. BV_{GSS} V	Max. I_{DSS} mA	Min. g_{fs} µmho	Max. C_{iss} pF	Net Each, Lots of	
							1-99	100-999
2N3921	71	1	50	10	1500	18	$9.76	$6.81
2N3922	71	1	50	10	1500	18	6.62	4.63
2N3954	71	.1	50	5	1000	4	5.28	3.69
2N3954A	71	.1	50	5	1000	4	6.09	4.25
2N3955	71	.1	50	5	1000	4	3.85	2.69
2N3955A	71	.1	50	5	1000	4	4.48	3.13
2N3956	71	.1	50	5	1000	4	3.49	2.44
2N3957	71	.1	50	5	1000	4	2.60	1.91
2N3958	71	.1	50	5	1000	4	1.97	1.38
2N4084	71	1	50	10	1500	18	6.00	4.19
2N4085	71	1	50	10	1500	18	5.28	3.69
2N5045	71	.25	50	8	1500	8	7.16	5.00
2N5046	71	.25	50	8	1500	8	6.35	4.44
2N5047	71	.25	50	8	1500	8	5.19	3.63
2N5196	71	.025	50	7	1000	6	9.22	6.44
2N5197	71	.025	50	7	1000	6	6.53	4.56
2N5198	71	.025	50	7	1000	6	5.55	3.88
2N5199	71	.025	50	7	1000	6	4.12	2.88
2N5452	71	.1	50	5	1000	4	9.22	6.44
2N5453	71	.1	50	5	1000	4	7.79	5.44
2N5454	71	.1	50	5	1000	4	4.83	3.38
2N5515	71	.25	40	7.5	1000	25	12.08	8.44
2N5516	71	.25	40	7.5	1000	25	9.85	6.88
2N5517	71	.25	40	7.5	1000	25	7.43	5.19
2N5518	71	.25	40	7.5	1000	25	5.55	3.88
2N5519	71	.25	40	7.5	1000	25	5.19	3.63
2N5520	71	.25	40	7.5	1000	25	16.20	11.31
2N5521	71	.25	40	7.5	1000	25	14.14	9.88
2N5522	71	.25	40	7.5	1000	25	10.20	7.13
2N5523	71	.25	40	7.5	1000	25	8.14	5.69
2N5524	71	.25	40	7.5	1000	25	6.89	4.81
2N5545	71	.1	50	8	1500	6	7.16	5.00
2N5546	71	.1	50	8	1500	6	6.35	4.44
2N5547	71	.1	50	8	1500	6	5.01	3.50
2N5564	71	.1	40	30	7500	12	8.48	5.96
2N5565	71	.1	40	30	7500	12	7.06	4.96
2N5566	71	.1	40	30	7500	12	5.46	3.84
2N5902	78	.005	40	.5	70	3	15.39	10.75
2N5903	78	.005	40	.5	70	3	10.83	7.56
2N5904	78	.005	40	.5	70	3	7.34	5.13
2N5905	78	.005	40	.5	70	3	5.10	3.56
2N5906	78	.002	40	.5	70	3	18.48	12.98
2N5907	78	.002	40	.5	70	3	12.90	9.94
2N5908	78	.002	40	.5	70	3	9.96	6.19
2N5909	78	.002	40	.5	70	3	6.05	4.25
2N5911	78	.1	25	40	5000	5	9.93	6.90
2N5912	78	.1	25	40	5000	5	5.96	4.19
E400	S1200	.2	40	5	1000	.....	3.74	2.63
E401	S1200	.2	40	5	1000	.....	2.45	1.72
E402	S1200	.2	40	5	1000	.....	2.39	1.68
E410	S1200	.25	40	6	1000	4.5	3.49	2.45
E411	S1200	.25	40	6	1000	4.5	1.46	1.02
E412	S1200	.25	40	6	1000	4.5	1.25	.99
E420	S1200	.5	25	30	4500	.....	1.79	1.26
E421	S1200	.5	25	30	4500	.....	1.46	1.02
E430	105	.15	25	30	10000	7.5	1.54	1.08
E431	105	.15	25	60	10000	7.5	1.54	1.08
J401	*	.1	50	10	2000	8	4.74	3.33
J402	*	.1	50	10	2000	8	4.24	2.99
J403	*	.1	50	10	2000	8	3.24	2.78
J404	*	.1	50	10	2000	8	2.75	1.93
J405	*	.1	50	10	2000	8	2.04	1.43
J406	*	.1	50	10	2000	8	1.60	1.12
J410	*	.25	40	6	1000	4.5	3.49	2.45
J411	*	.25	40	6	1000	4.5	1.46	1.02
J402	*	.25	40	6	1000	4.5	1.25	.88
K1401	*	.1	50	10	2000	8	4.74	3.33
K1402	*	.1	50	10	2000	8	4.24	2.99
J1403	*	.1	50	10	2000	8	3.24	2.28
J1404	*	.1	50	10	2000	8	2.75	1.93
J1405	*	.1	50	10	2000	8	2.04	1.43
J1406	*	.1	50	10	2000	8	1.60	1.12
NPD8301	*	.1	40	6	1000	.....	3.49	2.45
NPD8302	*	.1	40	6	1000	.....	1.46	1.02
NPD8303	*	.1	40	6	1000	.....	1.25	.98
U231	71	.1	50	5	1000	6	5.55	3.88
U232	71	.1	50	5	1000	6	4.65	3.25
U233	71	.1	50	5	1000	6	4.12	2.89
U234	71	.1	50	5	1000	6	3.49	2.44
U235	71	.1	50	5	1000	6	3.31	2.31
U257	78	.1	25	40	5000	5	3.58	2.50
U401	71	.025	50	10	2000	8	5.73	4.00
U402	71	.025	50	10	2000	8	5.01	3.50
U403	71	.025	50	10	2000	8	4.65	3.25
U404	71	.025	50	10	2000	8	3.94	2.75
U405	71	.025	50	10	2000	8	3.13	2.19
U406	71	.025	50	10	2000	8	2.69	1.88
U421	78	.0002	40	1	300	3	14.03	9.85
U422	78	.0002	40	1	300	3	11.68	8.20
U423	78	.0002	40	1	300	3	7.98	5.61
U424	78	.001	40	1.8	300	3	11.42	8.02
U425	78	.001	40	1.8	300	3	7.56	5.31
U426	78	.001	40	1.8	300	3	5.88	4.13
U430	99	.15	25	30	10000	7.5	8.59	6.00
U431	99	.15	25	60	10000	7.5	8.59	6.00

*Plastic mini-DIP.

JFET's FOR SWITCHES, CHOPPERS AND COMMUTATORS

Siliconix Type	Case TO-	Max. I_{GSS} nA	Max. $I_{D(OFF)}$ nA	Min. BV_{GSS} V	Max. I_{DSS} mA	Max. C_{iss} pF	Net Each, Lots of	
							1-99	100-999
2N3824	72	.1	.1	50	.....	6	$1.34	$0.94
2N3966	72	.1	1	30	.....	6	3.11	2.18
2N3970	18	.25	.25	40	150	25	2.52	1.74
2N3971	18	.25	.25	40	75	25	1.43	1.00
2N3972	18	.25	.25	40	30	25	1.43	1.00
2N4091	18	.2	.2	40	.....	16	1.14	.80
2N4092	18	.2	.2	40	.....	16	1.04	.73
2N4093	18	.2	.2	40	.....	16	1.14	.80
2N4391	18	.1	.1	40	150	14	1.14	.80
2N4392	18	.1	.1	40	75	14	1.04	.73
2N4393	18	.1	.1	40	30	14	1.14	.80
2N4856	18	.25	.25	40	.....	18	2.69	1.88
2N5856A	18	.25	.25	40	.....	10	4.12	2.88
2N4857	18	.25	.25	40	100	18	2.33	1.63
2N4857A	18	.25	.25	40	100	10	2.60	1.81
2N4858	18	.25	.25	40	80	18	1.88	1.31
2N4858A	18	.25	.25	40	80	10	2.24	1.56
2N4859	18	.25	.25	30	.....	18	2.24	1.56
2N4859A	18	.25	.25	30	.....	10	2.33	1.63
2N4860	18	.25	.25	30	100	18	1.97	1.38
2N4860A	18	.25	.25	30	100	10	2.42	1.69
2N4861	18	.25	.25	30	80	18	1.88	1.31
2N4861A	18	.25	.25	30	80	10	2.06	1.44
2N5018*	18	2	10	30	.....	45	3.49	2.45
2N5019*	18	2	10	30	.....	45	3.26	2.29
2N5114*	18	.5	.5	30	90	25	3.49	2.45
2N5115*	18	.5	.5	30	60	25	3.44	2.42
2N5116*	18	.5	.5	30	25	25	3.26	2.29
2N5432	52	.2	.2	25	.....	30	7.43	5.19
2N5433	52	.2	.2	25	.....	30	7.16	5.00
2N5434	52	.2	.2	25	.....	30	7.79	5.44
2N5555	92	1	10	25	.....	5	.90	.63
2N5638	92	1	1	30	.....	10	.50	.35
2N5639	92	1	1	30	.....	10	.48	.34
2N5640	92	1	1	30	.....	10	.52	.37
2N5653	92	1	1	30	.....	10	.60	.42
2N5654	92	1	1	30	.....	10	.54	.38
E105	106	3	3	30	.....	.....	2.04	1.43
E106	106	3	3	30	.....	.....	3.49	2.45
E107	106	3	3	30	.....	.....	2.04	1.43
E108	106	3	3	25	.....	.....	1.21	.85
E109	106	3	3	25	.....	.....	1.14	.80
E110	106	3	3	25	.....	.....	1.25	.88
E111	106	1	1	35	.....	.....	.48	.34
E111A	106	.2	.2	40	.....	.....	**	**
E112	106	1	1	35	.....	.....	.46	.32
E112A	106	.2	.2	40	.....	.....	**	**
E113	106	1	1	35	.....	.....	.48	.34
E113A	106	.2	.2	40	.....	.....	**	**
E114	106	1	1	25	.....	.....	.46	.32
E174*	106	1	1	30	100	.....	.79	.55
E175*	106	1	1	30	60	.....	.75	.53
E176*	106	1	1	30	25	.....	.81	.57
E177*	106	1	1	30	20	.....	85	.60
J108	92	3	3	25	.....	.....	1.21	.85
J109	92	3	3	25	.....	.....	1.14	.80
J110	92	3	3	25	.....	.....	1.25	.88
J111	92	1	1	35	.....	.....	.48	.34
J112	92	1	1	35	.....	.....	.46	.32
J113	92	1	1	35	.....	.....	.48	.34
J174*	92	1	1	30	100	.....	.79	.55
J175*	92	1	1	30	60	.....	.75	.53
J176*	92	1	1	30	25	.....	.81	.57
J177*	92	1	1	30	20	.....	.85	.60
KE4391	106	1	1	40	150	14	.94	.66
KE4392	106	1	1	40	75	14	.93	.58
KE4393	106	1	1	40	30	14	.94	.66
P1086E*	106	2	10	30	.....	45	.94	.66
P1087E*	106	2	10	30	.....	45	.98	.69
U200	18	1	1	30	25	30	2.86	2.00
U201	18	1	1	30	75	30	2.69	1.88
U202	18	1	1	30	150	30	3.04	2.13
U290	52	1	1	30	.....	60	14.95	10.44
U291	52	1	1	30	.....	60	15.48	10.81
U295	39	1	1	30	.....	60	15.48	10.81
U296	39	1	1	30	.....	60	14.95	10.44
U304*	18	.5	.5	30	90	27	3.56	2.50
U305*	18	.5	.5	30	60	27	3.48	2.44
U306*	18	.5	.5	30	25	27	3.26	2.29
U1897E	106	.4	.2	40	.....	16	.56	.39
U1898E	106	.4	.2	40	.....	16	.50	.35
U1899E	106	.4	.2	40	.....	16	.56	.39

*P-channel; all others N-channel. **Prices on request.

JFET VOLTAGE CONTROLLED RESISTORS

Suffix denotes channel material.

Siliconix Type	Case TO-	Min-Max $V_{GS(off)}$ Volts	Min-Max $r_{DS(on)}$ Ohms	Net Each, Lots of	
				1-99	100-999
VCR2N	18	3.5–7.0	20–60	$1.43	$1.00
VCR3P	72	3.5–7.0	70–200	1.79	1.25
VCR4N	18	3.5–7.0	200–600	1.43	1.00
VCR5P	72	3.5–7.0	300–900	1.76	1.24
VCR7N	72	2.5–5.0	4000–8000	1.43	1.00

Siliconix incorporated FET'S and IC's

INTEGRATED JFET's FOR TRANSDUCER/MICROPHONE PREAMPLIFIERS

Siliconix Type	Case TO-	Min. BV_{DSS} V	Min. I_D µA	Max. C_{IN} pF	Max. C_{OUT} pF	A_V Typ.	Net Ea., Lots of 1-99	100-999
T100	72	30	10	4	6	0.6	$1.06	$0.74
T300	72	30	70	4	6	0.45	.96	.67

N-CHANNEL ENHANCEMENT MODE VMOS FET's

All units contain a gate-to-source Zener diode to protect the gate from static charge build up.

GENERAL PURPOSE

Siliconix Type	Case TO-	Max. V_{DSS} V	Min. $V_{GS(th)}$ V	Max. I_D A	$D_{iss.}$ W	Net Each, Lots of 1-29	30-99	100-999
2N6656	3	35	0.8	2.0	25	$9.34	$7.83	$6.72
2N6657	3	60	0.8	2.0	25	6.66	5.58	4.79
2N6658	3	90	0.8	2.0	25	7.40	6.20	5.32
2N6659	39	35	0.8	2.0	6.25	6.48	5.43	4.66
2N6660	39	60	0.8	2.0	6.25	4.63	3.88	3.33
2N6661	39	90	0.8	2.0	6.25	5.09	4.26	3.66
VN46AF	202	40	0.8	2.0	12.5	1.33	1.12	.96
VN66AF	202	60	0.8	2.0	12.5	1.39	1.16	1.00
VN88AF	202	80	0.8	2.0	12.5	1.54	.25	1.10

RF

Siliconix Type	Case TO-	Max. V_{DSS} V	Min. $V_{GS(th)}$ V	Max. I_D A	$D_{iss.}$ W	Net Each, Lots of 1-29	30-99	100-999
VN33AJ	3	35	0.8	2.0	25	$9.34	$7.83	$6.72
VN66AJ	3	60	0.8	2.0	25	6.66	5.58	4.79
VN98AJ	3	90	0.8	2.0	25	7.40	6.20	5.32
VN33AK	39	35	0.8	2.0	6.25	5.74	4.81	4.12
VN66AK	39	60	0.8	2.0	6.25	3.89	3.26	2.79
VN98AK	39	90	0.8	2.0	6.25	4.26	3.57	3.06
VMP4	380	60	0.8	2.0	35	19.43	16.28	13.97

CURRENT REGULATOR DIODES

Siliconix Type	Case TO-	I_f mA	I_f Tol. %	Max. V_L V	Min. Z_d Mohms	Net Each 1-99	100-999
CR022	18	0.22	10	1.00	13.0	$2.22	$1.94
CR024	18	0.24	10	1.00	10.0	2.22	1.94
CR027	18	0.27	10	1.00	9.0	2.22	1.94
CR030	18	0.30	10	1.00	8.0	2.57	2.25
CR033	18	0.33	10	1.00	6.6	2.36	2.06
CR039	18	0.39	10	1.05	4.1	2.36	2.06
CR043	18	0.43	10	1.05	3.3	2.36	2.06
CR047	18	0.47	10	1.10	2.7	2.36	2.06
CR056	18	0.56	10	1.20	1.9	2.22	1.94
CR062	18	0.62	10	1.30	1.55	2.22	1.94
CR068	18	0.68	10	1.15	1.35	2.22	1.94
CR075	18	0.75	10	1.20	1.15	2.22	1.94
CR082	18	0.82	10	1.25	1.00	2.22	1.94
CR091	18	0.91	10	1.29	0.88	2.22	1.94
CR100	18	1.00	10	1.35	0.80	2.22	1.94
CR110	18	1.10	10	1.40	0.70	2.22	1.94
CR120	18	1.20	10	1.45	0.64	2.22	1.94
CR130	18	1.30	10	1.50	0.58	2.22	1.94
CR140	18	1.40	10	1.55	0.54	2.22	1.94
CR150	18	1.50	10	1.60	0.51	2.22	1.94
CR160	18	1.60	10	1.65	0.475	2.22	1.94
CR180	18	1.80	10	1.75	0.42	2.22	1.94
CR200	18	2.00	10	1.85	0.395	2.22	1.94
CR220	18	2.20	10	1.95	0.37	2.22	1.94
CR240	18	2.40	10	2.00	0.345	2.22	1.94
CR270	18	2.70	10	2.15	0.32	2.22	1.94
CR300	18	3.00	10	2.25	0.30	2.22	1.94
CR330	18	3.30	10	2.35	0.28	2.22	1.94
CR360	18	3.60	10	2.50	0.265	2.22	1.94
CR390	18	3.90	10	2.60	0.255	2.22	1.94
CR430	18	4.30	10	2.75	0.245	2.22	1.94
CR470	18	4.70	10	2.90	0.235	2.22	1.94
E500	106	0.24	20	1.20	5.0	1.31	.92
E501	106	0.33	20	1.30	3.0	1.14	.80
E502	106	0.43	20	1.50	2.0	1.14	.80
E503	106	0.56	20	1.70	1.4	1.14	.80
E504	106	0.75	20	1.90	1.0	1.14	.80
E505	106	1.00	20	2.10	0.6	1.14	.80
E506	106	1.40	20	2.50	0.4	1.14	.80
E507	106	1.80	20	2.80	0.25	1.14	.80
U508	18	0.31	20	1.10	4.10	1.96	1.71

LOW LEAKAGE DIODES

Siliconix Type	Case TO-	Max. I_R pA	Min. BV_R V	Max. BV_R V	Max. V_F V	Max. C pF	Net Each, Lots of 1-99	100-999
DPAD1	72	1	45	120	1.5	0.8	$3.79	$2.65
DPAD2	72	2	45	120	1.5	0.8	3.29	2.30
DPAD5	72	5	45	120	1.5	0.8	3.01	2.10
DPAD10	72	10	35	......	1.5	2.0	2.79	1.95
DPAD20	72	20	35	......	1.5	2.0	2.33	1.63
DPAD50	72	50	35	......	1.5	2.0	1.97	1.38
DPAD100	72	100	35	......	1.5	2.0	1.79	1.25
PAD1	18	1	45	120	1.5	0.8	2.24	1.56
PAD2	18	2	45	120	1.5	0.8	1.97	1.38
PAD5	18	5	45	120	1.5	0.8	1.79	1.25
PAD10	18	10	35	......	1.5	2.0	1.57	1.06
PAD20	18	20	35	......	1.5	2.0	.98	.69
PAD50	18	50	35	......	1.5	2.0	.90	.63
PAD100	18	100	35	......	1.5	2.0	.81	.56
EPAD50	106	50	35	......	1.5	2.0	**	**
EPAD100	106	100	35	......	1.5	2.0	**	**
EPAD200	106	200	35	......	1.5	2.0	**	**
EPAD500	106	500	35	......	1.5	2.0	**	**

**Prices on request.

MICROPOWER LINEAR IC's

Siliconix Type	Description	Net Each, Lots of 1-29	30-99
L144AL	Triple op amp. ±1.5 to ±18 V supply.	$19.55	$15.62
L144AP	±30 V differential input.		
L144BL	Internally compensated. 0.4 V/µsec slew rate.	11.74	9.38
L144BP	Programmable supply current.	11.74	9.38
L144CJ	Drives large capacitive loads.	7.02	5.61
L161AL	Quad comparator. ±1.5 to ±18 V supply.	12.53	10.01
L161AP	Programmable supply current.	11.81	9.44
L161BL	3 V/µsec slew rate. ±30 V	6.30	5.03
L161BP	differential input. Sensing near	5.94	4.75
L161CJ	ground. CMOS compatible.	3.29	2.63
LM3909N	LED flasher. High current LED pulse. Wide temp. range.	1.05	.84
L911CJ	Detector circuit. Ultra-high impedance. Programmable supply current. 6 to 10 V supply. Adjustable threshold.	3.11	2.49
		1-99	100-999
T100	Microphone preamp. High imp. mic. to low imp. lines. 1.3 to 30 V supply.	1.05	.74
T300		.96	.67

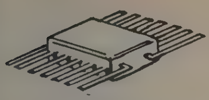
TELECOMMUNICATIONS PRODUCTS

Siliconix Type	Description	Net Each, Lots of 1-29	30-99
DF320DJ	Loop disconnect dialer. 2.5 to 5 V supply.	$15.30	$11.48
DF320BF	On chip osc. for 3.579545 MHz crystal. Redial capability. Hold capability delays impulsing. Low power.	21.53	16.14
DF321DJ DF321BR	Loop disconnect dialer. High noise immunity. High speed memory loading. Key input debounce. Interdigital pause listening.	20.42 27.07	15.31 20.30
DF322DJ	Loop disconnect dialer. Power on reset.	15.30	11.48
DF322BF	Selectable impulsing speeds. Selectable interdigit pauses.	21.53	16.14
DF331CJ	µ255 Law CODEC. Low power dissipation.	7.25	5.79
DF332CJ	Up to 16 kHz sampling rate. Open drain output. Provisions for signaling bit insertion. Zero code suppression.	6.73	5.38

ANALOG TO DIGITAL CONVERTERS

Siliconix Type	Description	Net Each, Lots of 1-29	30-99
LD130CJ	3 digit A/D converter. Accuracy 0.1% ±1 count Auto zero. Auto polarity. 1 mV resolution. Buffered input. Internal clock. Overflow and underrange signals. TTL compatible. 1 to 60 samples/sec. 18 pins.	$ 6.78	$ 5.42
LD131CJ	3½ digit A/D converter. Accuracy 0.1% ±1 count. Auto zero. Auto polarity. 1 mC resolution. Buffered input. Internal clock. Overflow and underrange signals. TTL compatible. 1 to 60 samples/sec. 18 pins.	6.78	5.42
LD110CJ LD111CJ LD111ACJ	3½ digit A/D converter. Accuracy 0.05% ±1 count. Auto zero. Auto polarity. Overrange and underrange signals. TTL compatible. Two voltage ranges, 1.999 V and 199.9 V. ⅓ to 12 samples/sec. Mux'd BCD output. 16 pins.	7.57 7.84 8.81	6.05 6.26 7.04
LD114CR	Multiple option digital processor. Accuracy 0.15% ±1 count. Auto zero. Auto polarity. TTL compatible. External latch inhibit control. Two voltage ranges, 1.999 V and 199.9 V. ⅓ to 12 samples/sec. Mux serial or parallel output. Overrange and underrange signals. 512 output for PLL clock. 28 pins.	16.80	13.40
LD120CJ LD121CJ	4½ A/D converter. Accuracy 0.005% ±1 count. Auto zero. Auto polarity. TTL compatible. Internal clock. 1 to 5 samples/sec. Mux. BCD outputs. Two voltage ranges, 2.0 V and 200.00 mV. Linear to 28,500 counts. 25% inter-digit blanking.	9.20 11.99	7.35 9.58

Siliconix incorporated Analog Switching Circuits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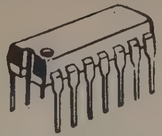
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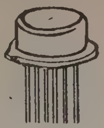

TO-5

Siliconix integrated circuit part numbers include letter prefix which denotes function and letter suffixes denote temperature range and package style. Function Letter Prefix: **D**, driver for FET switch; **DG, DGM**, drivers with FET switches; **G**, multiple FET switch; **SI**, second source item. First Letter Suffix: **A**, −55° C to +125° C military service; **B**, −20° C to +85° C industrial service; **C**, 0° C to +70° C industrial service; **D**, −40° C to +85° C industrial service. Final Letter Suffix: **A**, round TO-5; **J**, plastic DIP; **K**, TO-116 ceramic DIP; **L**, TO-86 Flatpac; **N**, mini-DIP; **P**, metal-ceramic TO-116 DIP; **R**, 24-32 lead DIP.

DRIVERS WITH FET SWITCHES

Siliconix Type	*	†	Switch Configuration and Control	FET Type Switch	Standard Supply Voltages V	Switch Time t_{ON} μs	t_{OFF} μs	Input Logic Level for ON Switch	Net Each, Lots of 1-29	30-99	100-999
DGM111AL, P	2	2	SPST 2-channel	PMOS	+10, −20, +5	0.3	1.0	0	$23.09	$18.45	$16.13
DGM122AL, P	4	2	2-channel double-pole multiplexer	PMOS	+10, −20, +5, 0	0.3	2.0	1	35.71	28.53	24.94
DG123AL, P	5	1	5-channel separate control	PMOS	+10, −20, 0	0.3	1.0	1	36.07	28.81	25.19
DG125AL, P	5	1	5-channel switch	PMOS	+10, −20, +5	0.3	2.0	0	36.07	28.81	25.19
DG126AL, P	4	4	DPST 2-channel	N-JFET	+12, −18, 0	0.6	1.6	1	22.55	18.02	15.75
DG129AL, P	4	4	DPST 2-channel	N-JFET	+12, −18, 0	0.6	1.6	1	28.55	22.81	19.94
DG133AL, P	2	2	SPST 2-channel	N-JFET	+12, −18, 0	0.6	1.6	1	20.59	16.45	14.38
DG134AL, P	2	2	SPST 2-channel	N-JFET	+12, −18, 0	0.6	1.6	1	13.96	11.15	9.75
DG139AL, P	4	4	DPDT	N-JFET	+12, −18, 0	0.8	1.6	....	28.55	22.81	19.94
DG140AL, P	4	4	DPST 2-channel	N-JFET	+12, −18, 0	1.0	2.5	1	35.71	28.53	24.94
DG141AL, P	2	2	SPST 2-channel	N-JFET	+12, −18, 0	1.0	2.5	1	27.21	21.74	19.00
DG142AL, P	4	4	DPDT	N-JFET	+12, −18, 0	0.8	1.6	....	22.55	18.02	15.75
DG143AL, P	2	2	SPDT	N-JFET	+12, −18, 0	0.8	1.6	....	13.96	11.15	9.75
DG144AL, P	2	2	SPDT	N-JFET	+12, −18, 0	0.8	1.6	....	20.59	16.45	14.38
DG145AL, P	4	4	DPDT	N-JFET	+12, −18, 0	1.0	2.5	....	35.71	28.53	24.94
DG146AL, P	2	2	SPDT	N-JFET	+12, −18, 0	1.0	2.5	....	27.21	21.74	19.00
DG151AL, P	2	2	SPST 2-channel	N-JFET	+15, −15, 0	1.0	2.5	1	23.81	19.02	16.63
DG152AL, P	2	2	SPST 2-channel	N-JFET	+15, −15, 0	0.6	1.5	1	13.96	11.15	9.75
DG153AL, P	4	4	DPST 2-channel	N-JFET	+15, −15, 0	1.0	2.5	1	27.30	21.81	19.06
DG154AL, P	4	4	DPST 2-channel	N-JFET	+15, −15, 0	0.6	1.5	1	19.96	15.94	13.94
DG161AL, P	2	2	SPDT	N-JFET	+15, −15, 0	1.0	2.5	....	23.81	19.02	16.63
DG162AL, P	2	2	SPDT	N-JFET	+15, −15, 0	0.8	1.5	....	13.96	11.15	9.75
DG163AL, P	4	4	DPDT	N-JFET	+15, −15, 0	1.0	2.5	....	27.30	21.81	19.06
DG164AL, P	4	4	DPDT	N-JFET	+15, −15, 0	0.8	1.5	....	22.55	18.02	15.75
DG172AL, P	4	1	4-channel multiplexer	PMOS	+10, −20, +5, 0	0.3	0.75	0	30.88	24.67	21.56
DG173AL, P	4	2	DPDT 2-input "OR" control	PMOS	+10, −20, +5, 0	0.3	0.70	....	26.49	21.16	18.50
DG175AA	2	2	SPDT	PMOS	+10, −20, +5, 0	0.2	0.5	....	15.22	12.16	10.63
DG180AA	2	2	SPST 2-channel	N-JFET	+20, −10, +5, 0	0.30	0.25	0	27.57	22.02	19.25
DG180AL, P	2	2	SPST 2-channel	N-JFET	+20, −10, +5, 0	0.30	0.25	0	34.10	27.24	23.81
DG181AA‡	2	2	SPST 2-channel	N-JFET	+10, −20, +5, 0	0.15	0.13	0	25.06	20.02	17.50
DG182AA‡	2	2	SPST 2-channel	N-JFET	+10, −20, +5, 0	0.15	0.13	0	23.09	18.45	16.13
DG183AL, P	4	4	DPST 2-channel	N-JFET	+20, −10, +5, 0	0.30	0.25	1	45.73	36.54	31.94
DG184AL, P‡	4	4	DPST 2-channel	N-JFET	+10, −20, +5, 0	0.15	0.13	1	41.53	33.18	29.00
DG185AL, P‡	4	4	DPST 2-channel	N-JFET	+10, −20, +5, 0	0.15	0.13	1	39.74	31.75	27.75
DG186AA	2	2	SPDT 1-channel	N-JFET	+20, −10, +5, 0	0.30	0.25	1	27.57	22.02	19.25
DG186AL, P	2	2	SPDT 1-channel	N-JFET	+20, −10, +5, 0	0.30	0.25	1	34.10	27.24	23.81
DG187AA‡	2	2	SPDT	N-JFET	+10, −20, +5, 0	0.15	0.13	....	25.06	20.02	17.50
DG188AA‡	2	2	SPDT	N-JFET	+10, −20, +5, 0	0.15	0.13	....	23.09	18.45	16.13
DG189AL, P	2	2	SPDT 2-channel	N-JFET	+20, −10, +5, 0	0.30	0.25	1	28.55	22.81	19.94
DG190AL, P‡	4	4	SPDT 2-channel	N-JFET	+10, −20, +5, 0	0.15	0.13	....	41.53	33.18	29.00
DG191AL, P‡	4	4	SPDT 2-channel	N-JFET	+10, −20, +5, 0	0.15	0.13	....	39.74	31.75	27.75
DG200AA#	2	2	SPST 2-channel	CMOS	+15, −15, 0	1.0	0.5	0	10.79	9.05	7.75
DG200AL, P	2	2	SPST 2-channel	CMOS	+15, −15, 0	1.5	1.0	1	12.01	10.07	8.63
DG201AP	4	4	SPST 4-channel	CMOS	+15, −15, 0	1.5	1.0	1	16.01	13.43	11.50
DG501AP	8	1	8-channel MUX, binary decode plus enable	PMOS	+5, −22	1.0	0.6	1	18.71	14.94	13.06
DG503AP	8	1		PMOS	+10, −20	1.0	0.6	1	20.59	16.45	14.38
DG506AR#•	16	1	16-channel DG501	CMOS	+15, −15, 0	1.5	1.0	1	52.11	43.73	37.44
DG507AR#•	16	2	8-channel MUX, binary decode plus enable	CMOS	+15, −15, 0	1.5	1.0	1	52.11	43.73	37.44
DG508AP#•	8	1		CMOS	+15, −15, 0	1.5	1.0	1	19.14	16.06	13.75
DG509AP#•	8	2	4-channel SPST MUX, binary decode plus enable	CMOS	+15, −15, 0	1.5	1.0	1	19.14	16.06	13.75
DG300AA	2	2	SPST 2-channel	CMOS	+15, −15, 0	.3	.25	1	14.36	12.05	10.31
DG301AA	2	2	SPDT	CMOS	+15, −15, 0	.3	.25	....	14.36	12.05	10.31
DG302AP	4	4	DPST 2-channel	CMOS	+15, −15, 0	.3	.25	1	22.97	19.27	16.50
DG303AP	4	4	SPDT 2-channel	CMOS	+15, −15, 0	.3	.25	....	22.97	19.27	16.50
DG304AA	2	2	SPST 2-channel	CMOS	+15, −15, 0	.25	.15	1	13.92	11.68	10.00
DG305AA	2	2	SPDT	CMOS	+15, −15, 0	.25	.15	....	13.92	11.68	10.00
DG306AP	4	4	DPST 2-channel	CMOS	+15, −15, 0	.25	.15	1	22.19	18.62	15.94
DG307AP	4	4	SPDT 2-channel	CMOS	+15, −15, 0	.25	.15	....	22.19	18.62	15.94
DG381AA	2	2	SPST 2-channel	CMOS	+15, −15, 0	.3	.25	1	**	**	**
DG384AP	4	4	DPST 2-channel	CMOS	+15, −15, 0	.3	.25	1	**	**	**
DG387AA	2	2	SPDT	CMOS	+15, −15, 0	.3	.25	....	**	**	**
DG390AP	4	4	SPDT 2-channel	CMOS	+15, −15, 0	.3	.25	....	**	**	**

*Sources. †Drains. ‡Low power; fast break-before-make; constant "on" resistance. §Break-before-make-operation; 0.25 μs typical. #Complementary MOS; low power. •Break-before-make-operation. **Prices on request.

Same as above except **B** temperature range (−20° C to +85° C).

Siliconix Type	Net Each, Lots of 1-29	30-99	100-999	Siliconix Type	Net Each, Lots of 1-29	30-99	100-999	Siliconix Type	Net Each, Lots of 1-29	30-99	100-999
DG175BA	$ 6.71	$ 5.36	$ 4.69	DG186BA	$13.78	$11.01	$ 9.63	DG200BA	$4.87	$ 4.09	$ 3.50
DG180BA	13.78	11.01	9.63	DG187BA	12.53	10.01	8.75	DG506BR	30.10	25.26	21.63
DG181BA	12.53	10.01	8.75	DG188BA	11.19	8.94	7.81	DG507BR	30.10	25.26	21.63
DG182BA	11.55	9.22	8.06	DG189BP	22.82	18.23	15.94	DG508BP	14.36	12.05	10.31
DG184BP	20.76	16.59	14.50	DG190BP	20.76	16.59	14.50	DG509BP	14.36	12.05	10.31
DG185BP	19.96	15.94	13.94	DG191BP	19.96	15.94	13.94				

Siliconix incorporated Integrated Circuits

See preceding page for integrated circuit ordering information.

DRIVERS WITH PMOS FET SWITCHES

DTL, RTL and TTL compatible. MOS type SI3705 break-before-make switching.

Siliconix Type	Sources	Drains	Switch Configuration and Control	Standard Supply Voltage V	Switch Time t_{ON} µs	Switch Time t_{OFF} µs	Input Logic Level For ON Switch	Net Each, Lots of 1-29	30-99	100-999
SI3705142K*	8	1	SP8T and all OFF binary decode + enable	+5, −22	1.0	1.0	1	$ 9.85	$ 7.87	$ 6.88
SI3705143K*								8.95	7.15	6.25
SI3705192K†								8.14	6.51	5.69
SI3705193K†								7.43	5.93	5.19

*−55° C to +85° C. †0° C to +70° C.

MULTIPLE CHANNEL PMOS SWITCHES

For applications such as sequential switching (commutation), signal processing, modulation and A-to-D converters. The MOS FET is normally OFF and performs a SPST function. **A** Operating Temperature: −55° C to +125° C; $BV_{DSS} = -30$ V min.; $I_{S(OFF)}$ and $I_{GSS} = -0.5$ nA max.; $V_{GS(th)} = -2$ V to −6 V; $C_{gs} = 3.0$ pF max.; $C_{ds} = 0.4$ pF max.; $C_{sb} = 3.5$ pF max. **B** Operating Temperature: −25° C to +85° C; $BV_{DSS} = -25$ V min.; $I_{S(OFF)}$ and $I_{GSS} = -5.0$ nA max.; $V_{GS(th)} = -2$ V to −6 V; $C_{ds} = 0.4$ pF typ.; $C_{sb} = 3.5$ pF typ.

Siliconix Type	Sources	Drains	Gates	Switch Type and Description	Pull Up On Gate	Max. r_{DS} at 25° C Condition Best Ohms	Worst Ohms	Net Each, Lots of 1-29	30-99	100-999
G115AP	6	1	6	SP6T	Yes	100	450	$18.53	$14.80	$12.94
G118AL,	6	1	6	SP6T	No	100	450	......	......	12.94
G119AL	6	2	3	DP3T, 3-channel differential	Yes	100	450	18.45	14.75	12.90
G122AL	4	2	2	DPDT, 2-channel differential	Yes	100	450	......	......	10.63
G123AL	4	2	4	2 x SPDT	Yes	100	450	......	......	10.63
G123AP						100	450	15.22	12.16	10.63

DRIVERS FOR FET SWITCHES, LAMPS AND RELAYS

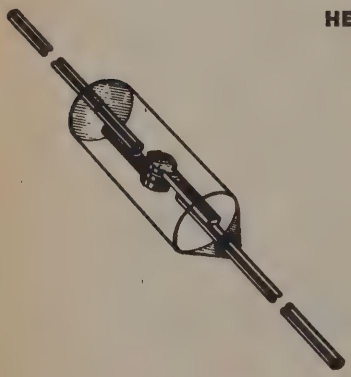
Siliconix Type	Function and Uses	Standard Supply Voltages	Net Each, Lots of 1-29	30-99	100-999
D123AL, P	6 separate drivers	−20.0	$16.83	$13.44	$11.75
D125AL, P		−20, +5	16.83	13.44	11.75
D129AL, P	4-channel 50 V	−30, +5,0	25.24	20.16	17.63
D130AA, L	Dual high-speed MOSFET driver	+10, −20,0	24.34	19.45	17.00
D130BA, L			15.13	12.08	10.56

*Bv = 40 V. †With latch.

MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES

SCHAUER SEMICONDUCTORS

HEAVY DUTY TYPE SZ 1 WATT ZENER DIODES



Large alloyed silicon junction has been placed into a small, rugged package to produce a zener diode with maximum surge capacity and stability. Low dynamic impedance assures superior performance in voltage regulators, clippers, surge protectors, etc. Inner epoxy seal, long leakage paths and high pressure molding permits reliable operation in all environments. Operating temperature 65° C to +150° C. $T_J = 175°$ C max. Size, 0.160″ dia. x 7/16″ lg. max. Gold plated, pure nickel 0.028″ dia. leads are 1 1/16″ long.

STOCK VALUES

Type	Nom. V_{zt} V	Type	Nom. V_{zt} V
SZ2.4	2.4	**SZ6.8**	6.8
SZ2.7	2.7	**SZ7.5**	7.5
SZ3.0	3.0	**SZ8.2**	8.2
SZ3.3	3.3	**SZ9.1**	9.1
SZ3.6	3.6	**SZ10.0**	10.0
SZ3.9	3.9	**SZ11.0**	11.0
SZ4.3	4.3	**SZ12.0**	12.0
SZ4.7	4.7	**SZ13.0**	13.0
SZ5.1	5.1	**SZ15.0**	15.0
SZ5.6	5.6	**SZ16.0**	16.0
SZ6.2	6.2		

PRICING BY TOLERANCE

Types shown are 10% tolerance. Add suffix to part number for other tolerances: **20%, 2%, 1%; A** for 5%. For intermediate voltages, specify voltage and tolerance: i.e., SZ6.3 (1%).

Tol.	Net Each, Lots of 1-99	100-499	500-999	1000-4999	5000 Up
10%	$0.49	$0.38	$0.33	$0.29	$0.27
5%	.59	.47	.41	.37	.34
2%	.89	.81	.76	.72	.69
1%	1.07	.97	.91	.86	.82

ZENER DIODE KIT

Assortment of 51 zener diodes, 1-watt, 1% tolerance. Includes 3 each voltage covering range 2.7–16.0. Close tolerance insures fixed impedance and temperature coefficients; permits voltage range tests for optimum design. Reusable many times in laboratory prototypes and precision test equipment. Each voltage in reusable poly bag, all in handy file box. Data sheet included.
Schauer Zener Diode Kit No. SCH51—Net Each...... **$24.50**

REFERENCE DIODES

Type	Forward Voltage Drop 10 µA	10 mA	100 mA	Net Each, Lots of 1-99	100-499	500-999	1000-4999	5000 Up
SS1	.2–.5	.04–.72	.90 max.	$0.23	$0.18	$0.16	$0.14	$0.12
SS1-2	.7–.1	1.3–1.4	1.75 max.	.50	.39	.35	.32	.29

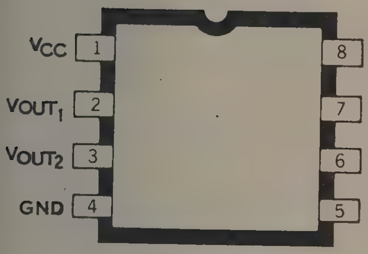
SPRAGUE Integrated Circuits

HALL EFFECT INTEGRATED CIRCUITS
SERIES 3000 MAGNETICALLY-ACTIVATED SWITCHES

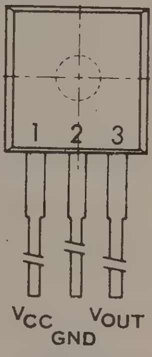
Series 3000 Hall Effect integrated circuits were formerly supplied under another series of part numbers; see chart below.

Old Part Number	New Part Number	Old Part Number	New Part Number
ULN-3006M	UGN-3201M	ULN-3100M	UGN-3600M
ULN-3006T	UGN-3019T	ULN-3101M	UGN-3601M
ULN-3007M	UGN-3203M	ULS-3006T	UGS-3019T
ULN-3008M	UGN-3501M	ULS-3020T	UGS-3020T
ULN-3020T	UGN-3020T		

TYPES UGN-3201M, UGN/UGS-3019T, UGN-3203M AND UGN/UGS-3020T DIGITAL SENSORS



UGN-3201M
UGN-3203M



UGN-3019T
UGN-3020T
UGS-3019T
UGS-3020T

Magnetically activated electronic switches utilizing the Hall Effect for sensing a magnetic field. Each circuit consists of a silicon Hall generator, amplifier, trigger, and output stage, integrated with its own voltage regulator, onto a monolithic silicon chip. Circuit outputs can be interfaced directly with bipolar or MOS logic circuits.

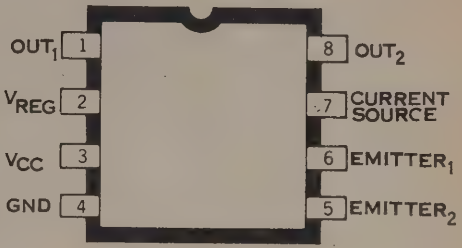
FEATURES

- Operable with a small permanent magnet.
- High reliability—No moving parts; contact bounce and wear are eliminated.
- Small size.
- Constant amplitude output—independant of frequency.
- **Operating Temperature Range:** UGN Series, 0° C to +70° C; UGS Series, −40° C to +125° C.
- Two plastic package configurations: Suffix **M**, 8-pin dual in-line; Suffix **T**, 3-pin single ended.

CHARACTERISTICS

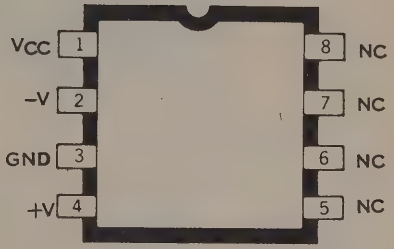
Sprague No.	Supply Voltage VCC (VDC)	Magnetic Flux Density (Gauss) Operate Max.	Operate Typ.	Release Typ.	Release Min.	Typical Hysteresis (Gauss)
UGN-3019T	5–16	750	500	225	100	225
UGN-3020T	4.5–24	350	300	210	50	90
UGN-3201M	5–16	750	450	300	100	150
UGN-3203M	5–16	350	235	100	25	135
UGS-3019T	5–16	750	500	225	100	225
UGS-3020T	4.5–24	350	300	210	50	90

TYPE UGN-3501M LINEAR SENSOR



A monolithic integrated circuit consisting of a linear Hall cell and differential amplifier which has provisions for gain and offset adjustments. By placing an appropriate value potentiometer across the two emitters and connecting the wiper arm to the current source, the output can be nulled for zero volts offset differential at zero gauss, and will produce approximately 1000 mV for 1,000 gauss. The circuit has a built-in voltage regulator so changes in Vcc from 8 to 16 volts produce very little change in the output.

TYPES UGN-3600M AND UGN-3601M CALIBRATED HALL CELLS



Intended for use as an empirical design aid or as a production test vehicle. Each device consists of a Hall generator only, with connections brought out on pins 2 and 4. Requires supply voltage of 5 volts. Type UGN-3600M is supplied with a calibrated chart for monitoring magnetic field intensity without the use of a gauss meter. Type UGN-3601M is supplied without the calibration chart.

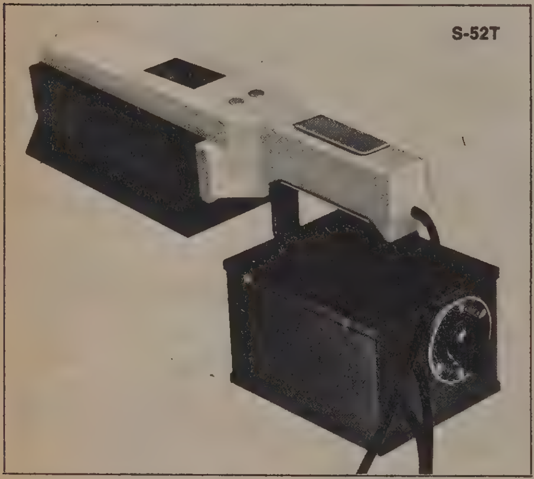
Sprague No. Old	New	Net Each, Lots of 1-24	25-99	100-999
ULN-3006M	UGN-3201M	$ 8.00	$ 4.50	$ 3.15
ULN-3006T	UGN-3019T	4.00	2.10	1.50
ULN-3007M	UGN-3203M	8.50	5.00	3.40
ULN-3008M	UGN-3501M	8.00	4.50	3.15
ULN-3020T	UGN-3020T	4.50	2.30	1.75
ULN-3100M	UGN-3600M	16.00	12.00	10.00
ULN-3101M	UGN-3601M	8.00	4.50	3.15
ULS-3006T	UGS-3019T	5.00	3.10	2.05
ULS-3020T	UGS-3020T	5.50	3.50	2.30

OUR STOCKS ARE COMPLETE AND UP-TO-DATE FOR PROMPT DELIVERY—
SEE CATALOG INDEX FOR OTHER SPRAGUE PRODUCTS ALSO LISTED.
WRITE FOR INFORMATION ON NEW OR UNLISTED ITEMS.

ULTRA-VIOLET PRODUCTS, INC.®

EPROM Erasing Simplified

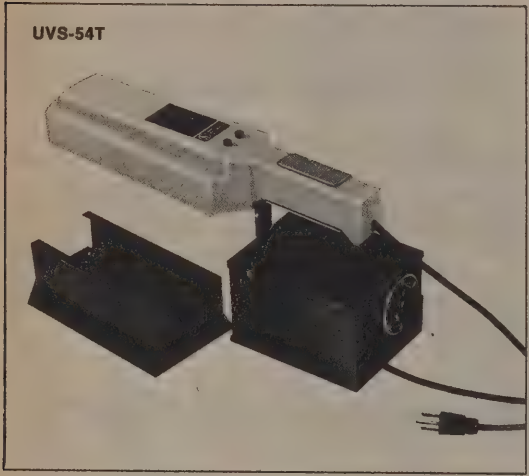
Powerful UV lamps by Ultra-Violet Products, Inc. provide fast, efficient erasure for programmable read-only memories. All offer powerful short wave output capability. This higher intensity shortens erasure time to minutes! Especially designed for EPROM erasing, these UV lamps have become the most widely used lamps in the computer industry, and the UV source most recommended by leading EPROM manufacturers. All are housed in rugged, lightweight CYCOLAC® and are available in 115V or 220V versions.


S-52T

S-52T — THE FASTEST, MOST POWERFUL UV ERASING SYSTEM

- Unmatched intensity at 254nm
- Special formulation for ozone-free UV transmittance
- Tube life in excess of 10,000 hours
- Complete erasure in minutes

This short wave powerhouse provides 3 feet of exposed, grid-formed tubing for quick erasure. It will erase up to 16 chips at one time in about seven minutes. The timer assembly provides a stable base for the lamp maintaining the tube surface at a constant height above the work surface. When used separately from the timer assembly, it is lightweight and evenly balanced for convenient hand use.


UVS-54T

UVS-54T — THE VERSATILE, ECONOMICAL UV ERASING SYSTEM

- High intensity 6W lamp
- Tube life rated at 5000 hours
- UL listed (CSA approved model available)
- Lightweight

An excellent, economical unit powerful enough to provide complete erasure for up to 8 chips at one time. The versatile lamp can be easily removed from the timer assembly for on-the-spot erasures. The easy-grip handle and lightweight durable CYCOLAC® housing make this lamp highly portable and easy to use.

	PRICE	
ORDERING INFORMATION:	**115/60**	**220/50**
S-52T — Lamp, timer assembly and tray	**$239.00**	**$259.00**
S-52 — Lamp, transformer base	**209.00**	**239.00**
UVS-54T — Lamp, timer assembly and tray	**119.00**	**139.00**
UVS-54E — Lamp only	**89.75**	**99.75**
J-167 — Timer Assembly	**64.00**	**81.50**
UVC-503 — BLAK-RAY® Safety Goggles		**7.50**

SPECIFICATIONS

Basic Lamp Model	Exposure Time at 1" For Recommended Integrated Dose of:		Aperture	Dimensions	Power	Weight
S-52	6w-secs/cm² 7 min.	10w-secs/cm² 12 min.	6 x 2⅜" (15.2 x 6cm)	14¾" x 3½" x 2⅝" (37.5 x 8.9 x 6.7cm)	115V/60Hz or 220V/50Hz 18W	2 lbs. (.9kg)
UVS-54E	14 min.	23 min.	6 x 2⅜" (15.2 x 6cm)	(37.5 x 8.9 x 6.7cm) 14¾" x 3½" x 2⅝"	115V/60Hz or 220V/50Hz 6W	2 lbs. (.9kg)

UNITRODE Power Semiconductors

ZENER DIODES

Unitrode Number	Description	Net Each, Lots of		
		1-99	100-999	1000-2499
1N4461-1N4488	1.5 W; 5%	$ 2.25	$1.60	$1.05
1N4461-1N4483JAN	1.5 W; 5%	2.50	1.80	1.20
1N4461-1N4483JANTX	1.5 W; 5%	3.50	2.65	2.00
1N4461-1N4483JANTXV	1.5 W; 5%	3.80	2.85	2.20
1N4954-1N4969	5.0 W; 5%	4.50	3.35	2.40
1N4954-1N4969JAN	5.0 W; 5%	4.85	3.55	2.60
1N4954-1N4969JANTX	5.0 W; 5%	6.45	4.95	3.95
1N4954-1N4969JANTXV	5.0 W; 5%	6.95	5.30	4.25
1N4970-1N4975	5.0 W; 5%	5.00	3.70	2.70
1N4970-1N4975JAN	5.0 W; 5%	6.00	4.70	3.60
1N4970-1N4975JANTX	5.0 W; 5%	7.50	5.70	4.60
1N4970-1N4975JANTXV	5.0 W; 5%	8.00	6.05	4.90
1N4976-1N4983	5.0 W; 5%	7.00	5.25	4.20
1N4976-1N4983JAN	5.0 W; 5%	8.00	6.00	4.80
1N4976-1N4979JANTX	5.0 W; 5%	9.50	7.60	6.10
1N4976-1N4979JANTXV	5.0 W; 5%	10.00	7.95	6.40
1N4984-1N4988	5.0 W; 5%	7.50	5.70	4.60
1N4984-1N4988JAN	5.0 W; 5%	9.00	6.75	5.40
1N4989-1N4996	5.0 W; 5%	8.50	6.35	5.10
1N4989-1N4995JAN	5.0 W; 5%	11.00	8.70	7.00
1N5063-1N5090	3.0 W; 5%	4.35	3.20	2.35
1N5091-1N5103	3.0 W; 5%	5.60	4.20	3.40
1N5104-1N5117	3.0 W; 5%	6.60	4.95	3.95
1N5118-1N5122	5.0 W; 5%	5.00	3.70	2.70
1N5123-1N5128	5.0 W; 5%	7.00	5.25	4.20
1N5129-1N5134	5.0 W; 5%	8.00	6.00	4.80
UZ110-UZ119	3 W; 5%	6.45	4.60	3.60
UZ120-UZ140	3 W; 5%	7.60	5.45	4.15
UZ210-UZ219	3 W; 10%	4.60	3.30	2.50
UZ220-UZ240	3 W; 10%	5.75	4.10	3.15
UZ706-UZ760	3 W; 5%	5.00	3.50	2.45
UZ770-UZ790	3 W; 5%	5.85	4.35	2.95
UZ806-UZ860	3 W; 10%	3.30	2.35	1.70
UZ870-UZ890	3 W; 10%	3.90	2.90	2.00
UZ4110-UZ4120	5 W; 5%	3.50	2.75	2.20
UZ4210-UZ4220	5 W; 10%	3.20	2.40	1.90
UZ4706-UZ4791	5 W; 5%	2.45	1.85	1.30
UZ4806-UZ4891	5 W; 10%	2.20	1.65	1.15
UZ5110-UZ5119	5 W; 5%	8.05	5.75	4.40
UZ5120-UZ5240	5 W; 5%	9.20	6.60	5.00
UZ5210-UZ5240	5 W; 10%	5.45	3.90	3.00
UZ5310-UZ5340	5 W; 20%	4.60	3.30	2.50
UZ5706-UZ5760	5 W; 5%	5.75	4.10	2.85
UZ5770-UZ5790	5 W; 5%	6.75	5.00	3.40
UZ5806-UZ5860	5 W; 10%	3.85	2.75	1.95
UZ5870-UZ5890	5 W; 10%	4.50	3.85	2.30
UZ7706-UZ7750	10 W; 5%	9.85	7.40	5.40
UZ7706L-UZ7750L	6 W; 5%	9.85	7.40	5.40
UZ7756-UZ7790	10 W; 5%	11.75	9.00	6.50
UZ7756L-UZ7790L	6 W; 5%	11.75	9.00	6.50
UZ7806-UZ7850	10 W; 10%	8.20	6.15	4.50
UZ7806L-UZ7850L	6 W; 10%	8.20	6.15	4.50
UZ7851-UZ7890	10 W; 10%	9.80	7.35	5.40
UZ7851L-UZ7890L	6 W; 10%	9.80	7.35	5.40
UZ8110-UZ8120	1 W; 5%	2.70	2.25	1.45
UZ8210-UZ8220	1 W; 10%	1.95	1.50	1.00
UZ8706-UZ8750	1 W; 5%	1.00	.75	.60
UZ8751-UZ8790	1 W; 5%	1.50	1.10	.90
UZ8806-UZ8850	1 W; 10%	.90	.65	.52
UZ8851-UZ8890	1 W; 10%	1.30	.95	.78

FULL WAVE BRIDGES

Unitrode Number	Description	Net Each, Lots of	
		1-99	100-999
469-1	1 ph; 10.0 A; 200 V	$14.95	....
469-1JAN	1 ph; 10.0 A; 200 V	16.60	....
469-1JANTX	1 ph; 10.0 A; 200 V	19.50	....
469-2	1 ph; 10.0 A; 400 V	18.00	....
469-2JAN	1 ph; 10.0 A; 400 V	20.00	....
469-2JANTX	1 ph; 10.0 A; 400 V	23.50	....
469-3	1 ph; 10.0 A; 600 V	21.50	....
469-3JAN	1 ph; 10.0 A; 600 V	24.00	....
469-3JANTX	1 ph; 10.0 A; 600 V	28.25	....
673-1	1 ph; 1.5 A; 100 V	2.80	$ 1.90
673-2	1 ph; 1.5 A; 200 V	3.25	2.20
673-4	1 ph; 1.5 A; 400 V	4.20	2.75
673-6	1 ph; 1.5 A; 600 V	4.65	3.30
673-7	1 ph; H.V.; 1200 V	12.00	....
673-7.5	1 ph; H.V.; 1800 V	18.00	....
673-8	1 ph; H.V.; 2400 V	24.00	....
673-8.5	1 ph; H.V.; 3000 V	30.00	....
673-9	1 ph; H.V.; 3600 V	36.00	....
673-10	1 ph; H.V.; 4200 V	42.00	....
673-11	1 ph; H.V.; 4800 V	48.00	....
673-12	1 ph; H.V.; 5000 V	50.00	....
676-1	1 ph; 1.0 A; 100 V	3.65	2.55
676-2	1 ph; 1.0 A; 200 V	4.35	3.00
676-4	1 ph; 1.0 A; 400 V	5.60	3.80
676-6	1 ph; 1.0 A; 600 V	6.20	4.20
676-12	1 ph; H.V.; 1200 V	16.00	....
676-18	1 ph; H.V.; 1800 V	24.00	....

FULL WAVE BRIDGES (CONT'D)

Unitrode Number	Description	Net Each, Lots of	
		1-99	100-999
676-24	1 ph; H.V.; 2400 V	$32.00	....
676-30	1 ph; H.V.; 3000 V	40.00	....
676-36	1 ph; H.V.; 3600 V	48.00	....
676-42	1 ph; H.V.; 4200 V	56.00	....
676-48	1 ph; H.V.; 4800 V	64.00	....
676-50	1 ph; H.V.; 5000 V	66.70	....
677-1	1 ph; 1.0 A; 50 V	10.00	$7.30
677-2	1 ph; 1.0 A; 100 V	10.55	7.55
677-3	1 ph; 1.0 A; 150 V	10.90	7.80
677-4	1 ph; 1.0 A; 200 V	11.20	8.10
678-1	3 ph; 25.0 A; 100 V	18.10	....
678-2	3 ph; 25.0 A; 200 V	19.70	....
678-4	3 ph; 25.0 A; 400 V	22.95	....
678-6	3 ph; 25.0 A; 600 V	25.55	....
679-1	1 ph; 25.0 A; 100 V	9.95	....
679-2	1 ph; 25.0 A; 200 V	10.60	....
679-4	1 ph; 25.0 A; 400 V	12.00	....
679-6	1 ph; 25.0 A; 600 V	13.60	....
680-1	1 ph; 10.0 A; 100 V	7.20	....
680-2	1 ph; 10.0 A; 200 V	7.80	....
680-4	1 ph; 10.0 A; 400 V	9.00	....
680-6	1 ph; 10.0 A; 600 V	10.85	....
682-1	3 ph; 20.0 A; 100 V	24.95	....
682-2	3 ph; 20.0 A; 200 V	27.10	....
682-4	3 ph; 20.0 A; 400 V	31.60	....
682-6	3 ph; 20.0 A; 600 V	35.15	....
683-1	1 ph; 20.0 A; 100 V	13.70	....
683-2	1 ph; 20.0 A; 200 V	14.65	....
683-4	1 ph; 20.0 A; 400 V	15.85	....
683-6	1 ph; 20.0 A; 600 V	17.90	....
684-1	1 ph; 10.0 A; 100 V	9.90	....
684-2	1 ph; 10.0 A; 200 V	10.75	....
684-4	1 ph; 10.0 A; 400 V	12.35	....
684-6	1 ph; 10.0 A; 600 V	14.95	....
685-2.5	3 ph; 2.5 KV	22.50	....
685-3	3 ph; 3.0 KV	27.00	....
685-4	3 ph; 4.0 KV	36.00	....
685-5	3 ph; 5.0 KV	45.00	....
685-7	3 ph; 7.0 KV	63.00	....
686-2.5	1 ph; 2.5 KV	15.00	....
686-3	1 ph; 3.0 KV	18.00	....
686-4	1 ph; 4.0 KV	24.00	....
686-5	1 ph; 5.0 KV	30.00	....
686-7	1 ph; 7.0 KV	42.00	....
695-1	1 ph; 15.0 A; 100 V	10.20	....
695-2	1 ph; 15.0 A; 200 V	10.80	....
695-4	1 ph; 15.0 A; 400 V	12.00	....
695-6	1 ph; 15.0 A; 600 V	13.20	....
696-1	3 ph; 15.0 A; 100 V	16.50	....
696-2	3 ph; 15.0 A; 200 V	17.60	....
696-4	3 ph; 15.0 A; 400 V	20.35	....
696-6	3 ph; 15.0 A; 600 V	23.10	....
697-1	1 ph; 2.5 A; 100 V	4.15	3.05
697-2	1 ph; 2.5 A; 200 V	4.65	3.45
697-4	1 ph; 2.5 A; 400 V	5.70	4.60
697-6	1 ph; 2.5 A; 600 V	6.70	5.55
698-1	1 ph; 2.25 A; 100 V	6.05	4.07
698-2	1 ph; 2.25 A; 200 V	6.65	5.15
698-4	1 ph; 2.25 A; 400 V	8.05	6.15
698-6	1 ph; 2.25 A; 600 V	8.80	7.05
700-1	1 ph; 2.5 A; 100 V	4.00	3.00
700-6	1 ph; 2.5 A; 600 V	6.90	5.80
701-1	3 ph; 2.25 A; 100 V	5.00	3.90
701-6	3 ph; 2.25 A; 600 V	8.10	6.70
800-1	3 ph; 40.0 A; 100 V	45.00	33.75
800-2	3 ph; 40.0 A; 200 V	55.00	41.25
800-4	3 ph; 2.25 A; 150 V	90.00	67.50
801-1	3 ph; 20.0 A; 50 V	27.00	20.25
801-2	3 ph; 20.0 A; 100 V	32.50	24.35
801-4	3 ph; 20.0 A; 150 V	54.00	40.50
802-1	1 ph; 35.0 A; 50 V	34.00	25.50
802-2	1 ph; 35.0 A; 100 V	41.00	30.75
802-4	1 ph; 35.0 A; 150 V	67.50	50.65
803-1	1 ph; 20.0 A; 50 V	20.00	15.00
803-2	1 ph; 20.0 A; 100 V	24.00	18.00
803-4	1 ph; 20.0 A; 150 V	40.00	30.00
SPA25	1 ph; 25.0 A; 100 V	19.60	....
SPA25JAN	1 ph; 25.0 A; 100 V	21.75	....
SPB25	1 ph; 25.0 A; 200 V	23.50	....
SPB25JAN	1 ph; 25.0 A; 200 V	26.00	....
SPC25	1 ph; 25.0 A; 400 V	28.25	....
SPC25JAN	1 ph; 25.0 A; 400 V	31.25	....
SPD25	1 ph; 25.0 A; 500 V	34.00	....
SPD25JAN	1 ph; 25.0 A; 600 V	37.50	....

PHOTO SCR'S

Unitrode Number	Description	Net Each, Lots of	
		1-99	100-999
PF30	300 mA @ 50° C 30 V; TO-18	$ 3.45	$ 2.30
PF30A	300 mA @ 50° C 30 V; TO-18	4.35	2.90
PF60	300 mA @ 50° C 60 V; TO-18	4.05	2.70
PF60A	300 mA @ 50° C 60 V; TO-18	5.20	3.45
PF100	300 mA @ 50° C 100 V; TO-18	6.30	4.20
PF100A	300 mA @ 50° C 100 V; TO-18	7.70	5.10
PF200	300 mA @ 50° C 200 V; TO-18	7.50	5.00
PF200A	300 mA @ 50° C 200 V; TO-18	9.40	6.25
PF300	300 mA @ 50° C 300 V; TO-18	9.00	6.00
PF300A	300 mA @ 50° C 300 V; TO-18	11.30	7.50
PF400	300 mA @ 50° C 400 V; TO-18	11.00	7.35
PF400A	300 mA @ 50° C 400 V; TO-18	13.60	9.05

UNITRODE

Power Semiconductors

HYBRID CIRCUITS

Unitrode Number	Description	Net Each, Lots of	
		1-99	100-999
PIC500 D. Darl.	NPN; 10.0 A; 100 V; TO-3	$17.30	$10.50
PIC501 D. Darl.	NPN; 10.0 A; 100 V; TO-3	10.50	6.80
PIC502 D. Darl.	NPN; 8.0 A; 80 V; TO-3	7.10	5.30
PIC600 Sw. Reg.	5.0 A; 60 V (Pos); TO-66	5.50	4.00
PIC601 Sw. Reg.	5.0 A; 80 V (Pos); TO-66	6.25	4.55
PIC610 Sw. Reg	5.0 A; 60 V (Neg); TO-66	5.25	3.80
PIC611 Sw. Reg.	5.0 A; 80 V (Neg); TO-66	5.95	4.30
PIC625 Sw. Reg.	15 A; 60 V (Pos); TO-66	11.00	8.00
PIC626 Sw. Reg.	15 A; 80 V (Pos); TO-66	12.50	9.10
PIC635 Sw. Reg.	15 A; 60 V (Neg); TO-66	10.35	7.50
PIC636 Sw. Reg.	15 A; 80 V (Neg); TO-66	11.85	8.60

DARLINGTONS

Unitrode Number	Description	Net Each, Lots of	
		1-99	100-999
2N6350	NPN; 10.0 A; 80 V; TO-33	$ 7.00	$4.70
2N6351	NPN; 10.0 A; 150 V; TO-33	9.25	6.20
2N6352	NPN; 10.0 A; 80 V; TO-66	8.00	5.40
2N6353	NPN; 10.0 A; 150 V; TO-66	10.65	7.15
U2T101	NPN; 10.0 A; 80 V; TO-33	4.10	3.08
U2T105	NPN; 10.0 A; 150 V; TO-33	5.15	3.86
U2T201	NPN; 10.0 A; 80 V; TO-66	4.82	3.62
U2T205	NPN; 10.0 A; 150 V; TO-66	5.95	4.47
U2T301	NPN; 5.0 A; 60 V; TO-33	2.80	2.10
U2T305	NPN; 5.0 A; 150 V; TO-33	3.95	2.96
U2T401	NPN; 5.0 A; 60 V; TO-66	3.50	2.75
U2T405	NPN; 5.0 A; 150 V; TO-66	4.70	3.55
U2T712	NPN; 2.0 A; 200 V; TO-33	5.25	3.94
U2T713	NPN; 2.0 A; 300 V; TO-33	6.15	4.61
U2T722	NPN; 2.0 A; 200 V; TO-66	5.85	4.38
U2T723	NPN; 2.0 A; 300 V; TO-66	7.50	5.63
U2T822	NPN; 5.0 A; 200 V; TO-66	7.80	5.85
U2T823	NPN; 5.0 A; 300 V; TO-66	9.40	7.05
U2T832	NPN; 5.0 A; 200 V; TO-3	8.60	6.45
U2T833	NPN; 5.0 A; 300 V; TO-3	10.35	7.76

PUT'S

Unitrode Number	Description	Net Each, Lots of		
		1-99	100-999	1000-2499
2N6027	375 mW @ 25°C; TO-98	$0.79	$0.53	$0.42
2N6028	375 mW @ 25°C; TO-98	1.00	.65	.52
2N6119	400 mW @ 25°C; TO-18	1.30	.87	.72
2N6120	400 mW @ 25°C; TO-18	1.60	1.07	.90
2N6137	400 mW @ 25°C; TO-18	3.95	2.65	1.85
2N6137JAN	400 mW @ 25°C; TO-18	5.00	3.35	3.00
2N6137JANTX	400 mW @ 25°C; TO-18	6.25	4.18	3.75
2N6138*	400 mW @ 25°C; TO-18	4.70	3.15	2.65
P13T1	375 mW @ 25°C; TO-92	.70	.46	.37
P13T2	375 mW @ 25°C; TO-92	.88	.58	.46

*100 V rating; others 40 V.

RECTIFIER STACKS

Unitrode Number	Description	Net Each, Lots of	
		1-99	100-999
1N5597	10 KV	$29.10	....
1N5597JAN	10 KV	40.15	....
1N5600	5 KV	26.40	....
1N5600JAN	5 KV	36.30	....
1N5603	5 KV	66.00	....
1N5603JAN	5 KV	86.60	....
688-10	10.0 KV	15.00	....
688-15	15.0 KV	22.50	....
688-20	20.0 KV	30.00	....
688-25	25.0 KV	37.00	....
UDA5	5 KV	19.70	....
UDA7.5	7.5 KV	25.10	....
UDA10	10.0 KV	29.10	....
UDA15	15.0 KV	42.90	....
UDB2.5	2.5 KV	15.85	....
UDB5	5.0 KV	26.40	....
UDB7.5	7.5 KV	35.60	....
UDC5	5.0 KV	24.60	....
UDC7.5	7.5 KV	31.40	....
UDC10	10.0 KV	36.40	....
UDC15	15.0 KV	53.60	....
UDD2.5	2.5 KV	19.80	....
UDD5	5.0 KV	33.10	....
UDD7.5	7.5 KV	44.50	....
UDE2.5	2.5 KV	26.30	....
UDE5	5.0 KV	44.90	....
UDF2.5	2.5 KV	31.80	....
UDF5	5.0 KV	56.15	....
UFB2.5	2.5 KV	9.50	$ 7.80
UFB5	5 KV	16.50	13.50
UFB7.5	7.5 KV	19.50	16.00
UFS5	5 KV	12.00	9.85

RECTIFIER STACKS (CONT'D)

Unitrode Number	Description	Net Each, Lots of	
		1-99	100-999
UFS7.5	7.5 KV	$15.75	$13.00
UFS10	10 KV	18.75	15.35
UGB5	5 KV	53.90	....
UGB7.5	7.5 KV	64.50	....
UGB10	10 KV	75.50	....
UGD5	5 KV	67.30	....
UGD7.5	7.5 KV	80.85	....
UGD10	10 KV	94.60	....
UGE2.5	2.5 KV	52.00	....
UGE5	5 KV	66.00	....
UGE7.5	7.5 KV	76.50	....
UGF2.5	2.5 KV	65.10	....
UGF5	5 KV	82.50	....
UGF7.5	7.5 KV	95.78	....
US12	1.2 KV	3.05	2.20
US15	1.5 KV	3.30	2.40
US18	1.8 KV	3.60	2.60
US20	2.0 KV	3.90	2.80
US25	2.5 KV	4.15	3.00
US30	3.0 KV	4.25	3.50
US35	3.5 KV	4.60	3.75
US40	4.0 KV	5.00	4.10
US45A	4.5 KV	5.50	4.65
US50A	5.0 KV	6.25	5.30
US60A	6.0 KV	7.50	6.45
US70A	7.0 KV	9.00	7.80
US80A	8.0 KV	10.00	8.65
US100A	10.0 KV	12.00	10.25
US120A	12.0 KV	15.00	12.80
US150A	15.0 KV	19.00	16.25
US180A	18.0 KV	22.50	19.15
US200A	20.0 KV	25.00	21.35
USB2.5	2.5 KV	8.00	6.45
USB5	5.0 KV	14.00	11.45
USB7.5	7.5 KV	17.00	13.95
USB10	10.0 KV	20.00	16.40
USR12	1.2 KV	3.50	2.45
USR15	1.5 KV	3.80	2.80
USR18	1.8 KV	4.05	3.05
USR20	2.0 KV	4.50	3.30
USR25	2.5 KV	4.90	3.95
USR30	3.0 KV	5.30	4.40
USR35	3.5 KV	5.75	4.70
USR40A	4.0 KV	6.25	5.15
USR45A	4.5 KV	6.90	5.80
USR50A	5.0 KV	7.80	6.65
USR60A	6.0 KV	9.40	8.05
USR70A	7.0 KV	11.25	9.75
USR80A	8.0 KV	12.50	10.80
USR100A	10.0 KV	15.00	12.80
USR120A	12.0 KV	18.75	16.00
USR150A	15.0 KV	23.75	20.30
USR180A	18.0 KV	28.15	23.95
USS5	5.0 KV	10.00	8.25
USS7.5	7.5 KV	12.50	10.25
USS10	10.0 KV	15.00	12.30
USS15	15.0 KV	21.00	17.25

TRANSIENT SUPPRESSORS

Unitrode Number	Description	Net Each, Lots of		
		1-99	100-999	1000-2499
1N5610	33 V	$10.55	$ 8.95	....
1N5610JAN	33 V	11.00	9.55	....
1N5610JANTX	33 V	14.65	13.35	....
1N5611	43.7 V	10.55	8.95	....
1N5611JAN	43.7 V	11.00	9.55	....
1N5611JANTX	43.7 V	14.65	13.35	....
1N5612	54 V	10.55	8.95	....
1N5612JAN	54 V	11.00	9.55	....
1N5612JANTX	54 V	14.65	13.35	....
1N5613	190 V	10.55	8.95	....
1N5613JAN	190 V	12.35	10.50	....
1N5629-1N5651	1500 W; 10%	3.95	3.15	$2.80
1N5629A-1N5650A	1500 W; 5%	4.50	3.60	3.20
1N5907	6 V	4.50	3.60	3.20
TVS505-TVS528	500 W	1.50	1.20	1.00

SCR'S

Unitrode Number	Description	Net Each, Lots of		
		1-99	100-999	1000-2499
	TO-5 CASE			
2N2322	1.6 A @ 85° C; 25 V	$ 1.65	$ 1.10	....
2N2322A	1.6 A @ 85° C; 25 V	1.71	1.14	....

SCR LISTING CONTINUED ON FOLLOWING PAGE

UNITRODE Power Semiconductors

SCR'S (CONTINUED)

Unitrode Number	Description	Net Each, Lots of		
		1-99	100-999	1000-2499
TO-5 CASE (CONT'D)				
2N2323	1.6 A @ 85° C; 50 V	$ 1.71	$ 1.14	....
2N2323JAN	1.6 A @ 85° C; 50 V	2.10	1.40	....
2N2323JANTX	1.6 A @ 85° C; 50 V	3.30	2.20	....
2N2323A	1.6 A @ 85° C; 50 V	2.10	1.40	....
2N2323AJAN	1.6 A @ 85° C; 50 V	2.40	1.60	....
2N2323AJANTX	1.6 A @ 85° C; 50 V	3.75	2.50	....
2N2324	1.6 A @ 85° C; 100 V	2.10	1.40	....
2N2324JAN	1.6 A @ 85° C; 100 V	2.40	1.60	....
2N2324JANTX	1.6 A @ 85° C; 100 V	3.75	2.50	....
2N2324A	1.6 A @ 85° C; 100 V	2.10	1.40	....
2N2324AJAN	1.6 A @ 85° C; 100 V	2.40	1.60	....
2N2324AJANTX	1.6 A @ 85° C; 100 V	3.75	2.50	....
2N2325	1.6 A @ 85° C; 150 V	3.45	2.30	....
2N2325A	1.6 A @ 85° C; 150 V	3.45	2.30	....
2N2326	1.6 A @ 85° C; 200 V	3.45	2.30	....
2N2326JAN	1.6 A @ 85° C; 200 V	3.75	2.50	....
2N2326JANTX	1.6 A @ 85° C; 200 V	4.20	2.80	....
2N2326A	1.6 A @ 85° C; 200 V	3.60	2.40	....
2N2326AJAN	1.6 A @ 85° C; 200 V	3.75	2.50	....
2N2326AJANTX	1.6 A @ 85° C; 200 V	4.20	2.80	....
2N2327	1.6 A @ 85° C; 250 V	3.75	2.50	....
2N2327A	1.6 A @ 85° C; 250 V	3.75	2.50	....
2N2328	1.6 A @ 85° C; 300 V	6.60	4.40	....
2N2328JAN	1.6 A @ 85° C; 300 V	6.75	4.50	....
2N2328JANTX	1.6 A @ 85° C; 300 V	8.25	5.50	....
2N2328A	1.6 A @ 85° C; 300 V	6.60	4.40	....
2N2328AJAN	1.6 A @ 85° C; 300 V	6.75	4.50	....
2N2328AJANTX	1.6 A @ 85° C; 300 V	8.25	5.50	....
2N2329	1.6 A @ 85° C; 400 V	7.20	4.80	....
2N2329JAN	1.6 A @ 85° C; 400 V	7.50	5.00	....
2N2329JANTX	1.6 A @ 85° C; 400 V	9.00	6.00	....
2N5724	1.6 A @ 85° C; 60 V	3.50	2.35	....
2N5725	1.6 A @ 85° C; 100 V	4.65	3.10	....
2N5726	1.6 A @ 85° C; 200 V	6.55	4.35	....
2N5727	1.6 A @ 85° C; 300 V	12.40	8.25	....
2N5728	1.6 A @ 85° C; 400 V	16.45	10.95	....
ID200	1.6 A @ 70° C; 50 V	.83	.56	$0.51
ID201	1.6 A @ 70° C; 100 V	.90	.61	.54
ID202	1.6 A @ 70° C; 150 V	.97	.65	.57
ID203	1.6 A @ 70° C; 200 V	1.03	.70	.63
ID300	1.6 A @ 70° C; 300 V	1.70	1.15	1.02
ID301	1.6 A @ 70° C; 400 V	1.80	1.20	1.07
TO-9 CASE				
2N1869	1.25 A @ 100° C; 15 V	$ 1.50	$ 1.00	....
2N1870	1.25 A @ 100° C; 30 V	1.80	1.20	....
2N1870A	1.25 A @ 100° C; 30 V	2.40	1.60	....
2N1870AJAN	1.25 A @ 100° C; 30 V	3.60	2.40	....
2N1871	1.25 A @ 100° C; 60 V	2.70	1.80	....
2N1871A	1.25 A @ 100° C; 60 V	4.20	2.80	....
2N1871AJAN	1.25 A @ 100° C; 60 V	6.00	4.00	....
2N1872	1.25 A @ 100° C; 100 V	4.50	3.00	....
2N1872A	1.25 A @ 100° C; 100 V	5.10	3.40	....
2N1872AJAN	1.25 A @ 100° C; 100 V	7.50	5.00	....
2N1873	1.25 A @ 100° C; 150 V	5.25	3.50	....
2N1874	1.25 A @ 100° C; 200 V	5.40	3.60	....
2N1874A	1.25 A @ 100° C; 200 V	6.45	4.30	....
2N1874AJAN	1.25 A @ 100° C; 200 V	8.85	5.90	....
2N1875	1.25 A @ 100° C; 15 V	3.90	2.60	....
2N1876	1.25 A @ 100° C; 30 V	5.10	3.40	....
2N1877	1.25 A @ 100° C; 60 V	6.60	4.40	....
2N1878	1.25 A @ 100° C; 100 V	7.35	4.90	....
2N1879	1.25 A @ 100° C; 150 V	7.50	5.00	....
2N1880	1.25 A @ 100° C; 200 V	7.65	5.10	....
2N1881	1.0 A @ 100° C; 30 V	4.50	3.00	....
2N1882	1.0 A @ 100° C; 60 V	6.60	4.40	....
2N1883	1.0 A @ 100° C; 100 V	7.35	4.90	....
2N1884	1.0 A @ 100° C; 150 V	7.80	5.20	....
2N1885	1.0 A @ 100° C; 200 V	8.70	5.80	....
TO-18 CASE				
2N3027	.5 A @ 100° C; 30 V	$ 7.65	$ 5.10	....
2N3027JAN	.5 A @ 100° C; 30 V	8.50	5.70	....
2N3027JANTX	.5 A @ 100° C; 30 V	10.80	7.20	....
2N3028	.5 A @ 100° C; 60 V	9.95	6.65	....
2N3028JAN	.5 A @ 100° C; 60 V	11.05	7.40	....
2N3028JANTX	.5 A @ 100° C; 60 V	13.35	8.90	....
2N3029	.5 A @ 100° C; 100 V	12.95	8.65	....
2N3029JAN	.5 A @ 100° C; 100 V	14.45	9.65	....
2N3029JANTX	.5 A @ 100° C; 100 V	17.45	11.65	....
2N3030	.5 A @ 100° C; 30 V	9.15	6.10	....
2N3030JAN	.5 A @ 100° C; 30 V	10.20	6.80	....
2N3030JANTX	.5 A @ 100° C; 30 V	12.45	8.30	....
2N3031	.5 A @ 100° C; 60 V	11.85	7.90	....
2N3031JAN	.5 A @ 100° C; 60 V	13.20	8.80	....
2N3031JANTX	.5 A @ 100° C; 60 V	15.80	10.55	....
2N3032	.5 A @ 100° C; 100 V	15.60	10.40	....
2N3032JAN	.5 A @ 100° C; 100 V	17.30	11.55	....
2N3032JANTX	.5 A @ 100° C; 100 V	20.75	13.85	....
2N4144	.25 A @ 75° C; 15 V	.90	.51	....
2N4145	.25 A @ 75° C; 30 V	.79	.56	....
2N4146	.25 A @ 75° C; 60 V	.88	.63	....
2N4147	.25 A @ 75° C; 100 V	1.03	.70	....
2N4148	.25 A @ 75° C; 150 V	1.17	.80	....
2N4149	.25 A @ 75° C; 200 V	1.30	.89	....
2N5719	.5 A @ 100° C; 60 V	3.00	2.00	....
2N5720	.5 A @ 100° C; 100 V	4.65	3.10	....
2N5721	.5 A @ 100° C; 200 V	6.55	4.35	....
2N5722	.5 A @ 100° C; 300 V	12.40	8.25	....
2N5723	.5 A @ 100° C; 400 V	16.45	10.95	....
GA200	60 V	20.20	13.40	....
GA200A	60 V	24.60	15.90	....

SCR'S (CONTINUED)

Unitrode Number	Description	Net Each, Lots of		
		1-99	100-999	1000-2499
GA201	100 V	$32.50	$21.70	....
GA201A	100 V	37.60	24.90	....
GA300	60 V	5.40	3.60	$ 3.24
GA300A	60 V	6.50	4.35	3.92
GA301	100 V	9.15	6.10	5.50
GA301A	100 V	10.55	7.05	6.35
ID100	.5 A @ 100° C; 30 V	.72	.48	.41
ID101	.5 A @ 100° C; 60 V	.76	.51	.43
ID102	.5 A @ 100° C; 100 V	.86	.58	.46
ID103	.5 A @ 100° C; 150 V	.92	.62	.50
ID104	.5 A @ 100° C; 200 V	.97	.65	.52
ID105	.5 A @ 100° C; 300 V	1.08	.72	.58
ID106	.5 A @ 100° C; 400 V	1.50	1.00	.81
TO-59 CASE				
GB200	60 V	$20.20	$13.40	....
GB200A	60 V	24.60	15.90	....
GB201	100 V	32.50	21.70	....
GB201A	100 V	37.60	24.90	....
TO-92 CASE				
2N5060	.8 A @ 40° C; 30 V	$0.63	$0.42	$0.36
2N5061	.8 A @ 40° C; 60 V	.66	.44	.37
2N5062	.8 A @ 40° C; 100 V	.75	.50	.40
2N5063	.8 A @ 40° C; 150 V	.80	.53	.43
2N5064	.8 A @ 40° C; 200 V	.84	.56	.45
2N6564	.8 A @ 40° C; 300 V	.94	.63	.50
2N6565	.8 A @ 40° C; 400 V	1.03	.68	.55
IP100	.8 A @ 40° C; 30 V	.63	.42	.36
IP101	.8 A @ 40° C; 60 V	.66	.44	.37
IP102	.8 A @ 40° C; 100 V	.75	.50	.40
IP103	.8 A @ 40° C; 150 V	.80	.53	.43
IP104	.8 A @ 40° C; 200 V	.84	.56	.45
IP105	.8 A @ 40° C; 300 V	.94	.63	.50
IP106	.8 A @ 40° C; 400 V	1.03	.68	.55

NPN TRANSISTORS

Unitrode Number	Description	Net Each, Lots of		
		1-99	100-999	1000-2499
2N2150	2.0 A; 80 V; TO-59	$14.50	$ 9.50	....
2N2151	2.0 A; 80 V; TO-59	11.50	7.70	....
2N2151JAN	2.0 A; 100 V; TO-59	16.00	10.75	....
2N2151JANTX	2.0 A; 100 V; TO-59	21.00	14.00	....
2N2828	3.0 A; 60 V; TO-59	16.50	11.00	....
2N2829	3.0 A; 60 V; TO-59	24.00	16.00	....
2N2850	5.0 A; 80 V; TO-5*	18.90	12.60	....
2N2851	5.0 A; 80 V; TO-5*	14.50	10.75	....
2N2852	5.0 A; 80 V; TO-5*	21.00	14.00	....
2N2853	5.0 A; 40 V; TO-5*	21.00	15.75	....
2N2854	5.0 A; 40 V; TO-5*	18.00	13.50	....
2N2855	5.0 A; 40 V; TO-5*	9.00	6.90	....
2N2856	5.0 A; 40 V; TO-5*	18.90	12.60	....
2N2983	3 A; 80 V; TO-5	10.50	7.00	....
2N2984	3 A; 120 V; TO-5	15.00	10.00	....
2N2985	3 A; 80 V; TO-5	13.50	9.00	....
2N2986	3 A; 120 V; TO-5	18.00	12.00	....
2N2987	1 A; 80 V; TO-5	6.60	4.40	....
2N3418	3.0 A; 60 V; TO-5	6.00	4.02	....
2N3419	3.0 A; 80 V; TO-5	6.00	4.02	....
2N3420	3.0 A; 60 V; TO-5	6.00	4.02	....
2N3421	3.0 A; 80 V; TO-5	6.00	4.02	....
2N3850	5.0 A; 80 V; TO-59	15.00	10.00	....
2N3851	5.0 A; 80 V; TO-59	12.00	8.00	....
2N3852	5.0 A; 40 V; TO-59	10.50	7.00	....
2N3853	5.0 A; 40 V; TO-59	9.00	6.00	....
2N3996	5.0 A; 80 V; TO-111	12.25	8.25	....
2N3996JAN	5.0 A; 80 V; TO-111	17.25	11.60	....
2N3996JANTX	5.0 A; 80 V; TO-111	20.25	13.60	....
2N3996JANTXV	5.0 A; 80 V; TO-111	21.25	14.45	....
2N3997	5.0 A; 80 V; TO-111	12.75	8.55	....
2N3997JAN	5.0 A; 80 V; TO-111	18.00	12.10	....
2N3997JANTX	5.0 A; 80 V; TO-111	21.25	14.25	....
2N3997JANTXV	5.0 A; 80 V; TO-111	22.50	15.10	....
2N3998	5.0 A; 80 V; TO-59	9.00	6.10	....
2N3998JAN	5.0 A; 80 V; TO-59	12.50	8.40	....
2N3998JANTX	5.0 A; 80 V; TO-59	14.00	9.40	....
2N3998JANTXV	5.0 A; 80 V; TO-59	15.00	10.10	....
2N3999	5.0 A; 80 V; TO-59	9.25	6.20	....
2N3999JAN	5.0 A; 80 V; TO-59	13.50	9.10	....
2N3999JANTX	5.0 A; 80 V; TO-59	15.50	10.50	....
2N3999JANTXV	5.0 A; 80 V; TO-59	16.50	11.25	....
2N4150	10 A; 70 V; TO-5	10.50	7.05	....
2N4150JAN	10 A; 70 V; TO-5	13.50	9.00	....
2N4150JANTX	10 A; 70 V; TO-5	15.00	10.00	....
2N4863	2 A	6.00	4.00	....
2N5074	3 A; 200 V; TO-59	22.50	15.00	....
2N5075	3 A; 200 V; TO-59	30.00	20.00	....
2N5076	3 A; 200 V; TO-59	27.00	18.00	....
2N5077	3 A; 200 V; TO-59	36.00	24.00	....
2N5346	7 A; 80 V; TO-59	25.75	19.00	....
2N5347	7 A; 80 V; TO-59	30.15	23.00	....
2N5348	7 A; 100 V; TO-59	28.60	22.00	....
2N5349	7 A; 100 V; TO-59	34.80	26.00	....
2N5427	7 A; 80 V; TO-66	5.00	3.75	$3.18
2N5428	7 A; 80 V; TO-66	6.50	4.50	3.82
2N5429	7 A; 100 V; TO-66	7.10	4.75	4.02
2N5430	7 A; 100 V; TO-66	9.00	6.00	5.10
2N5477	7 A; 80 V; TO-59	23.40	17.70	....
2N5478	7 A; 80 V; TO-59	27.90	21.00	....
2N5479	7 A; 100 V; TO-59	26.20	20.00	....

TRANSISTOR LISTING CONTINUED ON FOLLOWING PAGE

UNITRODE Power Semiconductors

NPN TRANSISTORS (CONTINUED)

Unitrode Number	Description	Net Each, Lots of		
		1-99	100-999	1000-2499
2N5480	7 A; 100 V; TO-59	$32.40	$24.50	......
2N5487	5 A; 80 V; TO-5*	17.00	12.75	......
2N5488	5 A; 100 V; TO-5*	17.00	12.75	......
2N5552	10 A; 80 V; TO-5	25.00	16.70	......
2N5658	20 A; 80 V; TO-59	34.50	25.75	......
2N5659	20 A; 80 V; TO-111	36.00	24.00	......
2N5660	3 A; 200 V; TO-66	6.75	4.55	......
2N5660JAN	3 A; 200 V; TO-66	11.00	7.35	......
2N5660JANTX	3 A; 200 V; TO-66	15.00	10.00	......
2N5660JANTXV	3 A; 200 V; TO-66	16.25	10.75	......
2N5661	3 A; 300 V; TO-66	10.00	6.70	......
2N5661JAN	3 A; 300 V; TO-66	15.75	10.55	......
2N5661JANTX	3 A; 300 V; TO-66	20.25	13.50	......
2N5661JANTXV	3 A; 300 V; TO-66	21.25	14.25	......
2N5662	3 A; 200 V; TO-5	6.75	4.55	......
2N5662JAN	3 A; 200 V, TO-5	11.00	7.35	......
2N5662JANTX	3 A; 200 V; TO-5	15.00	10.00	......
2N5662JANTXV	3 A; 200 V; TO-5	16.25	10.75	......
2N5663	3 A; 300 V; TO-5	10.00	6.70	......
2N5663JAN	3 A; 300 V; TO-5	15.75	10.55	......
2N5663JANTX	3 A; 300 V; TO-5	20.25	13.50	......
2N5663JANTXV	3 A; 300 V; TO-5	21.25	14.25	......
2N5664	5 A; 200 V; TO-66	7.80	5.25	......
2N5664JAN	5 A; 200 V; TO-66	12.00	8.00	......
2N5664JANTX	5 A; 200 V; TO-66	15.50	10.40	......
2N5664JANTXV	5 A; 200 V; TO-66	16.35	10.95	......
2N5665	5 A; 300 V; TO-66	11.50	7.70	......
2N5665JAN	5 A; 300 V; TO-66	17.50	11.70	......
2N5665JANTX	5 A; 300 V; TO-66	21.65	14.50	......
2N5665JANTXV	5 A; 300 V; TO-66	22.50	15.05	......
2N5666	5 A; 200 V; TO-5	7.80	5.25	......
2N5666JAN	5 A; 200 V; TO-5	12.00	8.00	......
2N5666JANTX	5 A; 200 V; TO-5	15.50	10.40	......
2N5666JANTXV	5 A; 200 V; TO-5	16.35	10.95	......
2N5667	5 A; 300 V; TO-5	11.50	7.70	......
2N5667JAN	5 A; 300 V; TO-5	17.50	11.70	......
2N5667JANTX	5 A; 300 V; TO-5	21.65	14.50	......
2N5667JANTXV	5 A; 300 V; TO-5	22.50	15.05	......
2N6232	10 A; 100 V; TO-5	25.00	16.70	......
UPT011	0.5 A; 150 V; TO-5	1.43	1.07	......
UPT012	0.5 A; 200 V; TO-5	1.53	1.16	......
UPT013	0.5 A; 250 V; TO-5	1.69	1.27	......
UPT014	0.5 A; 300 V; TO-5	2.02	1.51	......
UPT015	0.5 A; 300 V; TO-5	2.17	1.64	......
UPT111	1.0 A; 40 V; TO-5	1.16	.87	......
UPT112	1.0 A; 60 V; TO-5	1.26	.95	......
UPT113	1.0 A; 80 V; TO-5	1.37	1.03	......
UPT114	1.0 A; 100 V; TO-5	1.62	1.22	......
UPT115	1.0 A; 100 V; TO-5	2.37	1.33	......
UPT211	2.0 A; 40 V; TO-5	1.51	1.13	......
UPT212	2.0 A; 60 V; TO-5	1.62	1.22	......
UPT213	2.0 A; 80 V; TO-5	1.78	1.33	......
UPT214	2.0 A; 100 V; TO-5	2.12	1.60	......
UPT215	2.0 A; 100 V; TO-5	2.29	1.72	......
UPT311	2.0 A; 150 V; TO-5	1.74	1.31	......
UPT312	2.0 A; 200 V; TO-5	1.91	1.44	......
UPT313	2.0 A; 250 V; TO-5	2.07	1.55	......
UPT314	2.0 A; 300 V; TO-5	2.47	1.86	......
UPT315	2.0 A; 300 V; TO-5	2.68	2.02	......
UPT521	3.5 A; 150 V; TO-66	3.21	2.42	......
UPT522	3.5 A; 200 V; TO-66	3.56	2.68	......
UPT523	3.5 A; 250 V; TO-66	3.89	2.92	......
UPT524	3.5 A; 300 V; TO-66	4.66	3.51	......
UPT525	3.0 A; 300 V; TO-66	5.05	3.80	......
UPT531	3.0 A; 150 V; TO-3	3.45	2.60	......
UPT532	3.0 A; 200 V; TO-3	3.76	2.82	......
UPT533	3.0 A; 250 V; TO-3	4.07	3.07	......
UPT534	3.0 A; 300 V; TO-3	4.93	3.69	......
UPT535	3.0 A; 300 V; TO-3	5.30	3.99	......
UPT611	5.0 A; 40 V; TO-5	1.74	1.31	......
UPT612	5.0 A; 60 V; TO-5	1.91	1.44	......
UPT613	5.0 A; 80 V; TO-5	2.07	1.55	......
UPT614	5.0 A; 100 V; TO-5	2.47	1.86	......
UPT615	5.0 A; 100 V; TO-5	2.68	2.02	......
UPT721	5.0 A; 150 V; TO-66	4.73	3.55	......
UPT722	5.0 A; 200 V; TO-66	5.13	3.84	......
UPT723	5.0 A; 250 V; TO-66	5.54	4.17	......
UPT724	5.0 A; 300 V; TO-66	6.66	5.01	......
UPT725	5.0 A; 300 V; TO-66	7.20	5.42	......

*Low profile.

RECTIFIERS

1N3611	1.0 A; 200 V	$0.95	$0.65	$0.45
1N3611JAN	1.0 A; 200 V	1.20	.80	.50
1N3611JANTX	1.0 A; 200 V	1.70	1.25	.90
1N3612	1.0 A; 400 V	1.25	.90	.55
1N3612JAN	1.0 A; 400 V	1.50	1.00	.60
1N3612JANTX	1.0 A; 400 V	1.95	1.45	1.15
1N3613	1.0 A; 600 V	1.50	1.05	.70
1N3613JAN	1.0 A; 600 V	1.90	1.20	.85
1N3613JANTX	1.0 A; 600 V	2.45	1.70	1.35
1N3614	1.0 A; 800 V	3.00	2.10	1.00
1N3614JAN	1.0 A; 800 V	3.50	2.30	1.20
1N3614JANTX	1.0 A; 800 V	4.10	2.90	1.80
1N4245	1.0 A; 200 V	.80	.50	.35
1N4245JAN	1.0 A; 200 V	1.10	.75	.40
1N4245JANTX	1.0 A; 200 V	1.65	1.20	.85
1N4245JANTXV	1.0 A; 200 V	1.95	1.40	1.05
1N4246	1.0 A; 400 V	.90	.60	.45
1N4246JAN	1.0 A; 400 V	1.20	.85	.50
1N4246JANTX	1.0 A; 400 V	1.85	1.40	1.10
1N4246JANTXV	1.0 A; 400 V	2.15	1.60	1.30
1N4247	1.0 A; 600 V	1.00	.70	.50

RECTIFIERS (CONTINUED)

Unitrode Number	Description	Net Each, Lots of		
		1-99	100-999	1000-2499
1N4247JAN	1.0 A; 600 V	$ 1.30	$ .90	$ .60
1N4247JANTX	1.0 A; 600 V	2.20	1.60	1.25
1N4247JANTXV	1.0 A; 600 V	2.50	1.80	1.45
1N4248	1.0 A; 800 V	1.35	1.05	.85
1N4248JAN	1.0 A; 800 V	1.70	1.40	1.10
1N4248JANTX	1.0 A; 800 V	2.70	2.15	1.85
1N4248JANTXV	1.0 A; 800 V	3.00	2.35	2.05
1N4249	1.0 A; 1000 V	1.95	1.65	1.45
1N4249JAN	1.0 A; 1000 V	2.35	2.10	1.90
1N4249JANTX	1.0 A; 1000 V	3.35	2.85	2.65
1N4249JANTXV	1.0 A; 1000 V	3.65	3.05	2.85
1N4942	1.0 A; 200 V	1.90	1.20	.60
1N4942JAN	1.0 A; 200 V	2.20	1.50	.80
1N4942JANTX	1.0 A; 200 V	2.60	2.00	1.40
1N4942JANTXV	1.0 A; 200 V	2.90	2.20	1.60
1N4944	1.0 A; 400 V	2.50	1.55	1.00
1N4944JAN	1.0 A; 400 V	3.00	2.05	1.20
1N4944JANTX	1.0 A; 400 V	3.40	2.50	1.85
1N4944JANTXV	1.0 A; 400 V	3.70	2.70	2.05
1N4946	1.0 A; 600 V	3.50	2.30	1.20
1N4946JAN	1.0 A; 600 V	4.10	2.90	1.60
1N4946JANTX	1.0 A; 600 V	4.50	3.60	2.30
1N4946JANTXV	1.0 A; 600 V	4.80	3.80	2.50
1N5186	3.0 A; 100 V	2.10	1.75	1.50
1N5186JAN	3.0 A; 100 V	2.25	1.90	1.60
1N5186JANTX	3.0 A; 100 V	3.50	2.90	2.60
1N5187	3.0 A; 200 V	2.60	2.25	1.90
1N5187JAN	3.0 A; 200 V	2.75	2.40	2.00
1N5187JANTX	3.0 A; 200 V	4.00	3.40	3.00
1N5188	3.0 A; 400 V	3.35	2.95	2.50
1N5188JAN	3.0 A; 400 V	3.50	3.10	2.60
1N5188JANTX	3.0 A; 400 V	4.75	4.10	3.60
1N5190	3.0 A; 600 V	4.10	3.60	2.90
1N5190JAN	3.0 A; 600 V	4.25	3.75	3.00
1N5190JANTX	3.0 A; 600 V	5.50	4.75	4.00
1N5415	3.0 A; 50 V	1.25	1.05	.82
1N5415JAN	3.0 A; 50 V	1.85	1.45	1.25
1N5145JANTX	3.0 A; 50 V	3.35	2.95	2.75
1N5415JANTXV	3.0 A; 50 V	3.85	3.30	3.05
1N5416	3.0 A; 100 V	1.35	1.15	.89
1N5416JAN	3.0 A; 100 V	2.00	1.60	1.45
1N5416JANTX	3.0 A; 100 V	3.50	3.10	2.95
1N5416JANTXV	3.0 A; 100 V	4.00	3.45	3.25
1N5417	3.0 A; 200 V	1.60	1.25	1.05
1N5417JAN	3.0 A; 200 V	2.25	1.90	1.60
1N5417JANTX	3.0 A; 200 V	3.75	3.40	3.10
1N5417JANTXV	3.0 A; 200 V	4.25	3.75	3.40
1N5418	3.0 A; 400 V	2.60	2.15	1.70
1N5418JAN	3.0 A; 400 V	3.90	3.10	2.60
1N5418JANTX	3.0 A; 400 V	5.40	4.60	4.10
1N5418JANTXV	3.0 A; 400 V	5.90	4.95	4.40
1N5419	3.0 A; 500 V	3.80	2.95	2.50
1N5419JAN	3.0 A; 500 V	5.60	4.50	3.85
1N5419JANTX	3.0 A; 500 V	7.10	6.00	5.35
1N5419JANTXV	3.0 A; 500 V	7.60	6.35	5.65
1N5420	3.0 A; 600 V	4.50	3.65	3.15
1N5420JAN	3.0 A; 600 V	6.40	5.20	4.55
1N5420JANTX	3.0 A; 600 V	7.90	6.70	6.05
1N5420JANTXV	3.0 A; 600 V	8.40	7.05	6.35
1N5550	5.0 A; 200 V	1.27	1.05	.85
1N5550JAN	5.0 A; 200 V	1.32	1.10	.90
1N5550JANTX	5.0 A; 200 V	2.32	2.10	1.80
1N5550JANTXV	5.0 A; 200 V	2.82	2.45	2.10
1N5551	5.0 A; 400 V	1.60	1.35	1.05
1N5551JAN	5.0 A; 400 V	1.70	1.45	1.15
1N5551JANTX	5.0 A; 400 V	2.70	2.45	2.20
1N5551JANTXV	5.0 A; 400 V	3.20	2.80	2.50
1N5552	5.0 A; 600 V	2.35	1.85	1.50
1N5552JAN	5.0 A; 600 V	2.50	2.00	1.65
1N5552JANTX	5.0 A; 600 V	3.55	3.05	2.75
1N5552JANTXV	5.0 A; 600 V	4.05	3.40	3.05
1N5553	5.0 A; 800 V	3.55	2.75	2.50
1N5553JAN	5.0 A; 800 V	3.75	2.95	2.65
1N5553JANTX	5.0 A; 800 V	4.95	4.15	3.75
1N5553JANTXV	5.0 A; 800 V	5.45	4.50	4.05
1N5614	1.0 A; 200 V	.42	.35	.29
1N5614JAN	1.0 A; 200 V	.63	.52	.43
1N5614JANTX	1.0 A; 200 V	1.63	1.52	1.43
1N5614JANTXV	1.0 A; 200 V	1.93	1.72	1.63
1N5615	1.0 A; 200 V	.84	.68	.55
1N5615JAN	1.0 A; 200 V	1.27	1.02	.85
1N5615JANTX	1.0 A; 200 V	2.27	2.02	1.85
1N5615JANTXV	1.0 A; 200 V	2.52	2.22	2.05
1N5616	1.0 A; 400 V	.57	.50	.44
1N5616JAN	1.0 A; 400 V	.85	.72	.58
1N5616JANTX	1.0 A; 400 V	1.85	1.72	1.58
1N5616JANTXV	1.0 A; 400 V	2.15	1.92	1.78
1N5617	1.0 A; 400 V	1.22	1.00	.80
1N5617JAN	1.0 A; 400 V	1.82	1.45	1.22
1N5617JANTX	1.0 A; 400 V	2.82	2.45	2.22
1N5617JANTXV	1.0 A; 400 V	3.12	2.65	2.42
1N5618	1.0 A; 600 V	.87	.72	.59
1N5618JAN	1.0 A; 600 V	1.30	1.10	.85
1N5618JANTX	1.0 A; 600 V	2.30	2.10	1.85
1N5618JANTXV	1.0 A; 600 V	2.60	2.30	2.05
1N5619	1.0 A; 600 V	2.05	1.50	1.30
1N5919JAN	1.0 A; 600 V	2.60	2.15	1.75
1N5619JANTX	1.0 A; 600 V	4.10	3.65	3.25
1N5619JANTXV	1.0 A; 600 V	4.40	3.85	3.45
1N5620	1.0 A; 800 V	1.20	.97	.80
1N5620JAN	1.0 A; 800 V	1.75	1.45	1.20

RECTIFIER LISTING CONTINUED ON FOLLOWING PAGE

UNITRODE Power Semiconductors

RECTIFIERS (CONTINUED)

Unitrode Number	Description	Net Each, Lots of		
		1-99	100-999	1000-2499
1N5620JANTX	1.0 A; 800 V	$ 3.25	$ 2.95	$ 2.70
1N5620JANTXV	1.0 A; 800 V	3.55	3.15	2.90
1N5802	2.5 A; 50 V	3.20	2.55	2.10
1N5802JAN	2.5 A; 50 V	3.70	3.00	2.35
1N5802JANTX	2.5 A; 50 V	5.20	4.50	3.60
1N5802JANTXV	2.5 A; 50 V	5.70	4.85	3.90
1N5803	2.5 A; 75 V	3.50	2.75	2.20
1N5804	2.5 A; 100 V	3.95	3.15	2.50
1N5804JAN	2.5 A; 100 V	4.45	3.60	2.75
1N5804JANTX	2.5 A; 100 V	5.95	5.10	4.00
1N5804JANTXV	2.5 A; 100 V	6.45	5.45	4.30
1N5805	2.5 A; 125 V	4.75	3.85	3.00
1N5806	2.5 A; 150 V	6.40	5.15	4.00
1N5806JAN	2.5 A; 150 V	6.90	5.60	4.25
1N5806JANTX	2.5 A; 150 V	8.40	7.10	5.50
1N5806JANTXV	2.5 A; 150 V	8.90	7.45	5.80
1N5807	6.0 A; 50 V	5.30	4.25	3.30
1N5807JAN	6.0 A; 50 V	5.80	4.70	3.55
1N5807JANTX	6.0 A; 50 V	7.30	6.20	4.80
1N5807JANTXV	6.0 A; 50 V	7.80	6.55	5.10
1N5808	6.0 A; 75 V	5.75	4.65	3.65
1N5809	6.0 A; 100 V	6.50	5.25	4.05
1N5809JAN	6.0 A; 100 V	7.00	5.70	4.30
1N5809JANTX	6.0 A; 100 V	8.50	7.20	5.55
1N5809JANTXV	6.0 A; 100 V	9.00	7.55	5.85
1N5810	6.0 A; 125 V	7.45	6.10	4.80
1N5811	6.0 A; 150 V	9.70	8.10	6.40
1N5811JAN	6.0 A; 150 V	10.20	8.55	6.65
1N5811JANTX	6.0 A; 150 V	11.70	10.05	7.90
1N5811JANTXV	6.0 A; 150 V	12.20	10.40	8.20
1N5812	20.0 A; 50 V	8.00	6.40	5.55
1N5813	20.0 A; 75 V	8.90	7.10	6.30
1N5814	20.0 A; 100 V	9.90	7.90	6.95
1N5815	20.0 A; 125 V	12.00	9.50	8.35
1N5816	20.0 A; 150 V	14.50	10.85	9.50
UES501	50.0 A; 50 V	16.00	13.75	12.00
UES502	50.0 A; 75 V	18.00	15.25	13.50
UES503	50.0 A; 100 V	20.00	17.00	15.00
UES504	50.0 A; 125 V	24.00	20.00	18.00
UES505	50.0 A; 150 V	32.00	27.00	24.00
UR105	1.0 A; 50 V	4.50	3.82	3.24
UR110	1.0 A; 100 V	7.00	5.95	5.05
UR115	1.0 A; 150 V	7.00	6.65	5.65
UR120	1.0 A; 200 V	8.60	7.30	6.20
UR125	1.0 A; 250 V	11.00	9.35	7.95
UR205	2.0 A; 50 V	4.90	4.15	3.53
UR210	2.0 A; 100 V	7.60	6.45	5.48
UR215	2.0 A; 150 V	8.60	7.30	6.20
UR220	2.0 A; 200 V	9.60	8.15	6.92
UR225	2.0 A; 250 V	12.40	10.50	8.94
UT234	1.0 A; 200 V	3.34	2.42	1.68
UT235	1.0 A; 400 V	4.14	2.97	2.10
UT236	1.0 A; 100 V	2.19	1.54	1.16
UT237	1.0 A; 500 V	4.54	3.30	2.68
UT238	1.0 A; 600 V	5.00	3.58	2.89
UT261	2.0 A; 100 V	3.34	2.42	1.95
UT262 (1N3981)	2.0 A; 200 V	4.95	3.52	2.84
UT264 (1N3982)	2.0 A; 400 V	6.15	4.40	3.57
UT265	2.0 A; 500 V	6.79	4.84	3.94
UT267 (1N3983)	2.0 A; 600 V	7.42	5.34	4.31
UT268	2.0 A; 800 V	7.88	5.61	4.52
UT347	1.0 A; 1000 V	7.19	5.17	4.20
UT361	1.0 A; 800 V	6.84	4.35	3.52
UT364	1.5 A; 1000 V	8.91	6.49	5.25
UT3005	3.0 A; 50 V	3.91	2.86	2.31
UT3010	3.0 A; 100 V	4.31	3.14	2.52
UT3020	3.0 A; 200 V	5.69	4.13	3.31
UT3040	3.0 A; 400 V	7.07	5.17	4.20
UT3060	3.0 A; 600 V	8.51	6.22	5.04
UT4005	4.0 A; 50 V	4.54	3.30	2.68
UT4010 (1N5180)	4.0 A; 100 V	5.00	3.63	2.94
UT4020	4.0 A; 200 V	6.50	4.73	3.83
UT4040 (1N5207)	4.0 A; 400 V	7.99	5.83	4.73
UT4060	4.0 A; 600 V	9.55	6.93	5.62
UT5105	7.5 A; 50 V	6.50	4.95	3.99
UT5110	7.5 A; 100 V	6.75	5.17	4.20
UT5120	7.5 A; 200 V	7.02	5.39	4.36
UT5130	7.5 A; 300 V	7.59	5.83	4.73
UT5140	7.5 A; 400 V	8.57	6.55	5.41
UT6105	9.0 A; 50 V	7.19	5.50	4.46
UT6110	9.0 A; 100 V	7.53	5.78	4.67
UT6120	9.0 A; 200 V	8.28	6.33	5.75
UT6130	9.0 A; 300 V	8.63	6.60	5.36
UT6140	9.0 A; 400 V	9.72	7.43	6.04
UT8105	12.0 A; 50 V	8.63	6.60	5.36
UT8110	12.0 A; 100 V	9.32	7.15	5.78
UT8120	12.0 A; 200 V	10.06	7.70	6.25
UT8130	12.0 A; 300 V	10.75	8.25	6.72
UT8140	12.0 A; 400 V	11.85	9.08	7.35
UTR01	1.0 A; 50 V	3.04	2.15	1.73
UTR02	2.0 A; 50 V	4.14	2.39	2.42
UTR11	1.0 A; 100 V	3.57	2.53	2.05
UTR12	2.0 A; 100 V	4.66	3.36	2.73
UTR21	1.0 A; 200 V	4.03	2.86	2.31
UTR22	2.0 A; 200 V	5.23	3.74	3.04
UTR31	1.0 A; 300 V	4.43	3.19	2.57
UTR32	2.0 A; 300 V	5.87	4.18	3.41
UTR41	1.0 A; 400 V	4.95	3.52	2.84
UTR42 (1N5206)	2.0 A; 400 V	6.56	4.68	3.78
UTR61	1.0 A; 600 V	5.98	4.29	3.47
UTR62	2.0 A; 600 V	7.82	5.61	4.57
UTR3305	3.0 A; 50 V	4.49	3.30	2.68
UTR3310	3.0 A; 100 V	4.95	3.63	2.94
UTR3320	3.0 A; 200 V	6.56	4.73	3.83

RECTIFIERS (CONTINUED)

Unitrode Number	Description	Net Each, Lots of		
		1-99	100-999	1000-2499
UTR3340	3.0 A; 400 V	$ 8.11	$ 5.94	$ 4.52
UTR3350	3.0 A; 500 V	8.91	6.55	5.30
UTR3360	3.0 A; 600 V	9.78	7.15	5.78
UTR4305	4.0 A; 50 V	5.23	3.80	3.10
UTR4310	4.0 A; 100 V	5.75	4.18	3.41
UTR4320	4.0 A; 200 V	7.48	5.45	4.41
UTR4340	4.0 A; 400 V	9.20	6.71	5.41
UTR4350	4.0 A; 500 V	9.83	7.15	5.78
UTR4360	4.0 A; 600 V	10.93	5.80	5.31
UTR4405	6.0 A; 50 V	11.50	8.80	7.14
UTR4410	6.0 A; 100 V	12.65	9.68	7.88
UTR4420	6.0 A; 200 V	13.80	10.56	8.56
UTR4430	6.0 A; 300 V	14.95	11.44	9.29
UTR4440	6.0 A; 400 V	16.10	12.39	10.03
UTR5405	7.5 A; 50 V	13.23	10.12	8.24
UTR5410	7.5 A; 100 V	14.95	11.44	9.29
UTR5420	7.5 A; 200 V	17.25	13.20	10.71
UTR5430	7.5 A; 300 V	19.55	14.96	12.13
UTR5440	7.5 A; 400 V	21.85	16.72	13.55
UTR6405	9.0 A; 50 V	14.83	11.00	8.93
UTR6410	9.0 A; 100 V	18.40	14.08	11.45
UTR6420	9.0 A; 200 V	20.13	15.40	12.50
UTR6430	9.0 A; 300 V	24.15	18.48	15.02
UTR6440	9.0 A; 400 V	25.88	19.80	16.07
UTX105	1.0 A; 50 V	3.97	2.81	2.21
UTX110	1.0 A; 100 V	4.66	3.30	2.68
UTX115	1.0 A; 150 V	4.95	3.58	2.89
UTX120	1.0 A; 200 V	5.23	3.74	3.05
UTX125	1.0 A; 250 V	5.75	4.18	3.41
UTX205	2.0 A; 50 V	5.41	3.85	3.15
UTX210	2.0 A; 100 V	6.04	4.40	3.57
UTX215	2.0 A; 150 V	6.44	4.62	3.73
UTX220	2.0 A; 200 V	6.84	4.90	3.99
UTX225	2.0 A; 250 V	5.65	5.45	4.41
UTX3105	3.0 A; 50 V	6.21	4.46	3.62
UTX3110	3.0 A; 100 V	6.84	5.01	4.04
UTX3115	3.0 A; 150 V	7.82	5.61	4.57
UTX3120	3.0 A; 200 V	8.63	6.22	4.99
UTX4105	4.0 A; 50 V	6.84	5.01	4.04
UTX4110	4.0 A; 100 V	7.53	5.15	4.36
UTX4115	4.0 A; 150 V	8.63	6.22	5.04
UTX4120	4.0 A; 200 V	9.78	6.99	5.67

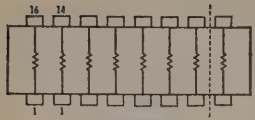
PIN DIODES

1N5767	100 V	$ 3.80	$ 2.40	....
1N5957	100 V	2.95	2.35	$1.95
UM4001	100 V	9.00	6.00	....
UM4002	200 V	12.00	8.00	....
UM4004	400 V	18.00	12.00	....
UM4006	600 V	24.00	16.00	....
UM4010	1000 V	43.50	29.00	....
UM4301	100 V	12.00	8.00	....
UM4302	200 V	15.00	10.00	....
UM4901	100 V	15.00	10.00	....
UM4902	200 V	18.00	12.00	....
UM4904	400 V	27.50	15.00	....
UM4906	600 V	30.00	20.00	....
UM4910	1000 V	60.00	40.00	....
UM6001	100 V	7.50	5.00	....
UM6002	200 V	10.50	7.00	....
UM6004	400 V	16.50	11.00	....
UM6006	600 V	22.50	15.00	....
UM6010	1000 V	42.50	28.00	....
UM6101	100 V	9.75	6.50	....
UM6201	100 V	9.75	6.50	....
UM6601	100 V	6.00	4.00	....
UM6602	200 V	10.50	7.00	....
UM6604	400 V	16.50	11.00	....
UM7001	100 V	6.75	4.50	....
UM7002	200 V	9.75	6.50	....
UM7004	400 V	15.00	10.00	....
UM7006	600 V	21.00	14.00	....
UM7101	100 V	10.50	7.00	....
UM7102	200 V	13.10	8.75	....
UM7104	400 V	16.80	11.20	....
UM7201	100 V	10.50	7.00	....
UM7202	200 V	13.10	8.75	....
UM7301	100 V	12.00	8.00	....
UM7901	100 V	12.00	8.00	....
UM9301	CATV Diodes	4.20	2.80	2.10
UM9302	CATV Diodes	4.20	2.80	2.10
UM9303	CATV Diodes	4.20	2.80	2.10
UM9401	Antenna Switch	2.70	1.80	....
UM9402	Antenna Switch	2.70	1.80	....
UM9403	Antenna Switch	8.10	5.40	....
UM9404	Antenna Switch	8.10	5.40	....

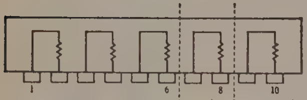
DOUBLER OR CENTER TAP RECTIFIERS

Unitrode Number	Description	Net Each, Lots of	
		1-99	100-999
681-2	15.0 A; 200 V	$ 6.35	....
681-4	15.0 A; 400 V	7.20	....
681-6	15.0 A; 600 V	8.10	....
687-5	5.0 KV	15.00	....
687-6	6.0 KV	18.00	....
687-8	8.0 KV	24.00	....
687-10	10.0 KV	30.00	....
687-12	12.0 KV	36.00	....
804-1	20.0 A; 50 V	17.00	$12.75
804-2	20.0 A; 100 V	20.00	15.00
804-4	20.0 A; 150 V	32.50	24.50

Resistor Networks



4114R-001
4116R-001



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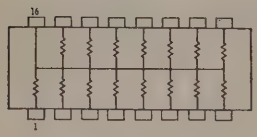

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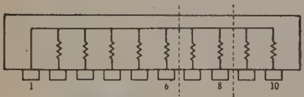

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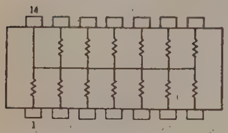

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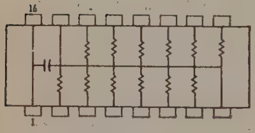

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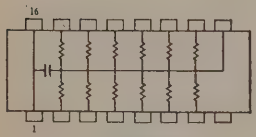

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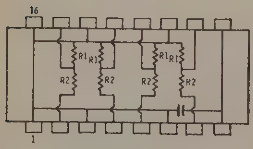

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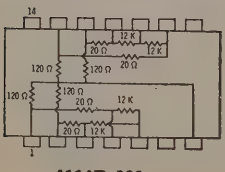


4114R-009

THICK FILM RESISTOR NETWORKS

The following resistor networks feature reduced PC board space; compatibility with automatic insertion equipment; uniform performance characteristics and compatibility with IC logic circuit environments. Molded epoxy body with tin plated copper alloy leads. Lead solderability meets requirements of MIL-STD-202E, Method 208; MIL-STD-883, Method 2003 and MIL-R-83401. Reisstance Tolerance: ±2%. Operating Temperature Range: −55° C to +125° C.

MULTIPLE EQUAL-VALUE RESISTOR NETWORKS

Circuitry and applications: Type 4306R, 3 isolated resistors; Type 4308R, 4 isolated resistors; Type 4310R, 5 isolated resistors; Type 4114R, 7 isolated resistors; Type 4116R, 8 isolated resistors. Intended for power gate pull-up, impedance balancing, current limiting, line termination and ECL output pull-down.

Bourns No.*	Pkg.	No. of Pins	Resistance Values, Ohms			Net Each, Lots of					
			R1	R2	R3	1-24	25-99	100-249	250-499	500-999	1000-1999
4306R-102-*	SIP	6	†	....	....	$0.48	$0.48	$0.38	$0.38	$0.31	$0.30
4308R-102-*	SIP	8	†	....	....	.50	.50	.40	.40	.34	.31
4310R-102-*	SIP	10	†	....	....	.52	.52	.42	.42	.36	.32
4114R-001-*	DIP	14	†	....	....	1.15	1.15	.93	.75	.66	.59
4116R-001-*	DIP	16	†	....	....	1.20	1.20	.95	.77	.68	.61

Circuitry and applications: Type 4306R, 5 resistors with pin 1 common; Type 4308R, 7 resistors with pin 1 common; Type 4310R, 9 resistors with pin 1 common; Type 4114R, 13 resistors with pin 13 common; Type 4116R, 15 resistors with pin 16 common. Intended for open collector pull-up, wired OR pull-up, TTL input pull-down, MOS memory pull-up and pull-down, unused gate pull-up and power driver pull-up.

4306R-101-*	SIP	6	†	....	....	$0.48	$0.48	$0.38	$0.38	$0.31	$0.30
4308R-101-*	SIP	8	†	....	....	.50	.50	.40	.40	.34	.31
4310R-101-*	SIP	10	†	....	....	.52	.52	.42	.42	.36	.32
4114R-002-*	DIP	14	†	....	....	1.20	1.20	.95	.77	.68	.61
4116R-002-*	DIP	16	†	....	....	1.25	1.25	.98	.79	.70	.62

*Add suffix defining resistance value: two digits indicating significant figures and a third indicating number of zeroes following.

†STANDARD AVAILABLE RESISTANCE VALUES

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
33	82	220	560	1500	3900	10K	27K	68K	180K
39	100	270	680	1800	4700	12K	33K	82K	220K
47	120	330	820	2200	5600	15K	39K	100K	
56	150	390	1000	2700	6800	18K	47K	120K	
68	180	470	1200	3300	8200	22K	56K	150K	

Circuitry and application: 12 resistors with pin 8 common and internal .01μF decoupling capacitor between pin 8 and pins 1 and 16. Intended for ECL pull-down to a −5.2 volt bus.

Bourns No.*	Pkg.	No. of Pins	Resistance Values, Ohms			Net Each, Lots of					
			R1	R2	R3	1-24	25-99	100-249	250-499	500-999	1000-1999
4116C-005-511	DIP	16	510	....	....	$2.35	$2.35	$2.00	$1.70	$1.40	*

Circuitry and applications: 12 resistors with pin 9 common and internal .01μF decoupling capacitor between pin 9 and pins 1 and 16. Intended for ECL line termination to a −2.0 volt bus.

4116C-004-500	DIP	16	50	....	....	$2.35	$2.35	$2.00	$1.70	$1.40	*
4116C-004-680			68	....	....						
4116C-004-750			75	....	....						
4116C-004-101			100	....	....						

TERMINATING NETWORKS

Application: Four equivalent Thevenin terminator sections compatible with ECL pin configurations.

4116C-006-500	DIP	16	81	130	....	$2.50	$2.50	$2.25	$2.25	$1.50	*
4116C-006-750			121	195	....						
4116C-0060100			162	260	....						

Application: For use with 10,000 Series ECL to terminate six lines at their driven ends. Internal .01μF decoupling capacitor bypasses transients on supply buses.

4116C-007-430	DIP	16	43	457	....	$2.50	$2.50	$2.25	$2.25	$1.50	*
4116C-007-680			68	682	....						
4116C-007-930			93	907	....						

*Consult factory or distributor.

Application: Provides TTL dual line termination.

4308R-103-181/391	SIP	8	180	390	....	$1.07	$1.07	$0.86	$0.86	$0.73	$0.67
4308R-103-221/271			220	270	....						
4308R-103-221/331			220	330	....						
4116R-003-181/391	DIP	16	180	290	....	2.30	2.14	1.88	1.50	1.34	1.20
4116R-003-221/271			220	270	....						
4116R-003-221/331			220	330	....						

Application: Provides translation from TTL to ECL IC logic.

4116R-008-001	DIP	16	180	270	820	$2.20	$2.20	$1.80	$1.50	$1.25	$1.15

Application: Provides 20mV threshold reference settings and balanced sense-line termination for two 711 dual comparators.

Bourns No.	Pkg.	No. of Pins	Term.	Imped. Ohms	Net Each, Lots of					
					1-24	25-99	100-249	250-499	500-999	1000-1999
4114R-009	DIP	14		120	$2.10	$2.10	$1.70	$1.55	$1.43	$1.10

BOURNS INC

TRIMPOT® Potentiometers

BOURNS® PART NUMBERING SYSTEM

Resistance tolerance given is standard; closer tolerances available. Standard resistance range given; special resistances available. Panel mount available with lead, lug or wire types as noted.

200, 3010	L	1	102	M
Basic Model	**Terminal Style**	**Modifying Number**	**Resistance Code**	**Panel Mount**
Contains 3 or 4 digits	**J, S**—Solder lugs **L**—Insulated stranded leads **H**—PC pins **P, T, Y**—Flat mounting PC pins **W, W66, X**—Edge mounting PC pins	**1**—Standard resistance **2**—100K standard resistance	First 2 digits indicate significant numbers; 3rd digit indicates number of zeros	Available as noted

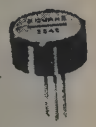
COMMERCIAL SINGLE-TURN POTENTIOMETERS

TRIMIT® WIRE-WOUND MODEL 3305

Model 3305P

Sealed to prevent contamination from fluxing, soldering and cleaning. Stops provided at each end of travel. Mechanical Rotation: 280° nom. Power Rating: 0.5 watt at 70° C. Operating Temperature: 125° C max. Tolerance: ±5%. Size: 0.31″ dia. x 0.19″ h. (**P**); 0.250″ d. x 0.312″ w. x 0.375″ h. (**W**).

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3305	P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K	$1.93	$1.85	$1.78	$1.72	$1.62	$1.52
		10K	2.20	2.11	2.02	1.96	1.85	1.73
		25K	2.75	2.64	2.53	2.45	2.31	2.16
	W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K	2.48	2.38	2.28	2.21	2.08	1.95
		10K	2.75	2.64	2.53	2.45	2.31	2.16
		25K	3.30	3.17	3.04	2.94	2.77	2.59

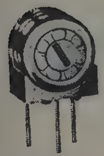


Model 3345P

WIRE-WOUND MODEL 3345

Sealed for printed circuit applications; meets MIL humidity test. Stops provided at each end of adjustment. Mechanical Rotation: 280° nom. Power Rating: 1.0 watt at 70° C. Operating Temperature: 150° C max. Tolerance: ±5%. Size: 0.45″ dia. x 0.24″ h. (**P**); 0.285″ d. x 0.450″ w. x 0.525″ h.

Bourns Model	Specify Terminal	Resistance Range, Ohms	1-9	10-24	25-49	50-99	100-249	250-499
3345	P W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$2.30	$2.09	$1.88	$1.71	$1.60	$1.45
		20K, 50K	2.53	2.30	2.07	1.88	1.76	1.60

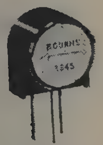


Model 3305W

CERMET MODEL 3389

Low cost potentiometer sealed for industrial process cleaning; meets MIL humidity test. Mechanical Rotation: 280° nom. Power Rating: 0.5 watt at 70° C. Operating Temperature: 125° C max. Tolerance: ±20%. Mounting: H, S and W, edge mounting PC pins; P, R and T, flat mounting PC pins. Size: 0.394″ w. x 0.24″ h. x 0.36″ lg. (**P, R, S, T, W**); 0.394″ w. 0.36″ h. x 0.24″ d. (**H**).

Bourns Model	Specify Terminal	Resistance Range, Ohms	1-9	10-24	25-49	50-99	100-249	250-499
3389	H	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	$0.91	$0.84	$0.79	$0.76	$0.71	$0.66
	P R S T W	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	.76	.70	.65	.63	.60	.56



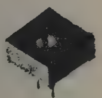
Model 3345W

HIGH PERFORMANCE CERMET MODEL 3329

Sealed to withstand any wave soldering and immersion cleaning process; meets MIL humidity test. Mechanical Rotation: 240° nom. Power Rating: 0.5 watt at 85° C. Operating Temperature: 150° C max. Tolerance: ±10%. Size: 0.25″ dia. x 0.18″ h. (**H, P**); 0.29″ w. x 0.245″ d. x 0.360″ h. (**W**).

			1-49	50-99	100-499	500-999	1000-4999	5000-9999
3329	H P W	10, 25, 50, 100, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 250K, 500K, 1 meg	$1.41	$1.29	$1.17	$1.06	$0.96	$0.88

Model 3329H



Model 3386R

CERMET MODEL 3386

Wide choice of terminal styles cover almost any PC board layout requirement. Meets MIL humidity test; sealed to withstand wave soldering processes. Electrical Rotation: 280° nom. Power Rating: 0.5 watt at 85° C. Operating Temperature: 125° C max. Tolerance: ±10%. Mounting: F, K, M, P and R are top adjust PC pins; B, C, H, S and W are side adjust PC pins. **H, P** (TO-5), **C, W** (0.100″ inline), **B, M, R, S** (0.150″ inline), **F** (0.200″ grid) and **K** (triangular). Size: ⅜″ square x 0.19″ d.

Bourns Model	Specify Terminal Top	Specify Terminal Side	Resistance Range, Ohms	Net Each, Lots of 1-49	50-99	100-499	500-999	1000-4999	5000-9999
3386	F K M P R	B C H S W	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 250K, 500K, 1 meg, 2 megs	$0.72	$0.66	$0.60	$0.54	$0.49	$0.45

Model 3389T

CERMET MODEL 3352

Choice of 6 terminal styles covers almost any PC board layout requirement. Meets MIL humidity test; withstands industrial board-cleaning processes with less than 1% shift in total resistance. **Mechanical rotation:** 230° nom. **Power Rating:** 0.75 W at 40° C. **Operating Temperature:** 125° C. max. **Tolerance:** ±20% standard, closer tolerances available. **Mounting:** T, E, and P are top adjust PC pins; W, H, and V are side adjust PC pins. Has thumb wheel with crossed slots.

Bourns Model	Specify Terminal Top	Specify Terminal Side	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3352	T E P	W H V	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs.	$0.54	$0.54	$0.54	$0.51	$0.48	$0.48

Model 3389W

BOURNS INC TRIMPOT® Potentiometers

COMMERCIAL MULTI-TURN POTENTIOMETERS

WIRE-WOUND E-Z-TRIM® MODEL 3005

Humidity meets MIL-STD-202, Method 103. Self-locking adjustment screw; 20-turn screwdriver adjustment. Power Rating: 1.0 watt at 40° C. Abs. Min. Res.: 0.5% or 1.0 ohm, whichever is greater. Operating Temperature: 125° C max. Tolerance: ±10%. Size: 0.17″ w. x 0.31″ h. x 0.75″ lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3005P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K 50K	$2.00 2.40	$1.85 2.22	$1.75 2.10	$1.72 2.06	$1.65 1.98	$1.55 1.86

CERMET MODEL 3006

Low cost industrial model only 0.250″ high above the printed circuit board. TC: ±100 ppm/° C. Power Rating: 0.75 watt at 70° C. Operating Temperature: 125° C max. Tolerance: ±10%. Mechanical Adjustment: 15 turns nom. Size: 0.75″ x 0.190″ x 0.250″.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-49	50-99	100-499	500-999	1000-4999	5000-9999
3006	P W Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 250K, 500K, 1 meg, 2 megs	$0.96	$0.88	$0.80	$0.72	$0.65	$0.60

WIRE-WOUND E-Z-TRIM® MODEL 3007

Humidity meets MIL-STD-202, Method 103. Self-locking adjustment screw; 20-turn screwdriver adjustment; welded terminations. Power Rating: 1.0 watt at 40° C. Abs. Min. Res.: 0.5% or 1.0 ohm, whichever is greater. Operating Temperature: 125° C. Tolerance: ±10%. Size: 0.17″ w. x 0.31″ h. x 0.75″ lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3007P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K 50K	$2.00 2.40	$1.85 2.22	$1.75 2.10	$1.72 2.06	$1.65 1.98	$1.55 1.86

CERMET E-Z-TRIM® MODEL 3009

Wiper assembly idles at both ends; 20 turns nominal adjustment. TC: ±100 ppm/° C. Power Rating: 0.75 watt at 25° C. Abs. Min. Res.: 2.0% or 1 ohm, whichever is greater. Operating Temperature: 125° C max. Tolerance: ±10%. Size: 0.19″ w. x 0.35″ h. x 0.75″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-49	50-99	100-499	500-999	1000-4999	5000-9999
3009	P Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 250K, 500K, 1 meg, 2 megs	$1.65	$1.51	$1.37	$1.24	$1.12	$1.03

HUMIDITY-PROOF WIRE-WOUND E-Z-TRIM® MODEL 3065

Meets steady-state humidity spec. Adjustment turns, 15 nom. Power Rating: 0.5 watt at 25° C. Operating Temperature: 85° C max. Tolerance: ±10%. Size: 0.29″ w. x 0.36″ h. x 1.0″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3065	P S	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K	$2.13	$1.97	$1.78	$1.68	$1.58	$1.50

WIRE-WOUND E-Z-TRIM® MODEL 3067

Wiper assembly idles at both ends of travel; 15-turn screwdriver adjustment. Power Rating: 0.5 watt at 25° C. Operating Temperature: 85° C max. Tolerance: ±10%. Size: 0.28″ w. x 0.36″ h. x 1.0″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3067	P S	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K	$2.13	$1.97	$1.78	$1.68	$1.58	$1.50

CARBON E-Z-TRIM® MODEL 3068

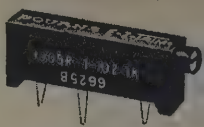
Stable infinite resolution carbon element. Self-locking adjustment screw; 15-turn screwdriver adjustment. Power Rating: 0.2 watt at 25° C. End Setting: 0–5% voltage ratio. Operating Temperature: 85° C max. Tolerance: ±20%. Size: 0.28″ w. x 0.36″ h. x 1.00″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3068	P S	20K, 50K, 100K, 200K, 500K, 1 meg	$2.34	$2.17	$1.95	$1.85	$1.73	$1.65

CERMET E-Z-TRIM® MODEL 3069

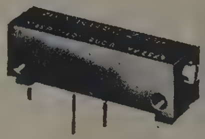
MIL spec immersion seal; tinned pins for compatibility with automated and hand soldering methods; 20 turns nominal adjustment. TC: ±100 ppm/° C. Power Rating: 0.75 watt at 25° C. Abs. Min. Res.: 2% or 1 ohm, whichever is greater. Operating Temperature: 125° C max. Tolerance: ±10%. Size: 0.25″ w. x 0.35″ h. x 0.75″ lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3069P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	$2.13	$2.02	$1.92	$1.87	$1.81	$1.70

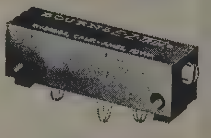


Models 3009P, 3007P

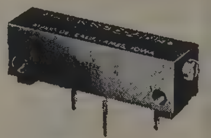
Model 3006W, 3009P



Models 3065P, 3067P



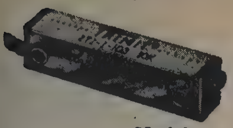
Models 3067S, 3068S



Model 3068P

Model 3069P

COMMERCIAL MULTI-TURN POTENTIOMETERS (CONT'D)


Models 271L, 272L

WIRE-WOUND TRIMIT® MODELS 271, 273, 275

Ideal for industrial controls and lab type applications. Self-locking adjustment shaft; wiper assembly idles both ends; 25-turn screwdriver adjustment. Power Rating: 0.5 watt at 70° C. Abs. Min. Res.: 2.0%. Operating Temperature: 105° C max. Tolerance: ±10%. Size: 0.28" w. x 0.32" h. x 1.25" lg.

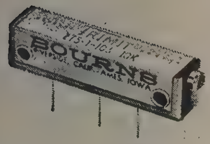
Bourns Model	Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
271	L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$3.51	$3.25	$2.93	$2.78	$2.60	$2.47
273	S	20K	4.75	4.40	3.96	3.76	3.52	3.34
275	P	50K	5.94	5.50	4.95	4.70	4.40	4.18
Panel mount		Add to price	1.10	1.02	.92	.87	.82	.77

Models 273S, 274S

CARBON TRIMIT® MODELS 272, 274, 276

Infinite resolution Resiston carbon element. Self-locking shaft; 25-turn adjustment. Power Rating: 0.2 watt at 25° C. End Setting: 0–5.0% voltage ratio. Operating Temperature: 105° C max. Tolerance: ±20%. Size: 0.28" w. x 0.32" h. x 1.25" lg.

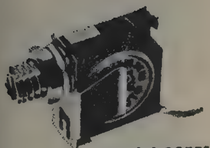
272 274 276	L S P	5K, 10K, 20K, 50K, 100K, 200K, 500K, 750K, 1 meg, 2 megs, 5 megs	$4.16	$3.85	$3.47	$3.29	$3.08	$2.93
Panel mount		Add to price	1.10	1.02	.92	.87	.82	.77


Models 275P, 276P

WIRE-WOUND MODEL 3255

High temperature all-plastic case; 25-turn screwdriver adjustment; meets MIL steady-state humidity specs. Power Rating: 1.0 watt at 50° C. Operating Temperature: 150° C max. Tolerance: ±5%. Size: 0.50" sq. x 0.19" thk. (**L**); 0.22" thk. (**P** or **W**).

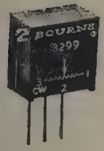
Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3255	L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$3.51	$3.25	$2.93	$2.78	$2.60	$2.47
	P	20K, 25K	4.75	4.40	3.96	3.76	3.52	3.34
	W	50K	5.26	4.87	4.38	4.16	3.90	3.70
Panel mount		Available **L** or **W** terminals. Add to price	2.20	2.03	1.83	1.74	1.63	1.55


Model 3255L Panel Mount

CERMET MODEL 3299

Sealed to withstand wave-soldering and cleaning processes; humidity meets MIL-STD-202. Mechanical Adjustment: 25 turns nom. Power Rating: 0.5 watt at 70° C. Operating Temperature: 125° C max. Tolerance: ±10%. Size: 0.37" w. x 0.39" h. x 0.25" lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	1-49	50-99	100-499	500-999	1000-4999	5000-9999
3299	P W X	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 250K, 500K, 1 meg	$1.71	$1.57	$1.42	$1.28	$1.16	$1.07


Model 3299X

INDUSTRIAL SINGLE-TURN POTENTIOMETERS

HUMIDITY-PROOF—HIGH TEMPERATURE WIRE-WOUND MODEL 3300

High temperature; humidity-proof to MIL specs. Single turn adjustment, 300° nom. Power Rating: 0.5 watt at 70° C. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.31" dia. x 0.18" h. (**P**); 0.31" dia. x 0.46" h. (**S**); 0.25" w. x 0.37" h. x 0.31" lg. (**W**).

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3300	P or W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$7.18	$6.65	$5.98	$5.68	$5.32	$5.05
		20K, 25K	9.15	8.47	7.63	7.24	6.78	6.44
	S	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	10.78	9.98	8.99	8.53	7.99	7.59
		20K, 25K	12.74	11.80	10.62	10.08	9.44	8.97

Model 3300W

CERMET MODEL 3322 (RJ50)

Meets or exceeds MIL-R-22097, Style RJ50. Single turn adjustment, 240° nom. Power Rating: 0.5 watt at 85° C. Operating Temperature: 175° C max. Tolerance: ±10%. Size: 0.25" dia. x 0.22" h.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3322P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	$6.66	$6.32	$5.93	$5.64	$5.27	$5.00

Model 3300S

Model 3322P

INDUSTRIAL FOUR-TURN POTENTIOMETER

CERMET MODEL 3339

Sealed to withstand wave soldering and immersion cleaning process; humidity meets MIL-STD-202. Four turn adjustment. Power Rating: 0.5 watt at 85° C. Operating Temperature: 150° C max. Tolerance: ±10%. Size: 0.30" dia. x 0.25" thk. (**H**, **P**); 0.320" w. x 0.315" d. x 0.375" h. (**W**).

3339	H P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	$2.50	$2.32	$2.09	$1.98	$1.86	$1.76
	W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	3.50	3.25	2.93	2.78	2.61	2.47

Model 3339P

BOURNS TRIMPOT® Potentiometers

INDUSTRIAL MULTI-TURN POTENTIOMETERS

WIRE-WOUND MODEL 200

Exceeds steady-state humidity of MIL-STD-202. Power Rating: 0.5 watt at 70° C. Mechanical Adjustment: 25 turns nom. Operating Temperature: 105° C max. Tolerance: ±10%. Size: 0.28″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-9	10-24	25-49	50-99	100-249	250-499
200	L P S	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$6.69	$6.19	$5.58	$5.29	$4.96	$4.71
		20K, 25K	8.91	8.25	7.43	7.05	6.60	6.27
		50K	10.40	9.63	8.67	8.23	7.71	7.32
Panel mount		Add to basic price	1.10	1.02	.92	.87	.82	.77

RESISTON® CARBON MODEL 215

Excellent shock, vibration and acceleration stability. Stable wiper assembly idles at both ends; self-locking adjustment, 22 turns nom. Power Rating: 0.25 watt at 50° C. Operating Temperature: 135° C max. Tolerance: ±20%. Size: 0.28″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-9	10-24	25-49	50-99	100-249	250-499
215	L P S	5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs, 5 megs	$6.69	$6.19	$5.58	$5.29	$4.96	$4.71
Panel mount		Add to basic price	1.10	1.02	.92	.87	.82	.77

HIGH TEMPERATURE WIRE-WOUND MODEL 220 (RT10)

Meets or exceeds all requirements of MIL-R-27208, Style RT10. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 15 turns nom. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.18″ w. x 0.32″ h. x 1.00″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-9	10-24	25-49	50-99	100-249	250-499
220	L P W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$ 9.50	$8.80	$7.92	$7.51	$7.04	$6.69
		20K, 25K, 30K	11.29	10.45	9.41	8.93	8.37	7.95
Panel Mount		Add to price	1.10	1.02	.92	.87	.82	.77

HIGH TEMPERATURE WIRE-WOUND MODEL 224

Meets or exceeds all requirements of MIL-R-27208. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 22 turns nom. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.19″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-9	10-24	25-49	50-99	100-249	250-499
224	L P S	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$ 7.72	$7.15	$6.43	$6.11	$5.72	$5.43
		20K, 25K	9.50	8.80	7.92	7.51	7.04	6.69
		50K	10.10	9.35	8.42	7.99	7.48	7.11
Panel mount		Add to basic price	1.10	1.02	.92	.87	.82	.77

HIGH TEMPERATURE WIRE-WOUND MODEL 260

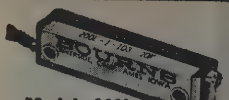
Exceeds steady-state humidity requirements to MIL-STD-202. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 25 turns nom. Operating Temperature: 175° C max. Tolerance: ±10%. Size: 0.28″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-9	10-24	25-49	50-99	100-249	250-499
260	L P S	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$6.53	$6.05	$5.44	$5.17	$4.84	$4.60
		20K, 25K	8.32	7.70	6.93	6.58	6.17	5.86
		50K	8.91	8.25	7.43	7.05	6.60	6.27
Panel mount		Add to basic price	1.10	1.02	.92	.87	.82	.77

HIGH TEMPERATURE WIRE-WOUND MODEL 3010

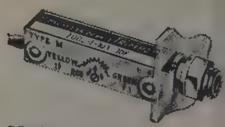
Meets MIL-R-27208. Sealed against humidity, liquids and potting compounds. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 25 turns nom. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.28″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-9	10-24	25-49	50-99	100-249	250-499
3010	L P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$9.42	$8.72	$7.85	$7.45	$6.98	$6.63
		20K, 25K	11.59	10.73	9.66	9.17	8.59	8.16
		50K	12.32	11.41	10.27	9.75	9.13	8.67
Panel mount		Available L terminal. Add to basic price	1.10	1.02	.92	.87	.82	.77

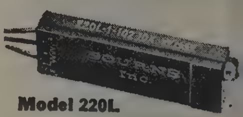


Models 200L, 215L, 260L

Models 200P, 215P, 260P

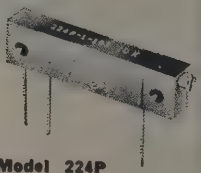


Models 200, 215, 260 Panel Mount



Model 220L

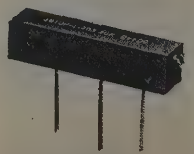
Model 224L



Model 224P

Model 224S

Model 3010L



Model 3010P

INDUSTRIAL MULTI-TURN POTENTIOMETERS (CONT'D)

Model 3012L Panel Mount

HIGH TEMPERATURE CERMET MODEL 3012

Meets or exceeds requirements of MIL-R-22097. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 22 turns nom. Operating Temperature: 175° C max. Tolerance: ±10%. Size: 0.28″ w. x 0.32″ h. x 1.25″ lg.

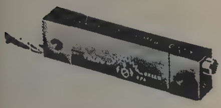
Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-9	10-24	25-49	50-99	100-249	250-499
3012	L P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 750K, 1 meg, 2 megs	$7.18	$6.65	$5.98	$5.68	$5.32	$5.05
Panel mount		Available **L** terminal. Add to price	1.10	1.02	.92	.87	.82	.77

Model 3012P

HIGH TEMPERATURE CERMET MODEL 3052

Meets MIL humidity spec. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 22 turns nom. Operating Temperature: 175° C max. Tolerance: ±10%. Size: 0.19″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-9	10-24	25-49	50-99	100-249	250-499
3052	L P S Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	$6.53	$6.05	$5.44	$5.17	$4.84	$4.60
Panel mount		Available **L, P** or **S** terminals. Add to price	1.10	1.02	.92	.87	.82	.77

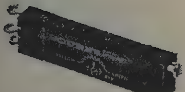


Model 3052L, 3057L, 3059L

HIGH TEMPERATURE HUMIDITY-PROOF WIRE-WOUND MODEL 3057 (RT12)

Humidity proof to MIL spec; meets MIL spec tests for styles RT12 and RTR12 level Mor P. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 22 turns nom. Operating Temperature: 150° C max. Tolerance: ±5%. Size: 0.19″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-9	10-24	25-49	50-99	100-249	250-499
3057	J L P Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$6.22	$5.50	$4.73	$4.25	$4.06	$3.88
		20K	6.85	6.06	5.25	4.69	4.48	4.27
		50K	7.47	6.60	5.71	5.11	4.87	4.65
		100K	9.45	8.35	7.23	6.79	6.47	6.09
Panel mount		Add to price	1.10	1.02	.92	.87	.82	.77

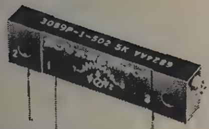


Model 3052S

HIGH TEMPERATURE HUMIDITY-PROOF CERMET MODEL 3059 (RJ12)

MIL spec immersion seal gives trouble free operation after PC board processes. Solderable pins for compatibility with automated and hand soldering methods. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 22 turns nom. Operating Temperature: 150° C max. Tolerance: ±10%. Size: 0.19″ w. x 0.32″ h. x 1.25″ lg.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-49	50-99	100-499	500-999	1000-4999	5000-9999
3059	J L P Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 250K, 500K, 750K, 1 meg, 2 megs	$3.32	$3.04	$2.77	$2.49	$2.26	$2.08
Panel mount		Add to price	1.10	.87	.82	.68	.68	......



Models 3052P, 3057P, 3059P

HUMIDITY-PROOF CERMET MODEL 3082

Meets MIL humidity spec. Power Rating: 0.3 watt at 85° C. Mechanical Adjustment: 10 turns nom. Operating Temperature: 150° C max. Tolerance: ±10%. Size: 0.10″ w. x 0.15″ h. x 0.50″ lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499
3082P	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 750K, 1 meg, 2 megs	$7.70	$7.13	$6.42	$6.09	$5.71	$5.42

BOURNS 10Ω
CCW 6746BA CW
1
3
2

Model 3082P

CERMET DUAL-IN-LINE MODEL 3099

Sealed to meet MIL-R-22097 immersion requirements. Standard DIP size (TO-116) compatible with DIP automatic insertion equipment. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 20 turns nom. Operating Temperature: 150° C max. Tolerance: ±10%. Size: 0.25″ w. x 0.19″ h. x 0 75″ lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499
3099P	10, 20, 50, 100, 200, 500, 1K, 2K. 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	$3.75	$3.35	$3.00	$2.80	$2.60	$2.45

Model 3099P

HUMIDITY-PROOF HIGH TEMPERATURE CERMET MODEL 3262 (RJ26)

Meets or exceeds all requirements of MIL-R-22097, Style RJ26. Power Rating: 0.25 watt at 85° C. Mechanical Adjustment: 12 turns nom. Operating Temperature: 175° C. Tolerance: ±10%. Size: 0.25″ sq. x 0.17″ h.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of					
			1-9	10-24	25-49	50-99	100-249	250-499
3262	P W X	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 250K, 500K, 1 meg	$7.53	$6.83	$6.13	$5.83	$5.46	$5.19

Model 3262P

INDUSTRIAL MULTI-TURN POTENTIOMETERS (CONT'D)

¼" SQUARE HUMIDITY-PROOF HIGH TEMP. WIRE-WOUND MODEL 3260 (RT26)

Meets or exceeds all requirements of MIL-R-27208, Style RT26. Power Rating: 0.2 watt at 70° C. Mechanical Adjustment: 11 turns nom. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.25" sq. x 0.17" h.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3260	H W	10, 20, 50, 100, 200, 500, 1K	$ 8.25	$ 7.64	$ 6.88	$6.53	$6.11	$5.81
		2K, 5K	9.08	8.41	7.57	7.18	6.73	6.39
		10K, 20K	11.55	10.70	9.63	9.14	8.56	8.13
		25K	12.10	11.20	10.09	9.57	8.97	8.52

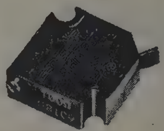
Model 3260H

Model 3260W

½" SQ. HUMIDITY-PROOF HIGH TEMP. WIRE-WOUND MODEL 3250 (RT22)

Humidity-proof; sealed in high-temperature plastic case. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 25 turns nom. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.50" sq. x 0.19" h. (**L**); 0.22" h. (**P, W, W66**).

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3250	L	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$ 7.38	$ 6.84	$6.15	$5.84	$5.47	$5.19
		20K, 25K	8.32	7.70	6.93	6.58	6.16	5.85
		50K	11.00	10.20	9.17	8.70	8.15	7.74
	P W W66	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	7.95	7.36	6.62	6.28	5.88	5.59
		20K, 25K	8.77	8.12	7.31	6.93	6.49	6.17
		50K	11.58	10.72	9.66	9.16	8.58	8.15
Panel mount		Available **L** or **W** terminals. Add to price	2.20	2.03	1.83	1.74	1.63	1.55

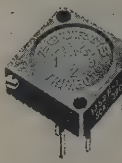


Model 3250L

½" SQ. HIGH PERFORMANCE HUMIDITY-PROOF CERMET MODEL 3252 (RJ22)

Meets or exceeds requirements of MIL-R-22097, Style RJ22. Power Rating: 1.0 watt at 70° C. Mechanica Adjustment: 23 turns nom. Operating Temperature: 150° C max. Tolerance: ±10%. Size: 0.50" sq. x 0.22" h.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3252	L P W X	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 500K, 1 meg, 2 megs	$5.90	$5.62	$5.31	$5.01	$4.72	$4.25
Panel mount		Available **L** or **W** terminals. Add to price	2.20	2.03	1.83	1.74	1.63	1.55

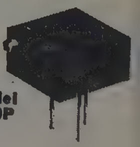


Model 3252P

⅜" SQUARE HUMIDITY-PROOF HIGH TEMP. WIRE-WOUND MODEL 3280

Meets or exceeds requirements of MIL-R-27208. All plastic case provides sealing against liquids and potting compounds plus reliable moisture resistance. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 25 turns nom. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.375" sq. x 0.203" h.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3280	L P W W66	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$9.15	$8.47	$7.63	$7.24	$6.78	$6.44
		20K, 25K	11.11	10.29	9.26	8.79	8.23	7.82
		50K	11.76	10.89	9.80	9.30	8.71	8.28
Panel mount		Available **L** or **W** terminals. Add to price	2.20	2.03	1.83	1.74	1.63	1.55



Model 3280P

⅜" SQUARE HUMIDITY-PROOF CERMET MODEL 3282

Meets applicable requirements of MIL-R-22097. Power Rating: 0.5 watt at 85° C. Mechanical Adjustment: 25 turns nom. Operating Temperature: 175° C max. Tolerance: ±10%. Size: 0.375" sq. x 0.20" h.

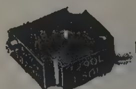
Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3282	H L P W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 750K, 1 meg	$8.94	$8.49	$8.05	$7.87	$7.59	$7.13

Model 3282H

⅜" SQUARE HUMIDITY-PROOF HIGH TEMP. WIRE-WOUND MODEL 3290 (RT24)

Meets or exceeds MIL-R-27208. All plastic case provides sealing against liquids and potting; positive end stops; reliable moisture resistance. Power Rating: 1.0 watt at 70° C. Mechanical Adjustment: 25 turns nom. Operating Temperature: 175° C max. Tolerance: ±5%. Size: 0.375" sq. x 0.15" h.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3290	H L P W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$ 8.06	$ 7.46	$6.72	$6.38	$5.97	$5.67
		20K, 25K	9.63	8.92	8.03	7.62	7.14	6.78
		50K	11.11	10.29	9.27	8.79	8.23	7.82
Panel mount		Available **H, L, W** terminals. Add to price	2.20	2.03	1.83	1.74	1.63	1.55



Model 3290L

Model 3290P

⅜" SQUARE THIN LINE CERMET MODEL 3292 (RJ24 AND RJR)

Meets or exceeds all requirements of MIL-R-22097, Style RJ24. Power Rating: 0.5 watt at 85° C. Mechanical Adjustment: 22 turns nom. Operating Temperature: 175° C max. Tolerance: ±10%. Size: 0.375" sq. x 0.150" h.

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3292	L P W X	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 750K, 1 meg	$6.83	$6.49	$6.15	$6.01	$5.80	$5.44
Panel mount		Available **L** or **W** terminals. Add to price	2.20	2.03	1.83	1.74	1.63	1.55

Model 3292L

Model 3292P

BOURNS TRIMPOT® Potentiometers

MIL-SPEC ADJUSTMENT POTENTIOMETERS

WIRE-WOUND MIL-R-27208 POTENTIOMETERS

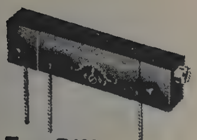
RT10

MIL Type	Resistance Range, Ohms	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499
RT10C2L, RT10C2P	100, 200, 500, 1K, 2K, 5K, 10K	$9.50	$8.80	$7.92	$7.51	$7.04	$6.69
RT12C2L, RT12C2P, RT12C2Y	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	6.12	5.65	5.19	4.77	4.44	4.17
	20K	6.72	6.20	5.70	5.24	4.87	4.58
RT26C2W, RT26C2X	10, 20, 50, 100, 200, 500, 1K	8.25	7.64	6.88	6.53	6.11	5.81
	2K, 5K	9.08	8.41	7.57	7.18	6.73	6.39

RJR12

Bourns Type	Resistance Range, Ohms	Net Each, Lots of					
		1-49	50-99	100-499	500-999	1000-4999	5000-9999
RT22C2L RT22C2P RT22C2W RT22C2X	50, 100, 200, 500, 1K, 2K, 5K, 10K	$2.51	$2.30	$2.09	$1.88	$1.71	$1.57
	20K	2.76	2.53	2.30	2.07	1.88	1.73
RT24C2L RT24C2P RT24C2W RT24C2X	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	3.03	2.78	2.52	2.27	2.06	1.89

WIRE-WOUND MIL-R-39015 ESTABLISHED RELIABILITY POTENTIOMETERS


Type RJ12

Failure rate level M and P.

MIL Type	Resistance Range, Ohms	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499
RTR12DL, RTR12DP, RTR12DY	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K	$20.77	$19.23	$17.31	$16.43	$15.39	$14.62
	20K	22.47	20.81	18.73	17.77	16.65	15.82
RTR22DL RTR22DP	500, 1K, 2K, 5K, 10K	12.34	11.39	10.21	9.87	9.32	8.82
RTR22DW RTR22DX	20K	14.08	13.00	11.65	11.26	10.63	10.06
RTR24DP, RTR24DW, RTR24DX	500, 1K, 2K, 5K, 10K	9.09	8.42	7.58	7.19	6.74	6.40

Types RT12, RTR12

CERMET MIL-R-22097 POTENTIOMETERS

Type RJ22

MIL Type	Resistance Range, Ohms	Net Each, Lots of					
		1-49	50-99	100-499	500-999	1000-4999	5000-9999
RJ12CL, RJ12CP, RJ12CY	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 250K, 500K, 1 meg	$5.94	$5.22	$4.95	$4.84	$4.66	$4.38
RJ22CL*, RJ22CP*, RJ22CW*, RJ22CX*	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 250K, 500K, 1 meg	6.25	5.94	5.63	5.30	5.00	4.50
RJ24CL, RJ24CP, RJ24CW, RJ24CX	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 250K, 500K, 1 meg	$3.03	$2.78	$2.52	$2.27	$2.06	$1.89
RJ26CP†, RJ26CW†, RJ26CX†	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 250K, 500K, 1 meg	4.19	3.84	3.49	3.14	2.85	2.62

*Also available at same price in Characteristic **F** (RJ22FP) in same resistance range. †Also available at same price in Characteristic **F** (RF26FP) in same resistance range.

CERMET MIL-R-39035 ESTABLISHED RELIABILITY POTENTIOMETERS

Types RJ24, RJR24, RTR24

MIL Type	Resistance Range, Ohms	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499
RJR12CL*, RJR12CY*	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 250K, 500K, 1 meg	$ 8.66	$ 8.02	$ 7.22	$6.85	$6.42	$6.10
RJR24CP*, RJR24CW*, RJR24CX*	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 250K, 500K, 1 meg	11.56	10.76	10.25	9.85	8.58	8.34

*Also available at same price in Characteristic **F** (RJR12FL, RJR24FP) in same resistance range.

Type RJ26

STAINLESS STEEL BLADE POTENTIOMETER SCREWDRIVER

For use on all Bourns potentiometer models. Complete with clip.
Bourns No. H-90—Net Each, Lots of 1-24..................**$0.35**; 25-99..................**$0.30**

KNOBPOT® READOUT POTENTIOMETER ACCESSORIES

Accessory colors meet Federal Standard 595.

Bourns No. For Knobpot®			Net Each, Lots of			
Model 3600	Model 3640	Description	1-24	25-99	100-499	500-999
H-93	H-99	Snap-on color rings*	$0.35	$0.30	$0.25	$0.20
H-95	....	Stainless steel skirt	1.50	1.25	1.00	.75
....	H-98		3.77	3.43	3.10	2.92
H-103	H-97	Plastic slip-over friction brake	1.25	1.07	.97	.90
....	H-105	Flat face recess mounting bracket	2.19	1.99	1.80	1.70
H-107	....		2.73	2.48	2.25	2.15
....	H-106	Beveled face recess mounting bracket	2.61	2.38	2.15	2.05
H-108	....		2.49	2.26	2.05	1.95
H-361		Removal tool for Model 3610	No Charge when Ordered with Model 3610			

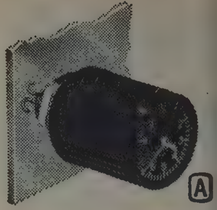
*Specify color: **-1**, red; **-2**, yellow; **-3**, blue; **-4**, green; **-5**, white.

BOURNS INC

KNOBPOT® READOUT POTENTIOMETERS AND ACCESSORIES

KNOBPOT® WIRE-WOUND READOUT POTENTIOMETERS

Knob, readout dial and potentiometer in one package requires less front panel space than most dials alone. Self-locking feature provides excellent stability during vibration and shock; 100% contact pressure control insures high mechanical life. Sealed to pass MIL-STD-202, Method 103, humidity. Shock: 50G. Vibration: 10G. Electrical Rotation: 3600° nom. Mechanical Life: 200,000 dial revolutions (Model 3610, 50,000 dial revolutions). Lockwasher and mounting nut included.


A

10-TURN ¾″ DIA. CLOCK FACE READOUT KNOBPOT® MODEL 3600 (FIG. A)

Dial Accuracy: ±0.5% VR. Dial Repeatability: ±0.1% VR. Power Rating: 1.5 watts at 25° C. Operating Temperature: −65° C to +85° C max. Resistance Tolerance: ±5%. Size: ¾″ dia. x 1″ lg. FMS; 1¹⁷⁄₃₂″ lg. overall.

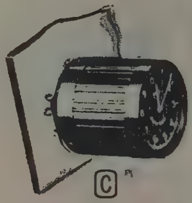
Bourns Model	Resistance Range, Ohms	Net Each, Lots of				
		1-9	10-24	25-49	50-99	100-249
3600S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	$21.79	$21.27	$19.31	$18.15	$17.17

B

10-TURN ⅞″ DIA. DIGITAL READOUT KNOBPOT® MODEL 3610 (FIG. B)

Dial Accuracy: ±0.5% VR. Dial Repeatability: ±0.1% VR. Power Rating: 1.5 watts at 25° C. Operating Temperature: −25° C to +85° C max. Resistance Tolerance: ±5%. Size: ⅞″ dia. x ¾″ lg. FMS; 1⁹⁄₁₆″ lg. overall.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of				
		1-9	10-24	25-49	50-99	100-249
3610S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K	$22.26	$21.73	$19.72	$18.54	$17.54


C

10-TURN 1¼″ DIA. CLOCK FACE READOUT KNOBPOT® MODEL 3640 (FIG. C)

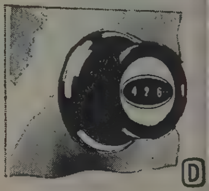
Dial Accuracy: ±0.1% VR. Dial Repeatability: ±0.05% VR. Power Rating: 2.5 watts at 25° C. Operating Temperature: −65° C to +85° C max. Resistance Tolerance: ±3%. Size: 1¼″ dia. x 1½″ lg. FMS; 2³⁄₃₂″ lg. overall.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of				
		1-9	10-24	25-49	50-99	100-249
3640S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 75K, 100K, 125K, 200K, 250K	$34.50	$31.95	$28.75	$27.28	$25.55

10-TURN 1¼″ DIA. DIGITAL READOUT KNOBPOT® MODEL 3650 (FIG. D)

Dial Accuracy: ±0.1% VR. Dial Repeatability: ±0.05% VR. Power Rating: 2.5 watts at 25° C. Operating Temperature: −25° C to +85° C max. Resistance Tolerance: ±3%. Size: 1¼″ dia. x ²⁹⁄₃₂″ lg. FMS; 2¹⁵⁄₃₂″ lg. overall.

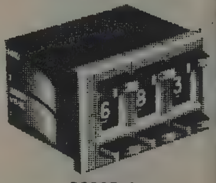
Bourns Model	Resistance Range, Ohms	Net Each, Lots of				
		1-9	10-24	25-49	50-99	100-249
3650S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 75K, 100K, 200K, 250K	$49.17	$45.53	$40.98	$38.88	$36.42


D

KNOBPOT® INTEGRAL PUSHBUTTON POTENTIOMETER MODEL 3680

The Model 3680 integrates a precision incremental decade potentiometer with an easy-to-read digital display and a speedy pushbutton control action. Push the top PLUS button to increase resistance; push the bottom MINUS button to decrease resistance. Unit snaps easily into a 0.83″ x 1.42″ panel cutout. Resistance Tolerance: ±1%. Resolution: 0.1%. Accuracy of Dial Reading to Output: ±0.5% of full scale. Power Rating: 2 W at 25° C, derated to zero watts at 85° C. Operating Temperature Range: −25° C to +85° C. Terminals: Dual purpose solder lugs also fit AMP Series 110 receptacles. Size: 1.45″ w. x 0.93″ h. x 1.36″ d. behind panel. Weight: 0.78 oz.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of				
		1-9	10-24	25-49	50-99	100-249
3680S-1	5K, 10K, 100K, 1 meg	$23.00	$21.30	$19.17	$18.19	$17.04


3680S-1

TURNS-COUNTING DIALS

H-400 Series (Fig. F)—1″ dia.; for use with precision potentiometers or other rotating devices up to 10 turns. Readability of 1 part in 1000 for 10 turns.

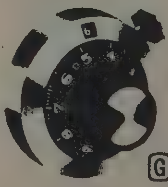
H-490 Series (Fig. F)—1″ dia.; for use with precision potentiometers or other rotating devices up to 30 turns. Readability of 1 part in 1000 for ten turns.

H-510 Series (Fig. G)—1⅜″ dia.; for use with precision potentiometers or other rotating devices up to 10 turns. Readability equal to larger 1¹³⁄₁₆″ dia. dials; excellent number definition in two-thirds the panel space

H-700 Series (Fig. F)—¼″ dia.; for use with precision potentiometers or other rotating devices up to 10 turns. Readability of 1 part in 500 for 10 turns.

H-1400 Series (Fig. F)—1″ dia.; for use with precision potentiometers or other rotating devices up to 10 turns. Readability of 2 parts in 1000 for 10 turns.

F


G

Bourns Model	Finish	Shaft Dia.	Bushing Size	Brake	Net Each, Lots of					
					1-4	5-9	10-24	25-99	100-249	250-499
H-411	Black	¼″	⅜″-32NEF-2A	No	$8.77	$8.04	$7.64	$7.24	$6.83	$6.43
H-412	Black	¼″	⅜″-32NEF-2A	Yes	9.44	8.66	8.22	7.80	7.35	6.92
H-461	Clear	¼″	⅜″-32NEF-2A	No	8.77	8.04	7.64	7.24	6.83	6.43
H-462	Clear	¼″	⅜″-32NEF-2A	Yes	9.44	8.66	8.22	7.80	7.35	6.92
H-421	Black	⅛″	¼″-32NEF-2A	No	8.77	8.04	7.64	7.24	6.83	6.43
H-422	Black	⅛″	¼″-32NEF-2A	Yes	9.44	8.66	8.22	7.80	7.35	6.92
H-471	Clear	⅛″	¼″-32NEF-2A	No	8.77	8.04	7.64	7.24	6.83	6.92
H-472	Clear	⅛″	¼″-32NEF-2A	Yes	9.44	8.66	8.22	7.80	7.35	6.92
H-491-1*	Clear	³⁄₃₂″	¼″-32NEF-2A	No	10.65	9.05	8.52	7.99	7.46	6.92
H-492-1*	Clear	³⁄₃₂″	¼″-32NEF-2A	Yes	10.65	9.05	8.52	7.99	7.46	6.92
H-493-1*	Black	³⁄₃₂″	¼″-32NEF-2A	No	11.50	9.78	9.20	8.63	8.05	7.48
H-494-1*	Black	³⁄₃₂″	¼″-32NEF-2A	Yes	11.50	9.78	9.20	8.63	8.05	7.48
H-491-3	Clear	¼″	⅜″-32NEF-2A	No	10.65	9.05	8.52	7.99	7.46	6.92
H-492-3	Clear	¼″	⅜″-32NEF-2A	Yes	10.65	9.05	8.52	7.99	7.46	6.92
H-493-3	Black	¼″	⅜″-32NEF-2A	No	11.50	9.78	9.20	8.63	8.05	7.48
H-494-3	Black	¼″	⅜″-32NEF-2A	Yes	11.50	9.78	9.20	8.63	8.05	7.48
H-510-1	Clear	⅛″	....	Yes	10.00	8.50	8.00	7.50	7.00	6.50
H-510-2	Clear	¼″	....	Yes	10.00	8.50	8.00	7.50	7.00	6.50
H-721	Black	⅛″	¼″-32NEF-2A	No	10.52	9.65	9.16	8.69	8.20	7.71
H-771	Clear	⅛″	¼″-32NEF-2A	No	10.52	9.65	9.16	8.69	8.20	7.71
H-1411	Black	¼″	⅜″-32NEF-2A	No	6.97	6.39	6.07	5.76	5.43	5.11
H-1412	Black	¼″	⅜″-32NEF-2A	Yes	7.65	7.02	6.66	6.32	5.96	5.61
H-1461	Gray	¼″	⅜″-32NEF-2A	No	6.97	6.39	6.07	5.76	5.43	5.11
H-1462	Gray	¼″	⅜″-32NEF-2A	Yes	7.65	7.02	6.66	6.32	5.96	5.61
H-1421	Black	⅛″	¼″-32NEF-2A	No	6.97	6.39	6.07	5.76	5.43	5.11
H-1422	Black	⅛″	¼″-32NEF-2A	Yes	7.65	7.02	6.66	6.32	5.96	5.61
H-1471	Gray	⅛″	¼″-32NEF-2A	No	6.97	6.39	6.07	5.76	5.43	5.11
H-1472	Gray	⅛″	¼″-32NEF-2A	Yes	7.65	7.02	6.66	6.32	5.96	5.61

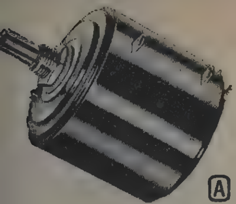
*Available with ⅛″ shaft dia.; to order, substitute -2 for suffix -1 (H-491-2).

See another Bourns page for KNOBPOT® accessories.

BOURNS TRIMPOT® Potentiometers

BUSHING MOUNT PRECISION POTENTIOMETERS

Lockwasher and mounting nut supplied. Standard resistance range given; special resistances available. Resistance Code: First 2 digits indicate significant Nos.; 3rd digit number of zeros, e.g., 101 = 100 ohms.

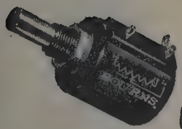


A

10-TURN 1-13/16″ DIAMETER WIRE-WOUND MODEL 3400 (FIG. A)

Power Rating: 5 watts at 40° C. Independent Linearity: ±0.15%. Operating Temperature: 105° C max. Resistance Tolerance: ±3%. Size: 1 13/16″ dia. x 1¾″ lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50-99	100-249
3400S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K	$13.51	$11.48	$10.81	$10.13	$ 9.46	$ 8.78
	500K	27.41	23.30	21.93	20.56	19.19	17.82



B

10-TURN ⅞″ DIAMETER WIRE-WOUND MODEL 3500 (FIG. B)

Power Rating: 2.0 watts at 70° C. Independent Linearity: ±0.20%. Operating Temperature: 125° C max. Resistance Tolerance: ±3%. Size: ⅞″ dia. x 1″ lg.

3500S-1 or 3500S-2	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 125K	$15.64	$13.29	$12.51	$11.73	$10.95	$10,17
	150K, 200K, 250K	31.63	26.89	25.30	23.72	22.14	20.56
	500K	47.60	40.46	38.08	35.70	33.32	30.94

C

10-TURN ⅞″ DIAMETER CONDUCTIVE PLASTIC MODEL 3501 (FIG. C)

Power Rating: 2 watts at 70° C. Independent Linearity: ±0.5%. Operating Temperature: 105° C max. Resistance Tolerance: ±10%. Size: ⅞″ dia. x 1″ lg.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50-99	100-249
3501S-1	1K, 2K, 5K, 10K, 20K, 50K, 100K, 125K, 150K, 200K, 250K, 500K	$23.30	$19.81	$18.64	$17.48	$16.31	$15.15
	1 meg, 2 megs, 4 megs	58.82	50.00	47.06	44.12	41.17	38.23

D

10-TURN ⅞″ DIAMETER WIRE-WOUND MODEL 3509 (FIG. D)

Power Rating: 2 watts at 25° C. Independent Linearity: ±0.25%. Operating Temperature: 105° C max. Resistance Tolerance: ±5%. Size: ⅞″ dia. x 1⅛″ lg. Nonmetallic shaft and bushing (suffix **-1**); for stainless steel shaft and aluminum bushing, order 3509S-**8**.

3509S-1	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	$8.70	$7.40	$6.96	$6.53	$6.09	$5.66
3509S-8	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	9.63	8.19	7.70	7.22	6.74	6.26

E

5-TURN ⅞″ DIAMETER WIRE-WOUND MODEL 3520 (FIG. E)

Power Rating: 1.5 watts at 70° C. Independent Linearity: ±0.3%. Operating Temperature: 125° C max. Resistance Tolerance: ±3%. Size: ⅞″ dia. x 1 1/16″ lg.

3520S-1	25, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 75K	$23.43	$19.92	$18.74	$17.57	$16.40	$15.23
	100K	39.40	33.49	31.52	29.55	27.58	25.61
	250K	55.40	47.09	44.32	41.55	38.78	36.01

F

10-TURN ⅞″ DIAMETER WIRE-WOUND MODEL 3540 (FIG. F)

Power Rating: 2.0 watts at 70° C. Independent Linearity: ±0.25%. Operating Temperature: 125° C max. Resistance Tolerance: ±5%. Size: ⅞″ dia. x ¾″ lg.

3540S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	$6.25	$6.25	$5.65	$5.35	$5.05	$4.75

10-TURN HYBRITON™ ⅞″ DIAMETER MODEL 3541
CONDUCTIVE PLASTIC-ON-WIREWOUND (FIG. G)

Power Ratings: 2 watts at 70° C; optional second section, 1.5 watts at 70° C. Resistance Tolerance: ±10% Independent Linearity: ±0.25%. Operating Temperature Range: −55° C to +125° C. Temperature Coefficient: ±100 ppm/°C. Rotational Life: 5,000,000 shaft revolutions.

Bourns Model	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
3541-S	1K, 2K, 5K, 10K, 20K, 50K, 100K	$8.82	$7.97	$7.55	$7.13	$6.70

G

3-TURN ⅞″ DIAMETER WIRE-WOUND MODEL 3543 (FIG. G)

Power Rating: 1 watt at 70° C. Resistance Tolerance: ±5%. Independent Linearity: ±0.25%. Operating Temperature Range: −55° C to +125° C.

3543S-1	20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K	$7.40	$7.15	$6.20	$5.85	$5.50

5-TURN ⅞″ DIAMETER WIRE-WOUND MODEL 3545 (FIG. G)

Power Rating: 1.5 watts at 70° C. Resistance Tolerance: ±5%. Independent Linearity: ±0.25%. Operating Temperature Range: −55° C to +125° C.

3545S-1	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K	$7.40	$7.15	$6.20	$5.85	$5.50

H

10-TURN ½″ DIAMETER WIRE-WOUND MODEL 3707 (FIG. H)

Power Rating: 1.0 watt at 40° C. Independent Linearity: ±1.0%. Operating Temperature: 105° C max. Resistance Tolerance: ±5%. Size: ½″ dia. x 1″ lg.

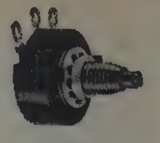
3707S-1	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	$26.82	$22.80	$21.46	$20.12	$18.77	$17.43

BOURNS Controls

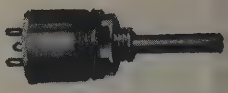
CERMET CONTROLS

Cermet infinite resolution element offers stable performance in all environments. Resistance Tolerance: ±10%. Taper: Linear (A). Contact Resistance Variation: ±3% max. of total resistance. TC: ±150 ppm/° C. High Performance Models meet or exceed the applicable requirements of MIL-R-94 and MIL-R-23285. Single turn except otherwise noted. **High Performance Model 3852:** Housing ¾″ dia. x ¼″ lg. Resistance Range: 50 ohms to 5 megs. Power Rating: 2 watts at 70° C. Operating Temperature: −65° C to +150° C. **Multi-Turn Model 3856:** Features 3¾ turns which provide 1350° of electrical continuity travel. Housing: ¾″ dia. x ¼″ lg. Resistance Range: 50 ohms to 5 megs. Power Rating: 2 watts at 70° C. Operating Temperature Range: −65° C to +150° C. **Commercial Model 3859:** Same as Model 3852 except Operating Temperature Range: −65° C to +125° C and has plastic bushing. **High Performance Model 3862:** Housing ½″ dia. x 0.453″ lg. Resistance Range: 100 ohms to 5 megs. Power Rating: 1 watt at 125° C. Operating Temperature Range: −65° C to +175° C. All models supplied with hardware; types with locking bushings supplied with lock nut.

Available Options: (With Minimum Order Requirements.) Plain and flatted shaft ends; lug or PC terminals; other nominal resistance values; 10% audio CW taper (C) and CCW taper (F) with ±10% resistance tolerance; and ±5% resistance tolerance (H) are also available on special order.


Model 3852E

Model 3859B


Model 3862C

Model 3862E

PART NUMBERING SYSTEM AND ORDERING

3852 A 16 2 101 A

Bourns Model	Bushing Style	Bushing Lgth.	Bushing Shaft Dia.	Standard Shaft Lgth. (FMS) Lgth.	Standard Shaft Lgth. (FMS) Code*
3852	A	⅜″	¼″	½″† ⅞″	16 28
3852	B	½″	¼″	⅝″†	20
3852	C	¼″	⅛″	⅜″† ⅞″	12 28
3852	E	⅜″	⅛″	½″†	16
3856	A	⅜″	¼″	⅞″†	28
3856	H	⅜″	⅛″	⅞″†	28
3859	A	⅜″	¼″	½″† ⅞″	16 28
3859	B	¼″	¼″	⅜″†	12
3862	C	¼″	⅛″	⅜″† ⅞″	12 28
3862	E	½″	⅛″	⅝″†	20

Terminal and Shaft End	Resistance Code Value Ohms	Code	Value Ohms	Code	Taper and Resistance Tolerance
2, lugs, slotted	50‡	500	25K	253	Linear taper, ±10% resistance tolerance
	100	101	50K	503	
	250	251	100K	104	
6, printed circuit, slotted	500	501	250K	254	
	1K	102	500K	504	
	2.5K	252	1,000K	105	
	5K	502	2,500K	255	
	10K	103	5,000K	505	

*Shaft length numbering code is based on the number of 1/32″ increments in the length from the mounting surface (FMS), thus a ⅞″ shaft length is ordered as **28.** Shaft lengths other than those listed above are available with Minimum Order Requirements. †Minimum length slotted shaft available for each model bushing combination shown. ‡50 ohm value not available in Model 3862.

DESCRIPTION AND PRICING

Bourns Model	Bushing Style	Bushing Lgth.	Shaft Dia.	Standard Shaft Lgth. (FMS)	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3852A	⅜-32 UNEF	⅜″	¼″	½″ or ⅞″	$2.65	$2.36	$2.31	$2.20	$1.72	$1.36
3852B	⅜-32 UNEF locking	½″	¼″	⅝″	2.94	2.62	2.56	2.44	1.91	1.51
3852C	¼-32 UNEF	¼″	⅛″	⅜″ or ⅞″	2.81	2.50	2.44	2.33	1.83	1.44
3852E	¼-32 UNEF locking	⅜″	⅛″	½″	3.07	2.73	2.67	2.55	2.00	1.57
3856A	⅜-32 UNEF	½″	¼″	⅞″	6.00	5.35	5.09	4.61	3.90	3.06
3859A	⅜-32 UNEF threaded plastic	⅜″	¼″	½″ or ⅞″	2.15	1.91	1.87	1.78	1.40	1.10
3859B	Plastic snap-in	¼″	¼″	⅜″	2.15	1.91	1.87	1.78	1.40	1.10
3862C	¼-32 UNEF-2A	¼″	⅛″	⅜″ or ⅞″	4.50	3.95	3.65	2.80	2.20	1.85
3862E	¼-32 UNEF-2A locking	½″	⅛″	⅝″	4.76	4.17	3.86	2.96	2.33	1.96

CONDUCTIVE PLASTIC CONTROLS

The conductive plastic resistance element offers improved stability, low noise, and stable performance in all environments. The one-piece, molded-in terminations eliminate bonded connections and stress problems. **Housing:** ¾″ diameter. **Resistance Range:** 1K to 100K in linear tapers, 2K to 50K in audio tapers. **Power Rating:** ½ W at 70° C.

Bourns Model	Bushing Style	Bushing Lgth.	Shaft Dia.	Standard Shaft Length (FMS) Lgth.	Code*	Terminal & Shaft End	Resistance Code Value Ohms	Code	Taper and Resistance Tolerance
3851	A	⅜″	¼″	½″† ⅞″	16 28	2, lugs, slotted	1K 2.5K	102 252	B—Linear ±20%
	B	½″	¼″	⅝″†	20		5K	502	
	C	¼″	⅛″	⅜″† ⅞″	12 28	6, PC, slotted	10K 25K	103 253	
	E	¼″	⅛″	½″†	16		50K	503	
3858	A	⅜″	¼″	½″† ⅞″	16 28		100K	104	
	B	¼″	¼″	⅜″†	12				

*Shaft length numbering code is based on the number of 1/32″ increments in the length from the mounting surface (FMS), thus a ⅞″ shaft length is ordered as 28. †Minimum length slotted shaft available for each model bushing combination shown.

DESCRIPTION AND PRICING

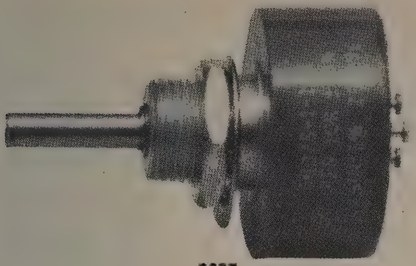
Bourns Model	Bushing Style	Shaft Dia.	Standard Shaft Length FMS	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3851A	⅜-32 UNEF	¼″	½″ or ⅞″ or 2″	$2.15	$1.93	$1.88	$1.82	$1.38	$1.10
3851B	⅜-32 UNEF locking	¼″	⅝″	2.34	2.10	2.05	1.98	1.50	1.20
3851C	¼-32 UNEF	⅛″	⅜″ or ⅞″	2.22	1.99	1.94	1.88	1.42	1.14
3851E	¼-32 UNEF locking	⅛″	½″	2.46	2.21	2.15	2.09	1.58	1.26
3858A	⅜-32 UNEF	¼″	½″ or ⅞″ or 2″	1.97	1.80	1.74	1.71	1.31	1.01
3858B	Plastic Snap-in	¼″	⅜″	1.97	1.80	1.74	1.71	1.31	1.01

STANDARD RESISTANCE VALUE ORDER CODE

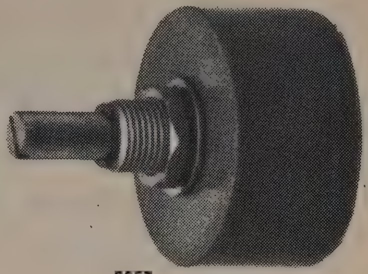
50	(500)
100	(101)
250	(251)
500	(501)
1K	(102)
2.5K	(252)
5K	(502)
10K	(103)
25K	(253)
50K	(503)
100K	(104)
250K	(254)
500K	(504)
1 meg	(105)
2.5 meg	(255)
5 meg	(505)

BOURNS Precision Potentiometers

SINGLE TURN PRECISION POTENTIOMETERS



6637



6657

igh quality, single-turn, precision potentiometers at economy rices. Conductive plastic potentiometers feature super-smooth otation and infinite resolution, long-life elements. Molded-in, rear urret type terminals provide increased protection from mechanical hock and handling damage. Bushing mount; lock washer and ounting nut supplied. **Operating Temperature Range:** −65° C o +125° C. **Resistance Range:** 1K to 100K ohms. **Resistance olerance:** ±10%. **Linearity (Independent) Standard:** ±1%; ther linearities available. **Resolution:** Essentially infinite. **Effec- ive Electrical Angle:** 340° ±3°. **End Voltage:** 0.5% maximum. **utput Smoothness:** 0.1%. **Power Rating:** Model 6637, 1 Watt t 70° C; Model 6657, 1.5 Watt at 70° C; both models, 0 Watts at 25° C. **Dielectric Strength:** 750 VAC at sea level. **Insulation esistance:** Model 6637, 500 megohms minimum at 500 VDC; odel 6657, 1,000 megohms at 500 VDC. **Vibration (Contact ounce 0.1 millisecond max.):** 15G. **Shock (Contact Bounce 0.1 millisecond max.):** 50G. **Mechanical Angle:** Continuous. **Backlash:** 0.17% maximum. **Shaft Runout:** Model 6637, 0.005 T.I.R.; Model 6657, 0.001 T.I.R. **Shaft End Play:** 0.005 T.I.R. **Shaft Radial Play:** Model 6637, 0.005 T.I.R.; Model 6657, 0.003 T.I.R. **Rotational Life:** 10,000,000 shaft revolutions. **Torque (Starting and Running):** 0.50 oz.-in. maximum.

OPTIONAL FEATURES

Front shaft extensions, Model 6637; front and rear shaft extensions, Model 6657. Shaft flats, slots, grooves and special shaft diameters. Special bushing lids. Mechanical stops. High or low torque. Antirotation pin. Special electrical angles. Special linearity tolerances. Special resistance tolerances. Center tap (within linearity tolerance). Voltage or resistance shorts. Non-linear functions, Model 6657 only.

MODEL 6637

/8″ diameter bushing.

Bourns Model	Resistance (Ohms)	Net Each, Lots of					
		1-4	5-9	10-24	25-49	50-99	100-249
6637S-1-102	1K	$9.85	$9.40	$8.95	$8.50	$8.10	$7.70
6637S-1-202	2K	9.85	9.40	8.95	8.50	8.10	7.70
6637S-1-502	5K	9.85	9.40	8.95	8.50	8.10	7.70
6637S-1-103	10K	9.85	9.40	8.95	8.50	8.10	7.70
6637S-1-203	20K	9.85	9.40	8.95	8.50	8.10	7.70
6637S-1-503	50K	9.85	9.40	8.95	8.50	8.10	7.70
6637S-1-104	100K	9.85	9.40	8.95	8.50	8.10	7.70

MODEL 6657

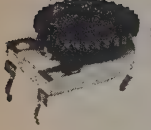
1 5/16″ diameter bushing.

Bourns Model	Resistance (Ohms)	Net Each, Lots of					
		1-4	5-9	10-24	25-49	50-99	100-249
6657S-1-102	1K	$9.85	$9.40	$8.95	$8.50	$8.10	$7.70
6657S-1-202	2K	9.85	9.40	8.95	8.50	8.10	7.70
6657S-1-502	5K	9.85	9.40	8.95	8.50	8.10	7.70
6657S-1-103	10K	9.85	9.40	8.95	8.50	8.10	7.70
6657S-1-203	20K	9.85	9.40	8.95	8.50	8.10	7.70
6657S-1-503	50K	9.85	9.40	8.95	8.50	8.10	7.70
6657S-1-104	100K	9.85	9.40	8.95	8.50	8.10	7.70

PIONEER MODIFIES BOURNS TRIMMERS FOR PANEL MOUNTING
ASK FOR DETAILS

Our Stocks are Complete and up-to-date.

Write for information on new or unlisted items.



Model 3353P

Model 3353W

MODEL RVC6 CERMET CONTROLS

Listed on DESC QPL for MIL-R-23285. **Resistance Tolerance:** ±10% standard. **Taper:** linear and audio clockwise. **Resistance Range:** 1000 ohms thru 2.5 megs. **Power Rating:** ½ W @ 125° C. **Model RVC6N/S:** ¼-32 UNEF-2A plain bushing requires H-40-2 panel O-ring, ⅜″ or ⅞″ long shaft with slot, flatted shaft available with shaft lengths over ½″. **Model RVC6L/T:** ¼-32 UNEF-2A locking bushing requires H-40-2 panel O-ring, ⅝″ long shaft with slot. Models have solder lug-terminals or PC pins.

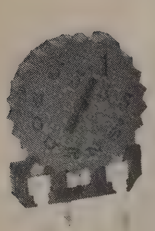
Bourns Number	Resistance (Part No.) Value	Bushing & Shaft	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
RVC6NYD( )B	(102) 1K	¼″ Plain ⅞″ Slotted	$5.95	$4.79	$4.51	$4.04	$3.52	$2.43
	(252) 2.5K		5.95	4.79	4.51	4.04	3.52	2.43
	(502) 5K		5.95	4.79	4.51	4.04	3.52	2.43
	(103) 10K		5.95	4.79	4.51	4.04	3.52	2.43
RVC6NYL( )B	(253) 25K	¼″ Plain ⅜″ Slotted	5.95	4.79	4.51	4.04	3.52	2.43
	(503) 50K		5.95	4.79	4.51	4.04	3.52	2.43
	(104) 100K		5.95	4.79	4.51	4.04	3.52	2.43
	(254) 250K		5.95	4.79	4.51	4.04	3.52	2.43
RVC6LYA( )B	(504) 500K	¼″ Locking ⅝″ Slotted	6.20	5.00	4.70	4.21	3.67	2.53
	(105) 1 meg		6.20	5.00	4.70	4.21	3.67	2.53
	(205) 2 meg		6.20	5.00	4.70	4.21	3.67	2.53
	(255) 2.5 meg		6.20	5.00	4.70	4.21	3.67	2.53

SINGLE-TURN VARIABLE RESISTORS

Resistance change after solvent bath in Freon* TFE or Trichloroethane is less than 1%.

See beginning of Bourns listing for Part Numbering System.

*Registered DuPont trademark.

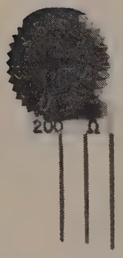


Model 3352

3/8″ DIAMETER CERMET MODEL 3352

Feature cermet resistance element and wide resistance range. Screwdriver and thumbwheel adjustment **Power Rating:** 0.75 watt at 40° C. **Resistance Tolerance:** 20% standard, closer tolerances available **Temperature Coefficient:** ±100 ppm/° C. **Operating Temperature Range:** −55° C to +125° C. **Humidity:** MIL-STD-202, Method 103. **Size:** .350″ dia. x .150″ th.

Bourns Model	Specify Terminal	Resistance, Ohms	Net Each, Lots of 1-49	50-99	100-499	500-999
3352	E, H, K, P, T, V, W	10, 20, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 200K, 250K, 500K, 1 meg, 2 meg	$0.54	$0.51	$0.48	$0.45



Model 3355

19/32″ DIAMETER COMPOSITION MODEL 3353

Feature wide resistance range; screwdriver and thumbwheel adjustment; compatible with standard circuit board cleaning processes. Power Rating: ⅓ watt at 60° C ambient. Resistance Tolerance ±20% thru 1 meg; ±30% 2.5 megs and up. Operating Temperature: 0° C to +100° C. Humidity: Less than ±12.5% change in total resistance after 24 hours at 95% relative humidity, 40° C. Size: 19/32″ dia. x 5/16″ thk. (**P**); 9/32″ thk. (**W**).

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-49	50-99	100-249	250-499
3353	P W	500, 1K, 2.5K, 5K, 10K, 20K, 25K, 50K, 100K, 250K, 500K, 1 meg, 2.5 megs, 5 megs	$0.61	$0.57	$0.45	$0.37

19/32″ DIAMETER CONDUCTIVE PLASTIC MODEL 3355

Trimmers feature optional thumbwheel with hex adjustment or smooth edge. Power Rating: 0.25 watt a 70° C. Temperature Coefficient: Less than 500 ppm/°C. Resistance Tolerance: ±20%. Operating Temperature Range: 0° C to +100° C. Humidity: Less than 7.5% change in total resistance after 24 hours at 95% relative humidity. Size: .590″ dia. x .230″ thk. (**X**); .248″ thk. (**U**).

Bourns Model	Specify Terminal	Resistance, Ohms	Net Each, Lots of 1-49	50-99	100-499	500-999	1000-4999	5000-9999
3355	U X	100, 250, 500, 1K, 2.5K, 5K, 10K, 25K, 50K, 100K, 250K, 500K, 1 meg, 2.5 meg, 5 meg	$0.40	$0.38	$0.30	$0.25	$0.18	$0.14

Model 3359P

3/8″ DIAMETER CERMET MODEL 3359

Features infinite resolution, cermet element; easily adjusted with any tool; low TC. Power Rating: ½ wat at 70° C ambient; ¾ watt at 40° C ambient. Resistance Tolerance: ±20%. Operating Temperature −65° C to +125° C. Humidity: Less than 1% change in total resistance after 500 hours at 95% relativ humidity, 40° C. Size: 0.375″ dia. x 0.288″ thk. (**P**); 0.236″ thk. (**W**).

Model 3359W

Bourns Model	Specify Terminal	Resistance Range, Ohms	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499
3359	P	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	$1.05	$0.94	$0.83	$0.77	$0.72	$0.67
	W	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K, 500K, 1 meg	1.08	.97	.86	.80	.74	.69

PRICES LISTED ARE FOR GUIDANCE ONLY

BOURNS Building Block Potentiometers

SERIES 80 ⅝″ SQUARE BUILDING BLOCK POTENTIOMETERS

Advanced modular construction with factory assembled reliability and quality assurance. Panel-mount ⅝″ square potentiometers available in cermet, conductive plastic or wirewound (Models 83 and 84 only); 1, 2, 3 or 4 sections (only 2 in Models 83 and 84); single or dual shafts; and switches (Models 85 and 86 only). Models 83 and 84 are precision, 10-turn wirewound type; all others are control type in cermet or plastic. Unique torque control eliminates torque build-up in multiple-section units. **Resistance Tolerance:** Models 83 and 84 wirewound, ±5%; all other in cermet, ±10%, ±5% available in linear taper; plastic, ±20%, ±10% available in linear taper. **Dielectric Strength:** 1000 V rms at sea level. **Insulation Resistance:** 1000 megohms. **Operating Temperature Range:** Cermet, −65° C to +150° C; platsic, −65° C to +125° C; wirewound, −55° C to +125° C; Models 85 and 86 (all types), 0° C to +70° C. **Temperature Coefficient:** plastic, ±1000 ppm/°C; cermet, ±150 ppm/°C; wirewound, ±50 ppm/°C. **Shaft Torque:** any number of sections, 0.25 to 2 oz. in., except Models 85 and 86 with switch, 2 to 7 oz. in. **Terminals:** Models 81, 83, 85 and 87, printed circuit pins; Models 82, 84, 86 and 88, solder lugs. Mounting hardware supplied with units. Many special options are available; inquire about your special needs.

81	A	2	A —	B	28 —	A	23 /	A	15
A	B	C	D	E	F	G	H	I	J

A = Model and Terminal Style
81, 83, 85, 87 = PC pins
82, 84, 86, 88 = Solder lugs

B = Bushing Style and Size
A = Plain, ⅜″ d. x ⅜″ l., available with ½″, ⅝″ and ⅞″ shaft lengths.
B = Locking, ⅜″ d. x ½″ l. available with ⅝″ shaft length
C = Plain, ¼″ d. x ¼″ l. available with ⅜″, ⅝″, ⅞″ shaft lengths
E = Locking, ¼″ d. x ½″ l. available with ⅝″ shaft length

C = No. of Section
1 = Single section
2 = Double section
3 = Triple section*
4 = Quad section*▪

D = Anti-rotation lug options
A = Single at .305″ r., 90° CW
B* = Double at .305″ r., 90° and 270° CW
C = Single at .305″ r., 270° CW
D = None

E = Shaft Type and End Style
B = Single, ¼″ dia. slotted w/A or B bushing
E = Single, ⅛″ dia. slotted w/A or E bushing
G = Dual concentric, ¼″ and ⅛″ slotted w/A bushing
K = Dual concentric, ⅛″ and 5/64″ slotted w/C bushing

F = Shaft Length in 1/32″ Increments From Mounting Surface
12* = ⅜″ l. x ⅛″ d.
16* = ½″ l. x ¼″ d.
20* = ⅝″ l. x ⅛″ and ¼″ d.
24 = ¾″ l. x ⅛″ and ¼″ d.
28* = ⅞″ l. x ⅛″ and ¼″ d.

G = Type of Element, Taper and Tolerance for 1st Section
A = Cermet, Linear, ±10%
B = Plastic, linear, ±20%
C = Cermet, CW audio, ±10%
D = Plastic, CW audio, ±20%
E = Plastic, linear, ±10%
F = Cermet, CCW audio, ±10%
G = Plastic, CCW audio, ±20%
H = Cermet, linear, ±5%
J = Wirewound, 10-turn, ±5%
L = Plastic, linear, ±5%
M = Cermet, linear, ±3%

H = Resistance Code/Value for 1st Section
03‡† = 50
05‡† = 100
06§ = 200
07* = 250
08 = 500
10 = 1K
11§ = 2K
12 = 2.5K
13 = 5K
15 = 10K
17§ = 25K
18 = 50K
20 = 100K
22§ = 250K
23§ = 500K
25§ = 1 meg
26 = 2.5 meg
27# = 5 meg

I = Type of Element. Taper and Tolerance for 2nd Section
Same Code Applies

J = Resistance Code/Value for 2nd Section
Same Code Applies

K = Switch Code (Models 85/86 only)
R50 = DPST—1 NO/1 NC, CW detent, in-line terms.
R51 = DPST—1 NO/1 NC, CCW detent, in-line terms.
R70 = DPDT—CW detent, in-line terms.
R71 = DPDT—CCW detent, in-line terms.

*Not available on Models 83/84.
‡Available on Models 81/82 and 85/86 only. †Available in cermet only.
§Available on Models 83/84 only.
#Not available on Models 87/88.
▪Not available on Models 85/86.

Bourns Type	Resistance, Ohms	No. of Sections	Net Each, Lots of					
			1-4	5-9	10-24	25-49	50-99	100-249
81A, 81C, 82A, 82C, 85A, 85C, 86A, 86C **Plastic**	250, 500, 1K 2.5K, 5K, 10K, 25K, 50K, 100K, 250K, 500K, 1 meg, 2.5 meg, 5 meg	1	$ 3.70	$ 2.77	$2.15	$1.87	$1.65	$1.43
		2	7.40	5.54	4.29	3.74	3.30	2.86
		3	11.10	8.31	6.44	5.61	4.95	4.29
		4	14.80	11.09	8.58	7.47	6.60	5.72
81B, 81E, 82B, 82E, 85B, 85E, 86B, 86E **Plastic**		1	4.00	3.00	2.32	2.02	1.78	1.54
		2	7.70	5.77	4.47	3.89	3.43	2.97
		3	11.40	8.54	6.61	5.76	5.08	4.40
		4	15.10	11.31	8.76	7.63	6.73	5.83
81A, 81C, 82A, 82C, 85A, 85C, 86A, 86C **Cermet**	50, 100, 250, 500, 1K, 2.5K, 5K, 10K, 25K, 50K, 100K, 250K, 500K, 1 meg, 2.5 meg, 5 meg	1	4.10	3.07	2.38	2.07	1.83	1.58
		2	8.20	6.14	4.76	4.14	3.66	3.17
		3	12.30	9.21	7.13	6.21	5.49	4.75
		4	16.40	12.28	9.51	8.28	7.31	6.33
81B, 81E, 82B, 82E, 85B, 85E, 86B, 86E **Cermet**		1	4.40	3.30	2.55	2.22	1.96	1.70
		2	8.50	6.37	4.93	4.29	3.79	3.28
		3	12.60	9.44	7.31	6.36	5.62	4.86
		4	16.70	12.51	9.69	8.43	7.45	6.45
83A, 83C, 84A, 84C **Wirewound**	200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	1	7.00	6.25	5.65	5.35	5.05	4.75
		2	14.00	12.50	11.30	10.70	10.11	9.51
83B, 83E, 84B, 84E **Wirewound**		1	7.30	6.52	5.89	5.58	5.27	4.96
		2	14.30	12.77	11.54	10.93	10.32	9.71
87A, 87C, 88A, 88C **Plastic**	250, 500, 1K, 2.5K, 5K, 10K, 25K, 50K, 100K, 250K, 500K, 1 meg, 2.5 meg	1	5.75	4.85	4.15	3.65	3.25	2.94
		2	11.50	9.69	8.30	7.30	6.50	5.88
		3	17.25	14.54	12.45	10.95	9.75	8.81
		4	23.00	19.39	16.61	14.61	13.00	11.75
87B, 87E, 88B, 88E **Plastic**		1	6.25	5.27	4.51	3.97	3.53	3.19
		2	12.50	10.54	9.03	7.94	7.06	6.39
		3	18.75	15.81	13.54	11.91	19.50	9.58
		4	25.00	21.08	18.05	15.88	14.13	12.78
87A, 87C, 88A, 88C **Cermet**	250, 500, 1K, 2.5K, 5K, 10K, 25K, 50K, 100K, 250K, 500K, 1 meg, 2.5 meg	1	6.25	5.27	4.51	3.97	3.53	3.19
		2	12.50	10.54	9.03	7.94	7.06	6.39
		3	18.75	15.81	13.54	11.91	10.59	9.58
		4	25.00	21.08	18.05	15.88	14.13	12.78
87B, 87E, 88B, 88E **Cermet**		1	6.75	5.69	4.87	4.29	3.81	3.45
		2	13.50	11.38	9.75	8.57	7.63	6.90
		3	20.25	17.07	14.62	12.87	11.44	10.35
		4	27.00	22.76	19.49	17.15	15.26	13.80

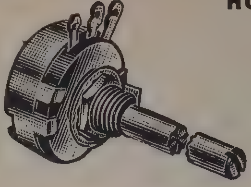
ADDERS TO BASIC SWITCH PRICES

Bourns Type	Desc.	Lots of	Net Ea.
C, D, F, G	Audio taper	1–9	$0.50
		10–24	.40
		25–49	.35
		50–99	.30
		100–249	.25
E, H	Linear taper	1–9	.50
		10–24	.40
		25–49	.35
		50–99	.30
		100–249	.25
R50*/ R51*	Switch	1–4	3.08
		5–9	2.46
		10–24	1.84
		25–49	1.56
		50–99	1.34
		100–249	1.07
R70*/ R71*	Switch	1–4	4.12
		5–9	3.29
		10–24	2.46
		25–49	2.08
		50–99	1.79
		100–249	1.43

Models 85/86 only.

CENTRALAB Controls

HOT-MOLDED CARBON POTENTIOMETERS



Offer greatly increased high voltage stability due to wide clearance between bushing and collector track. Free from contamination of dirt due to elevated resistance track. Exceptionally long noise-free operation.

MIL-R-94C STYLE RV4
2-WATT COMPOSITION MODEL 12

Completely enclosed construction permits encapsulation or potting without affecting operation. Element rating, 2.25 watts at 70° C, 500 V. Tolerance, ±10%, except as noted. Mechanical rotation, 312°±3°. Shaft, ¼″ dia. full round slotted. Bushing, nickel-plated brass, ⅜″-32 NEF-2A thd. Size, 1³⁄₃₂″ dia. x ³⁷⁄₆₄″ d. **HML Series:** ⅝″ long from mounting surface; ½″ locking-type bushing. **HMP:** ⅞″ long from mounting surface; ⅜″ bushing. **HMS:** 2½″ long from mounting surface; ⅜″ bushing, mounting nut and lockwasher included. **Taper:** Linear. **Certified test data and lot identification available upon request.**

HML SERIES

CRL No. HML-	MIL No. RV4LAYSA-	Resis., Ohms	CRL No. HML-	MIL No. RV4LAYSA-	Resis., Ohms
50	500A	50	**35K**	353A	35K
100	101A	100	**50K**	503A	50K
150	151A	150	**75K**	753A	75K
250	251A	250	**100K**	104A	100K
350	351A	350	**150K**	154A	150K
500	501A	500	**250K**	254A	250K
750	751A	750	**350K**	354A	350K
1000	102A	1000	**500K**	504A	500K
1500	152A	1500	**750K***	754B	750K
2500	252A	2500	**1 meg***	105B	1 meg
3500	352A	3500	**1.5 meg***	155B	1.5meg
5000	502A	5000	**2 meg***	205B	2 meg
7500	752A	7500	**2.5 meg***	255B	2.5meg
10K	103A	10K	**3.5 meg***	355B	3.5meg
15K	153A	15K	**5 meg***	505B	5 meg
25K	253A	25K			

HMP SERIES

CRL No. HMP-	MIL No. RV4NAYSD-	Resis., Ohms	CRL No. HMP-	MIL No. RV4NAYSD-	Resis., Ohms
50	500A	50	**35K**	353A	35K
100	101A	100	**50K**	503A	50K
150	151A	150	**75K**	753A	75K
250	251A	250	**100K**	104A	100K
350	351A	350	**150K**	154A	150K
500	501A	500	**250K**	254A	250K
750	751A	750	**350K**	354A	350K
1000	102A	1000	**500K**	504A	500K
1500	152A	1500	**750K***	754B	750K
2500	252A	2500	**1 meg***	105B	1 meg
3500	352A	3500	**1.5 meg***	155B	1.5meg
5000	502A	5000	**2 meg***	205B	2 meg
7500	752A	7500	**2.5 meg***	255B	2.5meg
10K	103A	10K	**3.5 meg***	355B	3.5meg
15K	153A	15K	**5 meg***	505B	5 meg
25K	253A	25K			

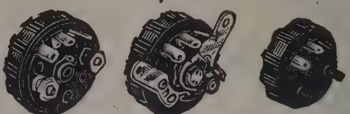
HMS SERIES

CRL No. HMS-	MIL No. RV4NAYSK-	Resis., Ohms	CRL No. HMS-	MIL No. RV4NAYSK-	Resis., Ohms
50	500A	50	**35K**	353A	35K
100	101A	100	**50K**	503A	50K
150	151A	150	**75K**	753A	75K
250	251A	250	**100K**	104A	100K
350	351A	350	**150K**	154A	150K
500	501A	500	**250K**	254A	250K
750	751A	750	**350K**	354A	350K
1000	102A	1000	**500K**	504A	500K
1500	152A	1500	**750K***	754B	750K
2500	252A	2500	**1 meg***	105B	1 meg
3500	352A	3500	**1.5 meg***	155B	1.5meg
5000	502A	5000	**2 meg***	205B	2 meg
7500	752A	7500	**2.5 meg***	255B	2.5meg
10K	103A	10K	**3.5 meg***	355B	3.5meg
15K	153A	15K	**5 meg***	505B	5 meg
25K	253A	25K			

INDUSTRIAL NET EACH PRICES

CRL Type, All Values	1-24	25-49	50-99	100/Pkg. 100-Up
HML Potentiometers	**$2.90**	**$2.67**	**$2.49**	**$1.94**
HMP Potentiometers	**2.36**	**2.17**	**2.03**	**1.58**
HMS Potentiometers	**2.52**	**2.34**	**2.18**	**1.69**

1/10-WATT CONTROLS



Designed for transistorized hearing aids, miniature radios and similar applications. **Mode B16 Miniature:** Can be reduced to ⅝″ dia. by removing knob; with knob is ²³⁄₃₂″. Plain type is stud mounted, using two 1-72NF-2thd. x .140″ studs on .427″ centers. Switch type is bracket mounted. **Tolerance:** ±20% except Type B16-128, ±30%.

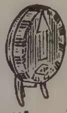
MINIATURE TYPE B16 SERIES

CRL No.		Max. Ohms	† Taper	CRL No.		Max. Ohms	† Tape
Plain	**Switch**			**Plain**	**Switch**		
B16-107	....	500	C1	**B16-117**	....	25000	C2
B16-109	....	1000	C1	**B16-125**	....	25000	C1
B16-111	....	2500	C1	**B16-119**	....	50K	C1
B16-112	**B16-212**	2500	C2	**B16-121**	....	100K	C1
B16-113	....	5000	C1	**B16-118**	....	½ meg	C2
B16-115	....	10000	C1	**B16-120**	....	1 meg	C2
B16-116	**B16-216**	10000	C2				

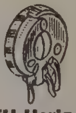
INDUSTRIAL NET EACH PRICES

All Models Type	1-24	25-49	50-99	100/Pkg. 100-Up
B16-107 thru -128	**$2.28**	**$2.10**	**$1.96**	**$1.53**
B16-212 and -216	**3.64**	**3.35**	**3.13**	**2.43**

SERIES T, 1/5-WATT COMPOSITION CONTROLS



T Vert. Mount



TH Horiz. Mount

For trimmer use in test radio and communications equipment; also fo potentiometer use sinc life is over 25,000 cycles Screwdriver adjust from either side as well as knob edge adjustment. Tol ±20%. C1 linear taper. Effective and mechanical rotation, 260° Dia. 696″. Series T perpendicular plug-in mt.

Ohms	CRL No.	Ohms	CRL No.	Ohms	CRL No.
100	**T-100**	5000	**T-5000**	100K	**T-100K**
200	**T-200**	7500	**T-7500**	250K	**T-250K**
300	**T-300**	10K	**T-10K**	500K	**T-500K**
500	**T-500**	15K	**T-15K**	1 Meg	**T-1 MEG**
750	**T-750**	20K	**T-20K**	2 Meg	**T-2 MEG**
1000	**T-1000**	25K	**T-25K**	4 Meg	**T-4 MEG**
1500	**T-1500**	50K	**T-50K**	5 Meg	**T-5 MEG**
2500	**T-2500**				

CRL Series T, Miniature Composition Controls—Net Ea., Lots 1–24, **$1.38**; 25–49, **$1.27**; 50–99, **$1.19**; 100/Pkg. 100–Up, **$0.92**

OUR STOCKS ARE COMPLETE

AND UP TO DATE.

WRITE US FOR

INFORMATION AND PRICING

ON ALL NEW

OR UNLISTED ITEMS.

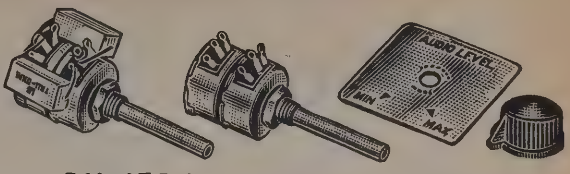
*Tolerance ±20%. †C1—Linear, uniform resistance change from either end; C2—Semi-log (audio) 10% center.

CENTRALAB Quality Controls

"KR"

"B Control"

TSC Series



Bridged T-Pad L-Pad AK-36 KC-10

UNIVERSAL SHAFT CONTROLS

Model B controls are rated at ½ watt. **Size:** 15/16″ dia., 7/16″ deep. **Breakdown:** 900 VAC rms to ground. **Mounting:** ⅜″ long ⅜″-32 thread bushing; equipped with mounting nut. Any model converts easily to switch type by merely snapping on "KR" switch. **Shaft:** ¼″ dia. x 3⅜″ long from mtg. surface. Universal fluted knurled type; fits split knurl, shallow flat, deep flat, slotted or round uses.

PLAIN "B" CONTROLS

Ohms	Taper*	CRL No.	Ohms	Taper*	CRL No.
500	C-1	**B-4**	100,000	C-1	**B-40**
1,000	C-1	**B-5**	100,000	C-2	**B-41**
2,000	C-1	**B-6**	250,000	C-1	**B-50**
2,500	C-1	**B-7**	500,000	C-1	**B-59**
5,000	C-1	**B-10**	500,000	C-2	**B-60**
5,000	C-2	**B-11**	1 meg	C-1	**B-69**
10,000	C-1	**B-14**	1 meg	C-2	**B-70**
10,000	C-2	**B-15**	2 megs	C-1	**B-75**
20,000	C-1	**B-22**	3 megs	C-1	**B-84**
25,000	C-1	**B-26**	5 megs	C-1	**B-87**
50,000	C-1	**B-31**	10 megs	C-1	**B-98**
50,000	C-2	**B-32**			

*C-1—Linear, uniform resistance change from either end; C-2—Semi-log, (audio) 10% center.

MODEL "B" SWITCH-TYPE CONTROLS

Universal DPST switch type units. **Switch Rating:** 3 A, 125 VAC.

CRL No.	Max. Ohms	Taper*	Use For
B-60-S	½ meg	C2	SPST, DPST or 3-wire
B-70-S	1 meg	C2	SPST, DPST or 3-wire

*C-2—Semi-log, (audio) 10% center.

INDUSTRIAL NET PRICES

All Values Type	Net Each, Lots of			
	1-24	25-49	50-99	100-Up*
B	$2.12	$1.95	$1.82	$1.42
B Switched	3.48	3.20	2.99	2.33

*Pkg. of 100.

TYPE "KR" FASTATCH® SWITCHES

For Model B controls.

CRL No.	Use	Amps	Volts	Net Each
KR-1	SPST	3	125 VAC	$1.04
KR-2	DPST	3	125 VAC	1.04
KR-3	DP*	3	125 VAC	1.04
KR-4	SPST	15	10 VDC	1.04
KR-6	SPST†	15	10 VDC	1.04
KR-7	DPST	15	10 VDC	1.04

*One pole "off", one "on"; can be used for SPDT. †With dummy lug.

COUPLERS, EXTENSIONS AND ADAPTERS

CRL No.	Description	Net Each
AK-16	Coupler; two ¼″ or ¼″ to a 3/16″ shaft	$0.95
AK-30	Ground Lug	.70
AK-38	Twist-Tab mounting plate	.30
AK-40	Twist-Tab adapter plate for reverse mounting	.50
AK-45	Delrin† thread-on insulator bushing adapter	.57

†Reg. DuPont TM.

SERIES TSC SLIM-TRIM TRIMMERS

For limited space use in entertainment, military and industrial equipment. Alumina base plate, .025″ thick, gives effective heat dissipation; carbon is bonded directly onto plate for maximum reliability. Perpendicular lock-in tap lead terminals can be used for soldering after insertion in PC board. Blue, flame-retardant polypropylene knob is edge or screwdriver slot adjustable, .594″ dia.; 290° rotation with stop. Rated 0.6 watt max. at +55° C (+40° C for 50K–250K models), derated to zero at +105° C (+95° C, models above 250K ohms). Tolerance, ±30%. Size: .526″ w. x .220″ d. x .695″ h., excluding terminals.

CRL No.	CRL No.	Net Each, Lots of			
		1-100	100-1000†	1000-5000‡	5000-Up‡
TSC1BB101C	**TSC1BB503C**	$0.47	$0.37	$0.17	$0.155
TSC1BB151C	**TSC1BB104C**	.47	.37	.17	.155
TSC1BB251C	**TSC1BB254C**	.47	.37	.17	.155
TSC1BB501C	**TSC1BB504C**	.47	.37	.17	.155
TSC1BB102C	**TSC1BB105C**	.47	.37	.17	.155
TSC1BB252C	**TSC1BB225C**	.47	.37	.17	.155
TSC1BB502C	**TSC1BB305C**	.47	.37	.17	.155
TSC1BB103C	**TSC1BB505C**	.47	.37	.17	.155
TSC1BB253C		.47	.37	.17	.155

†Pkg. of 100. ‡Pkg. of 1000.

L-PAD, T-PAD AND STEREO ATTENUATORS

Constant impedance L-pads and bridged T-pads provide optimum sound reproduction quality without altering frequency response. Rated 20 watts, audio; 5 watts DC and sine-wave. Breakdown, 900 volts AC rms to ground. Anti-backlash design with force-fit shaft interlock to prevent relative motion between contact springs of front and rear units; assures smooth attenuation in either direction without deterioration. Full round brass shaft, ¼″ dia. x 1⅞″ lg. from mounting surface. Bushing ⅜″ lg. x ⅜″-32 thread with nut and lockwasher; can be extended up to 1″ adding Model AK-31 adapter bushing. Size: 1 5/32″ dia. x 1 13/64″ behind panel.

L-PAD ATTENUATORS

Controls audio level of speakers in PA, intercom and hi-fi sound systems. Shipping Weight, 5 oz.

CRL No.	Imped. Ohms	CRL No.	Imped. Ohms	CRL No.	Imped. Ohms
WL-4	4	**WL-500**	500	**WL-1250**	1250
WL-8	8	**WL-600**	600	**WL-2000**	2000
WL-16	16	**WL-1000**	1000	**WL-2500**	2500

Any Model—Net Each, Lots of: 1–24 . . . . $4.83; 25–49 . . . . $4.44; 50–99 . . . . $4.15; 100–Up* $3.24
*Pkg. of 100.

BRIDGED T-PAD ATTENUATORS

Speaker audio level control and sound mixer control for mikes and other circuits requiring constant impedance between input and output circuits. Shipping Weight, 7 oz.

CRL No.	Imped. Ohms	CRL No.	Imped. Ohms	CRL No.	Imped. Ohms
WDT-4	4	**WDT-16**	16	**WDT-600**	600
WDT-8	8	**WDT-500**	500		

Any Model—Net Each, Lots of: 1–24 . . . . $8.82; 25–49 . . . . $8.11; 50–99 . . . . $7.59; 100–Up* $5.91
*Pkg. of 100.

ACCESSORIES

CRL No.	Description	Net Each
KC-10	Black set-screw pointer knob	$0.42
AK-31	Adapter bushing	.77
AK-34	4½″ x 2¾″ brushed gold wall-plate	2.60
AK-35	4½″ x 2¾″ brushed aluminum wall-plate	2.60
AK-36	2″ x 2″ brushed gold dial-plate	.37

STEREO ATTENUATORS

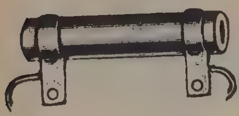
Designed for installation in standard junction or switch boxes where a conventional four-section L-Pad will not fit. Rated at 10 watts, audio; 5 watts, DC. Same basic construction and appearance as L-Pads. Shipping Weight, 5 oz.

CRL No.	Used with*	Net Each, Lot sof			
		1-24	25-49	50-99	100-Up†
WST-200	4-ohm speaker	$4.83	$4.44	$4.15	$3.24
WST-400	8-ohm speaker	4.83	4.44	4.15	3.24
WST-800	16-ohm speaker	4.83	4.44	4.15	3.24

*Can also be used as conventional twin wire-wound controls, linear taper—10% tolerance, 20, 40 and 80 ohms respectively.
†Pkg. of 100.

Clarostat Vitreous-Enamel Resistors

GREENOHM V™ FIXED POWER RESISTORS



Vitreous enamel, wire-wound power resistors are engineered to meet or exceed MIL-R-26 specifications. Wire windings are finest grade resistance alloy. Designed for utmost reliability and stability under adverse conditions. Teal green enamel finish withstands overheating without peeling or cracking. Tolerance, ±5% except values under 1 ohm, ±10%. VPR types (up to 20 watts) have wire lead and lug terminals, illustrated at left. VP and VK types (25 watts and up) have lug terminals, and mounting bracket. **Core Size:** VPR-5-F, 1″ x 5/16″ dia.; VPR-10-F, 1¾″ x 5/16″ dia.; VPR-20-H, 2″ x 7/16″ dia.; VP-25-K 2″ x 9/16″ dia.; VP-50-K, 4″ x 9/16″ dia.; VK-100-N, 6½″ x ¾″ dia.; VK-160-W, 8½″ x 1⅛″ dia.; VK-200-W, 10½″ x 1⅛″ dia.

STOCK VALUES—WITH WIRE LEAD AND LUG TERMINALS

8-WATT SERIES VPR-5-F

Ohms	Ohms	Ohms	Ohms
1	50	750	4500
1.5	75	800	5000
2	100	900	6000
3	125	1000	7000
4	150	1100	7500
5	200	1200	8000
7.5	225	1250	9000
10	250	1500	10K
12	300	1750	12.5K
15	350	2000	15K
20	400	2250	17.5K
25	450	2500	20K
30	500	3000	22.5K
35	600	3500	25K
40	700	4000	

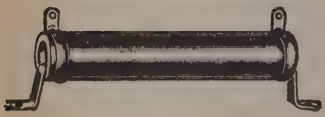
12-WATT SERIES VPR-10-F

Ohms	Ohms	Ohms	Ohms	Ohms
0.4	30	500	3000	13.5K
1	35	600	3500	14.3K
1.2	40	700	4000	15K
1.3	50	750	4500	16K
1.5	75	800	5000	17.5K
2	100	900	6000	18K
3	125	1000	7000	20K
4	150	1100	7500	22.5K
5	200	1200	8000	25K
7.5	225	1250	8500	30K
10	250	1500	9000	35K
12	300	1750	10K	40K
15	350	2000	11K	45K
20	400	2250	12K	50K
25	450	2500	12.5K	

20-WATT SERIES VPR-20-H

Ohms	Ohms	Ohms	Ohms	Ohms
0.4	350	1850	7500	55K
0.6	400	2000	8000	60K
0.8	500	2250	9000	65K
5	650	2400	10K	70K
10	700	2500	12.5K	75K
25	750	2750	15K	80K
50	800	3000	20K	85K
75	850	3500	25K	90K
100	1000	4000	30K	95K
150	1200	4500	35K	100K
200	1250	5000	40K	
250	1500	6000	45K	
300	1750	7000	50K	

STOCK VALUES—WITH LUG TERMINALS AND MOUNTING BRACKET



25-WATT SERIES VP-25-K

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	800	5000	30K
2	75	1000	6000	35K
3	100	1500	7500	40K
4	150	2000	10K	50K
5	200	2500	12K	60K
10	250	3000	15K	70K
15	500	3500	20K	80K
25	750	4000	25K	100K

50-WATT SERIES VP-50-K

Ohms	Ohms	Ohms	Ohms	Ohms
1	100	1000	7500	50K
2	150	1250	8000	75K
3	200	1500	10K	100K
4	250	2000	12K	125K
5	300	2500	15K	150K
10	400	3000	20K	175K
25	500	4000	25K	200K
50	750	5000	30K	225K
75	800	6000	35K	250K

100-WATT SERIES VK-100-N

Ohms	Ohms	Ohms	Ohms	Ohms
1	75	750	7500	60K
2	100	1000	10K	75K
3	125	1500	15K	100K
4	150	2000	20K	200K
5	200	2500	25K	
10	250	3000	30K	
25	300	4000	40K	
50	500	5000	50K	

160-WATT SERIES VK-160-W

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	750	7500	50K
2	75	1000	10K	60K
3	100	1500	15K	75K
4	125	2000	20K	100K
5	150	2500	25K	
10	250	3000	30K	
25	500	5000	40K	

200-WATT SERIES VK-200-W

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	750	7500	40K
2	75	1000	10K	50K
3	100	1500	125	60K
4	150	2000	15K	75K
5	200	2500	20K	100K
10	250	3000	25K	
25	500	5000	30K	

"GREENOHM V" FIXED RESISTOR PRICES

Series	Range, Ohms	Net Each, Lots of				
		1-9	10-24	25-99	100-249	250 Up
VPR-5-F **8-Watt**	1.0–1000	$0.61	$0.53	$0.43	$0.35	$0.31
	1100–5000	.65	.57	.46	.37	.33
	6000–10K	.69	.59	.48	.39	.35
	12.5K–20K	.77	.68	.55	.44	.40
	22.5K-25K	.88	.76	.62	.50	.44
VPR-10-F **12-Watt**	0.4	1.08	.95	.75	.61	.54
	1.0–1000	.68	.59	.47	.38	.34
	1100–5000	.73	.63	.51	.41	.36
	6000–10K	.83	.73	.58	.47	.41
	11K–20K	.94	.80	.65	.53	.47
	22.5K–35K	.98	.86	.69	.56	.49
	40K–50K	1.10	.96	.76	.62	.55
VPR-20-H **20-Watt**	0.4–0.8	1.12	.98	.78	.64	.56
	5–1000	.77	.67	.53	.43	.38
	1200–5000	.79	.69	.56	.45	.39
	6000–10K	.94	.80	.65	.53	.47
	12.5K–20K	.97	.84	.67	.54	.48
	25K–40K	1.12	.98	.79	.63	.56
	45K–60K	1.30	1.13	.91	.74	.65
	65K–75K	1.36	1.20	.96	.78	.69
	80K–100K	1.47	1.29	1.03	.83	.73
VP-25-K **25-Watt**	1.0–1000	.80	.72	.68	.46	.41
	1500–5000	.85	.74	.59	.48	.42
	6000–10K	.97	.84	.67	.54	.48
	12K–20K	1.01	.88	.72	.58	.51
	25K–40K	1.18	1.03	.83	.66	.59
	50K–60K	1.36	1.19	.96	.77	.69
	70K	1.61	1.41	1.11	.91	.81
	80K–100K	1.86	1.62	1.30	1.06	.94
VP-50-K **50-Watt**	1.0–1000	1.25	1.09	.87	.71	.64
	1250–5000	1.29	1.12	.84	.73	.65
	6000–10K	1.39	1.21	.97	.79	.70
	12K–20K	1.53	1.33	1.07	.86	.77
	25K–35K	1.77	1.54	1.22	1.00	.89
	50K	1.96	1.71	1.35	1.11	.98
	75K	2.22	1.94	1.55	1.25	1.11
	100K	2.42	2.09	1.68	1.36	1.21
	125K	2.77	2.17	1.93	1.56	1.44
	150K	3.10	2.66	2.17	1.76	1.56
	175K	3.43	2.99	2.41	1.95	1.73
	200K	3.62	3.15	2.52	2.05	1.84
	225K–250K	3.86	3.36	2.68	2.19	1.94
VK-100-N **100-Watt**	1.0–2.0	2.89	2.45	2.18	1.87*	....
	3–10	2.61	2.21	1.97	1.69*	....
	25–10K	2.33	1.97	1.76	1.51*	....
	15K–20K	2.49	2.11	1.89	1.62*	....
	25K–75K	2.56	2.25	2.02	1.73*	....
	100K	3.021	2.56	2.30	1.97*	....
VK-160-W **160-Watt**	1–5	5.43	4.61	4.12	3.53*	....
	10	4.46	3.78	3.37	2.89*	....
	25–20K	3.91	3.32	2.95	2.53*	....
	25K–50K	4.14	3.51	3.14	2.69*	....
	60K–75K	4.32	3.67	3.28	2.81*	....
	100K	4.54	3.86	3.44	2.95*	....
VK-200-W **200-Watt**	1–5	7.27	6.17	5.52	4.73*	....
	10	5.26	4.47	3.99	3.42*	....
	25–5K	4.72	4.00	3.57	3.06*	....
	7.5K–50K	4.97	4.21	3.77	3.23*	....
	60K–75K	5.10	4.33	3.86	3.31*	....
	100K	5.54	4.70	4.20	3.66*	....

*Net Each, 100-Up.

Clarostat Vitreous-Enamel Resistors

GREENOHM V™ ADJUSTABLE POWER RESISTORS

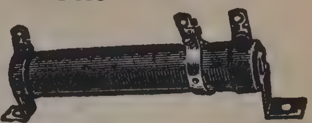
STOCK VALUES

12-WATT SERIES VP-10-FA

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	500	2500	8000
2	75	600	3000	8500
3	100	750	3500	9000
5	150	800	4000	10K
7.5	200	1000	4500	
10	250	1250	5000	
15	300	1500	6000	
20	350	2000	7000	
25	400	2250	7500	

25-WATT SERIES VP-25-KA

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	750	3500	9000
2	75	800	4000	10K
3	100	1000	4500	12K
5	150	1250	5000	15K
7.5	200	1500	6000	20K
10	250	2000	7000	25K
15	300	2250	7200	
20	400	2500	7500	
25	500	3000	8000	



Same construction as Greenohm V fixed resistors. Tolerance, ±10%. **Core Size:** VP-10-FA, 1¾″ x 5/16″ dia.; VP-25-KA, 2″ x 9/16″ dia.; VP-50-KA, 4″ x 9/16″ dia.; VP-75-KA, 6″ x 9/16″ dia.; VK-100-NA, 6½″ x ¾″ dia.; VK-160-WA, 8½″ x 1⅛″ dia.; VK-200-WA, 10½″ x 1⅛″ dia.

50-WATT SERIES VP-50-KA

Ohms	Ohms	Ohms	Ohms	Ohms
1	100	1250	6000	25K
2	150	1500	7000	30K
3	200	2000	7200	35K
4	250	2250	7500	40K
5	300	2500	8000	50K
10	400	3000	9000	60K
20	500	3500	10K	75K
25	750	4000	12K	80K
50	800	4500	15K	100K
75	1000	5000	20K	

75-WATT SERIES VP-75-KA

Ohms	Ohms	Ohms	Ohms	Ohms
1	200	2000	7200	35K
2	250	2250	7500	40K
3	300	2500	8000	45K
4	400	3000	9000	50K
5	500	3500	10K	60K
10	750	4000	12K	80K
15	800	4500	15K	100K
25	1000	5000	20K	
50	1250	6000	25K	
100	1500	7000	30K	

100-WATT SERIES VK-100-NA

Ohms	Ohms	Ohms	Ohms	Ohms
1	25	400	3500	40K
2	50	500	5000	50K
3	100	750	10K	75K
4	150	1000	15K	100K
5	200	1500	20K	
10	250	2000	25K	
15	300	2500	30K	

160-WATT SERIES VK-160-WA

Ohms	Ohms	Ohms	Ohms	Ohms
1	10	250	5000	30K
2	25	500	10K	40K
3	50	1000	15K	50K
4	100	1500	20K	75K
5	150	2500	25K	100K

200-WATT SERIES VK-200-WA

Ohms	Ohms	Ohms	Ohms	Ohms
1	20	200	2500	30K
2	25	250	5000	40K
3	50	300	10K	50K
4	75	500	15K	75K
5	100	1000	20K	100K
10	150	1500	25K	

ADJUSTABLE POWER RESISTOR PRICES

Series	Range, Ohms	Net Each, Lots of				
		1-9	10-24	25-99	100-249	250 Up
VP-10-FA 12-Watt	1.0–1000	$0.88	$0.80	$0.69	$0.61	$0.59
	1250–5000	.94	.84	.73	.63	.60
	6000–10K	1.03	.94	.79	.69	.66
VP-25-KA 25-Watt	1.0–1000	.99	.89	.75	.64	.61
	1250–5000	1.03	.92	.77	.66	.63
	6000–10K	1.16	1.01	.85	.73	.68
	12K–20K	1.20	1.07	.89	.76	.71
	25K	1.35	1.21	1.00	.85	.79
VP-50-KA 50-Watt	1.0–1000	1.50	1.33	1.11	.95	.89
	1250–5000	1.53	1.36	1.13	.97	.91
	6000–10K	1.64	1.45	1.21	1.03	.96
	12K–20K	1.77	1.57	1.31	1.10	1.03
	25K–40K	2.01	1.72	1.46	1.23	1.14
	50K–60K	2.20	1.95	1.60	1.35	1.24
	75K–80K	2.46	2.18	1.79	1.50	1.37
	100K	2.68	2.33	1.93	1.61	1.47
VP-75-KA 75-Watt	1.0–1000	2.12	1.88	1.56	1.33*	....
	1250–5000	2.17	1.93	1.60	1.35*	....
	6000–10K	2.22	1.97	1.64	1.40*	....
	12K–20K	2.28	2.02	1.68	1.42*	....
	25K–60K	2.53	2.24	1.85	1.56*	....
	80K–100K	2.87	2.53	2.08	1.76*	....
VK-100-NA 100-Watt	1–2	4.97	4.21	3.77	3.23*	....
	3–10	4.57	3.88	3.47	2.97*	....
	15–10K	4.27	3.63	3.23	2.77*	....
	15K–20K	4.49	3.81	3.40	2.92*	....
	25K–30K	4.57	3.88	3.47	2.98*	....
	35K–100K	5.15	4.37	3.91	3.35*	....
VK-160-WA 160-Watt	1–5	7.26	6.16	5.50	4.72*	....
	10	6.24	5.29	4.73	4.06*	....
	25–20K	6.01	5.10	4.55	3.90*	....
	25K–50K	6.14	5.21	4.66	3.99*	....
	60K–75K	6.37	5.40	4.83	4.14*	....
	100K	7.04	5.98	5.33	4.57*	....
VK-200-WA 200-Watt	1–5	9.45	8.02	6.87	5.89*	....
	10	7.29	6.18	5.53	4.74*	....
	25–20K	6.88	5.84	5.22	4.48*	....
	25K–50K	7.00	5.94	5.31	4.55*	....
	60K–75K	7.26	6.16	5.50	4.72*	....
	100K	7.62	6.47	5.78	4.96*	....

*Net Each, 100-Up.

AXIAL LEAD VITREOUS RESISTORS

Ideal for printed circuit, terminal board, and point-to-point wiring applications. Space-saving design, due to elimination of mounting brackets and terminal lugs. Standard resistance tolerance, ±5%. Designed for critical applications, providing high stability and reliability under widely variable environmental conditions. Finished in vitreous shade of teal green. Available in three sizes: 3, 5 or 10 watts. **Size:** VC3D, ¼″ dia. x ½″ long; VC5E, ⅜″ dia. x 1″ long; VC10F, 7/16″ dia. x 1⅞″ long. Leads 1½″ long, .032″ dia.

STOCK VALUES

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	470	2500	12K*
1.5	56	500	2700	12.5K#
2	68	560	3000	13.5K*
3	75	600	3300	15K#
4	82	680	3500	16K*
5	100	700	3900	17.5K#
7.5	120	750	4000	18K#
10	125	800	4500	20K#
12	150	820	4700	22K#
15	180	900	5000	22.5K#
18	200	1000	5600	25K#
20	220	1100	6000	27K*
22	225	1200	6800	30K*
25	250	1250	7000	33K*
27	270	1300*	7500	35K*
30	300	1500	8000	39K*
33	330	1750	8200	40K*
35	350	1800	8500*	45K*
39	390	2000	9000	47K*
40	400	2200	10K	50K*
47	450	2250	11K*	

*Available in 10-watt series VC10F only.
#Available in 5- and 10-watt series only.

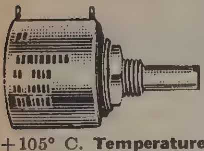
PRICES

When ordering, specify resistance value desired from stock values shown at left.

Series	Range, Ohms	Net Each, Lots of				
		1-9	10-24	25-99	100-249	250 Up
VC3D 3-Watt	1.0–100	$0.65	$0.56	$0.45	$0.36	$0.32
	120–2500	.59	.52	.41	.33	.30
	2700–5000	.68	.58	.47	.38	.33
	5600–7500	.73	.63	.50	.41	.36
	8000–10K	.85	.74	.59	.48	.42
VC5E 5-Watt	1.0–1000	.65	.56	.44	.36	.32
	1100–5000	.68	.58	.47	.38	.34
	5600–10K	.73	.63	.50	.41	.36
	12.5K–15K	.84	.68	.53	.44	.39
	17.5K–20K	.88	.76	.61	.50	.44
	22K–25K	1.17	1.00	.80	.66	.59
VC10F 10-Watt	1.0–1000	.70	.61	.48	.40	.35
	1100–5000	.77	.68	.53	.44	.39
	5600–10K	.85	.74	.59	.48	.44
	11K–20K	.97	.84	.68	.55	.49
	22K–40K	1.09	.96	.76	.62	.55
	45K–50K	1.29	1.11	.89	.73	.65

Clarostat Potentiometers, Decades and Dials

SMALL, 10-TURN 2-WATT POTENTIOMETER ONLY ¾″ IN BODY LENGTH

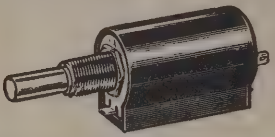


Series 73JA has brought the ten-turn potentiometer down in size, down in price and down in wear-outs. Only ¾″ body length, priced less than $4.00 in quantity, and a rotational life of 500,000 cycles. **Resistance Range:** 100–100K ohms. **Resistance Tolerance:** ±5%. **Power Rating:** At 20° C, 2 watts. **Operating Temperature Range:** −55° C to +105° C. **Temperature Coefficient:** ±20 PPM/° C max. **End Resistance:** 0.25% or 1 ohm. **Noise During Adjustment (ENR):** 100 ohms, maximum. **Insulation Resistance:** 1000 megohms at 500 VDC. **Dielectric Strength:** 1000 V rms. **Actual Electrical Travel:** 3600°+10°−0°. **Linearity:** 0.25%, independent. **Mechanical Torque:** 1.5 oz.-in. maximum. **Stop Strength:** 50 oz.-in. minimum. To order, add resistance required to Clarostat No., example 73JA-**100.** See stock value, ohms, below.

Clarostat Number	Net Each, Lots of						
	1-9	10-24	25-49	50-99	100-249	250-499	500-999
73JA	$4.69	$4.52	$4.35	$4.01	$3.83	$3.69	$3.54

Stock Value, Ohms	Nominal Resolution	Stock Value, Ohms	Nominal Resolution
100	.055%	5000	.020%
200	.037%	10K	.017%
500	.030%	20K	.015%
1000	.025%	50K	.011%
2000	.021%	100K	.009%

SERIES 62JA TEN-TURN POTENTIOMETER



Opens new application areas for the advantages of multi-turn potentiometer design, including far greater resolution in trimming, better instrument control and settings for all types of electronic equipment. Resistance tolerance, ±5%. Functional output, linear. Absolute linearity, ±0.25%. Power dissipation at 25° C, 2 watts, derated to zero at 85° C. Dielectric strength, 1000 VAC. Electrical and mechanical rotation, 3600°, +10, −0. Maximum torque, 3 oz.-in. Stop strength, 50 oz.-in. Insulation resistance, 1000 megohms. Life, 100,000 shaft revolutions. Max. rotation speed, 60 rpm. Size, ⅞″ dia. x 2½″ overall.

Net Each, Lots of 1–9 .... $\$8^{25}$
Net Each, Lots of 10–24 .... $7.15
Net Each, Lots of 25–99 .... 6.60
Net Each, Lots of 100–499 .... 6.05

Stock Value, Ohms	Resolutions 100/Total Turns	Stock Value, Ohms	Resolutions 100/Total Turns
100*	.062%	5,000	.026%
200*	.048%	10,000	.024%
250*	.038%	20,000	.019%
500	.036%	25,000	.017%
1,000	.030%	30,000	.016%
2,000	.023%	50,000	.013%
2,500	.022%	100,000	.012%

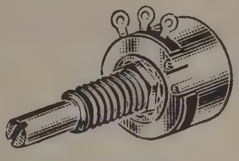
*Absolute linearity, ±0.5%.

MODEL 250 RACK MOUNTED DECADE

POWER RESISTANCE DECADE
CLAROSTAT

Same as Model 240C except for rack mounting. Fits in standard 19″ relay rack. **Size:** 19″ w. x 13¼″ d. x 7″ h. Weight, 18½ lbs.
Model 250 Power Resistor Decade Box—
Net Each .... $\$173^{25}$

SERIES 381 1-WATT ⅝″ DIA. POTENTIOMETERS



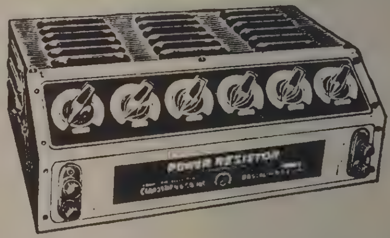
Clarostat "Quiet One" series, a new, low cost potentiometer with characteristics exceeding those of higher priced models. Features reliable, homogeneous, strain-free resistance element with 1% dynamic noise and 5% independent linearity. Mechanical parts precision machine-finished for smooth operation, long life. Manufactured to MIL-R-94 specifications. **Resistance Tolerance:** Linear, up to 500K ohms ±10%; above 500K ohms, ±20%. **Power Rating:** 1 watt max. continuous power rating for linear taper, but voltage not to exceed rating. Full rating at 70° C, derated linearly to zero watts at 120° C. Derate all non-linear tapers by multiplying wattage rating by 0.5. **Mechanical and Rotation:** 300° ±5° with switch. **Dynamic Noise:** Linear single controls maximum initial noise level 1% of total resistance. **Linearity:** ±5% independent. **Working Voltage:** 350 VDC across end terminals, power not to exceed rating. Models 381N have plain ¼″ long bushing, ½″ long shaft, screwdriver slotted. Models 381NS same, but equipped with attached SPST switch rated 1 amp at 125 VAC or DC. Models 381L have ⅜″ shaft-locking bushing, 7/16″ long shaft, screwdriver slotted. To order, add resistance required to Clarostat No., example: 381N-**100.** See Stock Values Table, below.

Clarostat Number	Shaft Length, Screwdriver Slotted	Bushing Length	Net Each, Lots of			
			1-9	10-49	50-99	100-249
381N	¾″	¼″	$2.93	$2.20	$1.88	$1.36
381NS	¾″	¼″	4.47	3.36	2.87	2.08
381L	7/16″	⅜″	3.15	2.35	2.02	1.46

TABLE OF STOCK VALUES

		Ohms		
100	1000	10K	100K	1.0 meg
250	2500	25K	250K	2.5 megs
500	5000	50K	500K	5.0 megs

MODEL 240C PORTABLE DECADE

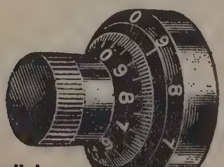


The Model 240C portable resistance decade allows the changing of resistance at a flip of a switch in a working circuit. Any ohms value can be obtained, from one ohm to 999,999 ohms, in steps of one ohm and at a maximum power rating of 225 watts, using a maximum of 1,000 volts DC or 660 volts AC. Dependable Clarostat "Greenohm" resistors are used throughout. These are inorganic-cement-coated, wire-wound power resistors. The resistors are mounted on rigid metal supports; a baffle plate separating the resistor bank from the switch assembly protects the latter against heat. Resistance changing switches are of the type that prevents a resistance breakdown between steps, thus protecting delicate meters and measuring instruments in the circuit. Pointer knobs indicate at a glance the resistance value being used.

Resistance Tolerance: ±2.0% all decades except No. 1, ±5.0%. **Max. Current:** 5 amps, No. 1; 1.5 amps, No. 2; 0.5 amp, No. 3; 0.15 amp, No. 4; 0.05 amp, No. 5; 0.005 amp, No. 6.

In a heavy gauge metal case, finished in frosted gray wrinkle, with an etched black-and-aluminum front panel. Overall length, 13″; 8½″ deep; 5¾″ high. Weight, 11.5 lbs.
Model 240C Power Resistor Decade Box—Net ...... $\$121^{05}$

CLARODIALS—10-TURN CONCENTRIC SCALE DIALS



Clarodial

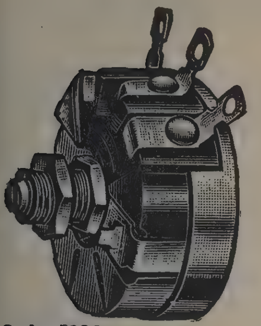
Calibrated dials designed for multi-turn potentiometers up to ten turns or other rotary devices. Requires only one inch of panel space. Knob attaches directly to the shaft, and the body of the dial is mounted rigidly to the panel. Therefore, accurate readings with a ratio of 1000 to one for 10 turns are provided with zero backlash and no reading error. Made of anodized aluminum. Mounting requirements: ¼″ shaft and ⅜″-32 NEF-2A bushing. Model 411 is black, has no lock. Model 412 is black, has lock. Model 461 is clear, has no lock. Model 462 is clear, has lock.

Clarostat No.	Net Each, Lots of			
	1-9	10-24	25-99	100-249
411	$7.75	$7.30	$6.95	$6.55
412	8.95	8.50	8.05	7.60
461	8.25	7.80	7.40	7.00
462	9.45	8.95	8.50	8.00

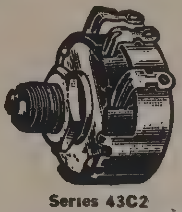
Clarostat Controls & Potentiometers

CLAROSTAT CONTROLS

"C LINE®" WIRE-WOUND INDUSTRIAL CONTROLS



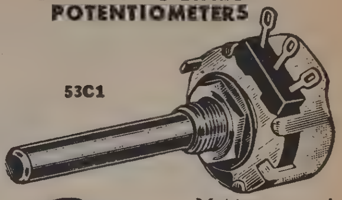
Series 58C2



Series 43C2

Clarostat "C Line" controls are designed primarily for industrial applications. They feature moisture and dust-proof construction, corrosion proof finish and locking or standard bushing. Suffix C1 indicates 1⅝" round shaft beyond bushing and ⅜" long bushing with ⅜-32-NEF-2 thread. Suffix C2 indicates ⅛" screwdriver slotted shaft, ½" split locking bushing. One nickel plated hex mounting nut and internal lock washer supplied with all units. All C2 units supplied with a nickel plated machined hex locking nut. Switches, ohmages not listed, tapers not listed, bushings and shaft lengths not listed, and dual combinations are also available on special order. (Prices and delivery information available on request.)

2-WATT "C-LINE®" POTENTIOMETERS



53C1

53C2

Molded composition element type totally sealed against moisture. High quality resistance device has high stability under extreme conditions. Use for critical applications such as test equipment, military, computers, servo mechanisms, etc. One-piece wiper assembly; carbon to carbon contact for low noise level; stainless steel shaft; gold plated terminals. Electrical tolerances are ±10% for values up to 1 megohm; ±20%, 1 meg. and above. "S" taper supplied. **Size:** 1 1/16" dia. x 9/16" deep.

Clarostat Model 53C1, Taper S— Specify resistance value. Net Each **$2.15**

Clarostat Model 53C2, Taper S— Specify resistance. Net Each.... **$2.48**

Ohms	Ohms	Ohms
50	7.5K	500K
100	10K	750K
150	15K	1 meg
250	20K	1.5 meg
350	25K	2 meg
500	35K	2.5 meg
750	50K	3 meg
1000	75K	3.5 meg
1500	100K	4 meg
2000	150K	5 meg
2500	200K	7.5 meg
3500	250K	10 meg
5000	350K	

SERIES 43C1 AND 43C2
2-WATT CONTROLS

Smallest 2-watt wire-wound control available up to 50K ohms. Tolerance ±5%. Independent Linearity ±2%.

Ohms	Net Each 43C1	Net Each 43C2	Ohms	Net Each 43C1	Net Each 43C2
5	$2.60	$2.89	1000	$2.60	$2.89
10	2.60	2.89	1500	2.60	2.89
20	2.60	2.89	2000	2.60	2.89
25	2.60	2.89	2500	2.60	2.89
30	2.60	2.89	3000	2.60	2.89
40	2.60	2.89	4000	2.60	2.89
50	2.60	2.89	5000	2.60	2.89
75	2.60	2.89	7500	2.60	2.89
100	2.60	2.89	10K	2.60	2.89
150	2.60	2.89	15K	2.95	3.25
200	2.60	2.89	20K	2.95	3.25
300	2.60	2.89	25K	2.95	3.25
400	2.60	2.89	30K	3.47	3.82
500	2.60	2.89	40K	3.47	3.82
750	2.60	2.89	50K	3.47	3.82

SERIES 58C1 AND 58C2
3-WATT CONTROLS

Tolerance ±5%. Linearity ±1%.

Ohms	Net Each 58C1	Net Each 58C2	Ohms	Net Each 58C1	Net Each 58C2
1	$2.60	$2.89	500	$2.60	$2.89
2	2.60	2.89	750	2.60	2.89
4	2.60	2.89	1000	2.60	2.89
6	2.60	2.89	1500	2.60	2.89
10	2.60	2.89	2000	2.60	2.89
15	2.60	2.89	2500	2.60	2.89
20	2.60	2.89	3000	2.60	2.89
25	2.60	2.89	5000	2.60	2.89
30	2.60	2.89	7500	2.60	2.89
40	2.60	2.89	10K	2.60	2.89
50	2.60	2.89	15K	2.95	3.25
60	2.60	2.89	20K	2.95	3.25
75	2.60	2.89	25K	2.95	3.25
100	2.60	2.89	30K	3.47	3.82
200	2.60	2.89	40K	3.47	3.82
300	2.60	2.89	50K	3 47	3.82
400	2.60	2.89			

MILITARY WIRE-WOUND AND CARBON POTENTIOMETERS

RV4LAYSA, 53C2

MIL-R-19A VARIABLE WIRE-WOUND POTENTIOMETERS

Certified for MIL-R-19A and available in common shaft lengths and values. Linear taper. **Tolerance:** ±10%. **Ratings:** RA10, one watt. RA20, two watts. RA30, four watts. **Bushing and Shaft:** Specify by letters (i.e. RA20**NASD**351A). RA10: NASD, ⅞" lg. x ¼" dia.; NASL, 5/16" lg. x ¼" dia.; LASM, 7/16" lg. x ¼" dia., lock bushing. RA10, 20: LASD, ⅞" lg. x ¼" dia., lock bushing. RA20, 30: NASA, ½" lg. x ¼" dia.; NASD, ⅞" lg. x ¼" dia.; LASB, ⅝" lg. x ¼" dia., lock bushing. All have slotted shafts.

Ohms ±10%	No. RA10()-, RA20()-, RA30()-	Ohms ±10%	No. RA10()-, RA20()-, RA30()-
3	3R0A*	350	351A
6	6R0A*	500	501A
8	8R0A*	750	751A
10	100A*	1000	102A
15	150A	1500	152A
20	200A*	2000	202A
25	250A	2500	252A
35	350A*	3500	352A*
50	500A	5000	502A*
75	750A	7500	752A*
100	101A	10K	103A*
150	151A	15K	153A*
200	201A	20K	203A†
250	251A	25K	253A†

*Not available in one-watt type. †Not available in one- or two-watt types.

MIL-R-94B VARIABLE 2-WATT CARBON POTENTIOMETERS

Certified for MIL-R-94B and available in common shaft lengths and values. Linear taper. **Tolerance:** ±10% unless otherwise specified. **Rating:** 2 watts. **Bushing and Shaft:** Specify by letters (example: RV4**NAYSD**101A, or 53C3-100-S): NAYSD (53C3) for standard bushing with ⅞" l. x ¼" dia. slotted shaft; LAYSA (53C2) for lock bushing and ⅝" l. x ¼" dia. slotted shaft. **Note:** Where no military number is shown, no MIL value is available; and, only the commercial version may be ordered (53C). All others are dual-marked.

Resis., Ohms ±10%	MIL No. RV4()-	Claro. No. 53C()-	Resis. Ohms ±10%	MIL No. RV4()-	Claro. No. 53C()-	Resis., Ohms ±10%	MIL No. RV4()-	Claro. No. 53C()-
50	500A	50-S	7500	752A	7500-S	500K	504A	500K-S
100	101A	100-S	10K	103A	10K-S	750K†	754B	750K-S
150	151A	150-S	15K	153A	15K-S	1 meg†	105B	1 Meg-S
250	251A	250-S	20K	....	20K-S	1.5 meg†	155B	1.5 Meg-S
350	351A	350-S	25K	253A	25K-S	2 meg†	205B	2 Meg-S
500	501A	500-S	35K	353A	35K-S	2.5 meg†	255B	2.5 Meg-S
750	751A	750-S	50K	503A	50K-S	3 meg†	....	3 Meg-S
1000	102A	1000-S	75K	753A	75K-S	3.5 meg†	355B	3.5 Meg-S
1500	152A	1500-S	100K	104A	100K-S	4 meg†	....	4 Meg-S
2000	....	2000-S	150K	154A	150K-S	5 meg†	505B	5 Meg-S
2500	252A	2500-S	200K	....	200K-S	10 meg†	....	10 Meg-S
3500	352A	3500-S	250K	254A	250K-S			
5000	502A	5000-S	350K	354A	350K-S			

MIL-R-94B HOT MOLDED ½-WATT CARBON POTENTIOMETERS

Rated 0.5 watt at 70° C, derated to zero at 120° C. Available with standard (RV6NAYSD) or locking (RV6LAYSA) bushing. Dia., ½"; 350 WVDC.

Ohms ±10%	No.* RV6()-	Ohms ±10%	No.* RV6()-	Ohms ±10%	No.* RV6()-	Ohms ±10%	No.* RV6()-
100	101A	2,500	252A	25,000	253A	250,000	254A
250	251A	5,000	502A	50,000	503A	500,000	504A
500	501A	10,000	103A	100,000	104A	1 meg	105A
1000	102A	15,000	153A	150,000	154A		

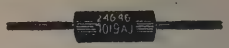
INDUSTRIAL NET PRICES

MIL or (Clarostat) Type*	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-Up
RV4NAYSD- or (53C3-)	$2.15	$1.76§	....	$1.65	$1.38	$1.01
RV4LAYSA- or (53C2-)	2.48	2.09§	....	1.74	1.46	1.09
RV6NAYSD-	5.00	3.65§	....	2.19	1.90	1.61
RV6LAYSA	5.00	3.88§	....	2.33	2.02	1.71
RA20NAS( )-	3.15	2.11§	....	1.48	1.22	1.01
RA20LAS( )-	3.15	2.19§	....	1.56	1.30	1.07
RA30NAS( )-	3.15	2.30§	....	1.67	1.41	1.22
RA30LASB-	3.15	2.38§	....	1.75	1.49	1.32
RA10NAS( )-	6.28	4.76	$4.13	3.49	3.05	2.83
RA10LAS( )-	6.50	4.94	4.27	3.60	3.15	2.92

*Ordering number must show bushing and shaft desired (as described above) and appropriate suffix to indicate ohms. Example: RA20**NASD3R0A.** †Tol., ±20%. §Net Each, 10-49.

CORNING® Resistors

CORNING® ESTABLISHED RELIABILITY RESISTORS



Designed for the many military applications where both established reliability and value are critical. **MIL-R-39017** semi-precision fixed film; this specification supersedes MIL-R-22684. **MIL-R-55182** precision fixed film; this specification supersedes MIL-R-10509. Prices apply to standard values only.

GENERAL ESTABLISHED RELIABILITY INFORMATION

MIL-R-39017

Semi-Precision, Fixed Film, Established Reliability Specification. This specification supersedes MIL-R-22684.

FAILURE RATES

M—1%/1000 hours at 60% confidence
P—.1%/1000 hours at 60% confidence
R—.01%/1000 hours at 60% confidence
S—.001%/1000 hours at 60% confidence

DESIGNATION

RL	R	07	C	1003	G	R
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ

Ⓐ **RL**—Style, Semi-Precision, Fixed Film Resistor,
100 ppm/°C

Ⓑ **R**—Established Reliability—RLR MIL-R-39017
Semi-Precision Specification

Ⓒ **07**—Case Size
05—⅛ W, 70° C
07—¼ W, 70° C
20—½ W, 70° C
32—1 W, 70° C

Ⓓ **C**—Lead Material
Type C oxygen free, high conductivity copper leads per MIL-STD-1276.

Ⓔ **1003**—Value
3 Significant Figure Decade Table

Ⓕ **G**—Tolerance
F (±1%), G (±2%) and J (±5%) are available

Ⓖ **R**—Failure Rate

MIL-R-55182

Precision Fixed Film Established Reliability Specification. This specification supersedes MIL-R-10509.

FAILURE RATES

M—1%/1000 hours at 60% confidence
P—.1%/1000 hours at 60% confidence
R—.01%/1000 hours at 60% confidence
S—.001%/1000 hours at 60% confidence

DESIGNATION

RN	C	55	H	1001	F	M
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ

Ⓐ **RN**—Style, Precision Fixed Film Resistors

Ⓑ **C**—a. Established Reliability—RNC, MIL-R-55182 Precision Fixed Film Established Reliability.
b. Lead Material—Oxygen free high conductivity Type C Copper per MIL-STD-1276

Ⓒ **55**—Case Size
55—1/10 W, 125° C
60—⅛ W, 125° C

Ⓓ **H**—Temperature Coefficient
H—50 PPM
J—25 PPM
K—100 PPM

Ⓔ **1001**—Value
3 Significant Figure Decade Table

Ⓕ **F**—Tolerance
B = ±.1%
D = ±.5%
F = ±1%

Ⓖ **M**—Failure Rate

SEMI-PRECISION MIL-R-39017

TC: 100 ppm/° C. At ΔR Max.: Temp. cycle and low temp. operation, ±0.25%; shock and vibration, ±0.10% (HC3, ±0.25%); short time overload, ±0.25% (HC3, ±0.50%); moisture, ±0.50%. Load Life: Qualification ΔR/2000 hrs., ±2%; failure rate ΔR/10,000 hrs., ±4%. Prices given are for **R** level .01%/1000 hrs., except HC6 **M** level 1%/1000 hrs.

Corning Style	MIL Type	Wattage Rating at 70° C	Max. Voltage	Size, Inch Dia. x L.	Std. Tol. ±	Resistance Range, Ohms	Net Each, Lots of 25-99	100-249	250-999	1000-4999	5000-9999	10,000 Up
HC3	RLR05C	⅛	200	.062 x .145	1%	10–150K	$1.13	$0.81	$0.59	0$.48	$0.44	....
					2%	10–150K	.72	.60	.43	.37	.34	....
					5%	10–150K	.61	.51	.37	.32	.29	....
HC4	RLR07C	¼	250	.090 x .225	1%	10–300K	.68	.52	.32	.21	.19	.175
					2%	10–300K	.43	.35	.205	.165	.15	.14
					5%	10–300K	.41	.33	.195	.155	.14	.135
HC5	RLR20C	½	350	.148 x .355	1%	10–1 meg	.68	.52	.32	.21	.19	.175
					2%	10–1 meg	.43	.35	.205	.165	.15	.14
					5%	10–1 meg	.41	.33	.195	.155	.140	.135
HC6	RLR32C	1	500	.190 x .554	1%	10–1 meg	.82	.71	.48	.38	.34	....
					2%	10–1 meg	.71	.64	.36	.31	.29	....
					5%	10–1 meg	.65	.59	.34	.30	.27	....

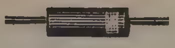
PRECISION MIL-R-55182

Molded silicone insulation coating. **At ΔR Max.:** Load life, 2,000 hrs. MIL rating, ±0.5%; moisture resistance, ±0.4%; overload and thermal shock, ±0.2%; low temp. operation, ±0.15%; effect solder heat, thermal strength, shock, vibration and DWV, ±0.1%; high temp. exposure, ±0.5%. Meets MIL-R-55182 requirements. **Lead Material:** Type C per MIL-STD-1276 and type R. Units listed are failure rate level S; per MIL-R-55182, substitutable for failure rate levels M, P and R. Tolerance of ±0.5% available on all styles; ±0.1% available on all styles except MK55 and MK60. Prices on request.

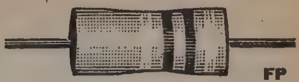
Corning Style	Military Type	Wattage Rating, @ 125° C	Max. Voltage	Size, In. Dia. x L.	Tol. ±	Resistance Range, Ohms	Net Each, Lots of 25-99	100-249	250-999	1000-Up
MK55	**RNC55K/RNR55K**	1/10	200	.098 x .270	1%	10–48.7 49.9–301K	$1.56 .99	$0.84 .55	$0.68 .44	$0.52 .34
MH55	**RNC55H/RNR55H**	1/10	200	.098 x .270	1%	10–48.7 49.9–301K	1.56 .99	.84 .55	.68 .44	.52 .34
MJ55	**RNC55J/RNR55J**	1/10	200	.098 x .270	1%	49.9–301K	1.42	.79	.63	.49
MK60	**RNC60K/RNR60K**	⅛	250	.160 x .410	1%	10–48.7 49.9–301K	1.56 .99	.84 .55	.68 .44	.52 .34
MH60	**RNC60H/RNR60H**	⅛	250	.160 x .410	1%	10–48.7 49.9–301K	1.56 .99	.84 .55	.68 .44	.52 .34
MJ60	**RNC60J/RNR60J**	⅛	250	.160 x .410	1%	49.9–499K	1.42	.79	.63	.49

CORNING® Metal-Film Resistors

Body Configuration: Conformal coating is tightly controlled to extend over the shoulder of the cap only—not down to the leads (Meniscus control). Prices apply to standard values only.


C

RN700
1101F
NATO
NA, NC


FP

TYPE C LOW MULTI-WATTAGE TYPES

TC: ±100 ppm/°C. At ΔR Max.: Moisture resistance, ±0.5%; thermal shock, ±0.25%; short time overload, ±0.25% (±0.5% for C3); low temp. operation, ±0.25% (±0.5% for C5 and C6); DWV, ±0.1%; effect solder heat, ±0.1%; thermal strength, ±0.1% (0.2% for C3); shock, ±0.1%; vibration, ±0.1%.

Corning Style	MIL Type	MIL Spec. MIL-R-	Wattage at TZ		Max. Voltage	Size, In. Dia. x L.	Std. Tol. ±	Resistance Range, Ohms	Net Each, Lots of					
			70° C	125° C					25–99	100–249	250–999	1000–4999	5000–9999	10,000 Up
C3	......	22684	⅛	1/10	200	.062 x .145	1%	10–150K	$0.74	$0.43	$0.33	$0.24	....	....
							2%	10–150K	.50	.32	.187	.156	$0.150	....
							5%	10–150K	.25	.17	.14	.12	.11	....
							10%	10–150K	.23	.155	.12	.10	.090	....
C4	RL07S	22684	¼	⅛	250	.090 x .225	1%	10–301K	.50	.23	.14	.11	.090	$0.078
							2%	10–301K	.25	.18	.115	.080	.070	.065
							5%	10–301K	.23	.16	.10	.070	.066	.060
C5	RL20S	22684	½	¼	350	.148 x .355	1%	10–1 meg	.50	.23	.14	.11	.090	.078
							2%	10–1 meg	.25	.18	.115	.080	.070	.065
							5%	10–1 meg	.23	.16	.10	.070	.066	.060
C6	RL32S	22684	1	½	500	.190 x .554	1%	10–2 meg	.57	.33	.183	.140†	....	....
							2%	10–2 meg	.30	.24	.15	.105†	....	....
							5%	10–2 meg	.25	.20	.125	.092†	....	....

1 AND 2 WATT GENERAL PURPOSE TYPES

TC: ±200 ppm/° C from −55° C to +150° C. At ΔR Max.: Moisture resistance, ±1.5% (2% for C42S); temp. cycle, short time overload, low temp. operation, shock and vibration, ±0.5%.

Corning Style	MIL Type	MIL Spec. MIL-R-	Wattage at T_A		Max. Voltage	Size, In. Dia. x L.	Std. Tol. ±	Resistance Range, Ohms	Net Each, Lots of			
			70° C	125° C					25–99	100–249	250–999	1000 Up
FP32	....	22684	1	......	500	.190 x .562	1%	10–1 meg	$0.57	$0.33	$0.183	$0.140
							2%	10–1 meg	.30	.24	.15	.105
							5%	10–1 meg	.25	.20	.125	.092
FP42	RL42S	22684	2	......	500	.315 x .687	2%	10–1.5 megs	.399	.366	.26	.182
							5%	10–1.5 megs	.30	.275	.185	.155

*1000 Up.

TYPE NA PRECISION TYPES

TC: ±100 ppm/° C from −55° C to +175° C. At ΔR Max.: Moisture resistance, ±0.5%; temp. cycle, short time overload and low temp. operation, ±0.25%; shock and vibration, ±0.10%.

Corning Style	MIL Type	MIL Spec. MIL-R-	Wattage at T_A		Max. Voltage	Size, In. Dia. x L.	Std. Tol. ±	Resistance Range Ohms	Net Each, Lots of				
			70°C	125°C					25–99	100–249	250–999	1000–9999	10,000 Up
NA55	RN55D	10509	⅛	1/10	200	.090 x .225	1%	10–301K	$0.38	$0.18	$0.12	$0.09	$0.075
			¼*	⅛*			0.5%	49.9–150K	.47	.27	.21	.17	.15
NA60	RN60D	10509	¼	⅛	300	.148 x .355	1%	10–1 meg	.38	.18	.12	.09	.075
			½*	¼*			0.5%	49.9–499K	.47	.27	.21	.17	.15
NA65	RN65D	10509	½	¼	350	.190 x .554	1%	10–2 meg	.44	.21	.14	.11	.09
							0.5%	49.9–1 meg	.59	.31	.24	.18	.16
NA70	RN70D	10509	¾	½	500	.248 x .719	1%	51.1–1 meg	.63	.31	.26	.23	.20
							0.5%	51.1–1 meg	.83	.46	.39	.36	.30

*Commercial rating.

TYPE NC PRECISION TYPES

TC: ±50 ppm/° C from −55° C to +175° C. At ΔR Max.: Moisture resistance, ±0.5%; temp. cycle, short time overload and low temp. operation, ±0.25%; shock and vibration, ±0.10%.

Corning Style	MIL Type	MIL Spec. MIL-R	Wattage at TZ		Max. Voltage	Size, In. Dia. x L.	Std. Tol. ±	Resistance Range Ohms	Net Each, Lots of				
			70° C	125° C					25–99	100–249	250–999	1000–9999	10,000 Up
NC3	RN50C	10509	1/10	1/20	200	.062 x .145	1%	49.9–100K	$0.85	$0.52	$0.48	$0.37	$0.35
NC55	RN55C	10509	¼	1/10	200	.088 x .245	1%*†	49.9–499K	.43	.20	.145	.11	.09
								500K–1 meg	.52	.29	.23	.16	.13
NC60	RN60C	10509	½	⅛	250	.135 x .375	1%*†	49.9–1 meg	.43	.20	.145	.11	.09
NC6	RN65C	10509	½	¼	300	.190 x .554	1%*†	49.9–1 meg	.52	.26	.17	.13	.105
NC7	RN70C	10509	¾	½	350	.248 x .719	1%*	51.1–1 meg	.83	.47	.30	.27	.26

*For 0.5% tolerance, add 9¢ to resale. †For 0.25% tolerance, add 16¢ to resale; for 0.1% tolerance, add 23¢ to resale.

TYPE NE PRECISION TYPES

TC: ±25ppm/°C from −55° C to +150° C. At ΔR max.: Moisture resistance, ±0.5%; temp. cycle, short time overload and low temp. operation, ±0.25%; shock and vibration, ±0.1%.

Corning Style	MIL Type	MIL Spec. MIL-R-	Wattage at T_A		Max. Voltage	Size, In. Dia. x L.	Std. Tol. ±	Resistance Range, Ohms	Net Each, Lots of			
			70° C	125° C					25–99	100–249	250–999	1000 Up
NE55	RN55E	10509	¼	1/10	200	.088 x .245	1%*	49.9–499K	$0.98	$0.65	$0.40	$0.25
								500K–1 meg	1.37	.91	.48	.33
NE60	RN60E	10509	½	⅛	250	.135 x .375	1%*	49.9–1 meg	.98	.65	.40	.25
ME65	RN65E	10509	1	¼	300	.185 x .575	1%*	49.9–1 meg	1.49	.80	.48	.34

*For 0.5% tolerance, add 9¢ to price; for 0.25% tolerance, add 16¢ to price; for 0.1% tolerance, add 23¢ to price.

STANDARD VALUES AVAILABLE

Style: RN55D, 60D, 65D (in temperature coefficients of T-0 [10 to 24.3 ohms], T-1 [24.9 ohms up]. The following chart shows standard values for film resistors. Each value listed is within one percent of the preceding and succeeding values shown. All decade multiples of these values, within the catalog range shown for each resistor model, are standard values. (RN55D, 2.00, 20, 200, 2,000, 20,000 and 200,000 ohms are all decade multiples of 2.00 and are all standard values.)

1.00	1.02	1.05	1.07	1.10	1.13	1.15	1.18	1.21	1.24	1.27	1.30	1.33	1.37	1.40	1.43	1.47	1.50	1.54	1.58
1.62	1.65	1.69	1.74	1.78	1.82	1.87	1.91	1.96	2.00	2.05	2.10	2.15	2.21	2.26	2.32	2.37	2.43	2.49	2.55
2.61	2.67	2.74	2.80	2.87	2.94	3.01	3.09	3.16	3.24	3.32	3.40	3.48	3.57	3.65	3.74	3.83	3.92	4.02	4.12
4.22	4.32	4.42	4.53	4.64	4.75	4.87	4.99	5.11	5.23	5.36	5.49	5.62	5.76	5.90	6.04	6.19	6.34	6.49	6.65
6.81	6.98	7.15	7.32	7.50	7.68	7.87	8.06	8.25	8.45	8.66	8.87	9.09	9.31	9.53	9.76				

DALE

Wire-Wound Resistors

WIRE-WOUND PRECISION RESISTORS

TYPE RH: ALUMINUM HOUSED

For applications with high power and precision tolerance requirements. Choice of six models, 5 through 250 watts. Complete welded construction, terminal to terminal. Thoroughly protected against moisture, salt spray, vibration and shock. Molded construction RH-5 through RH-50, all types have flat marking surface on top of housing for easy identification. Designed to utilize heat-sink effect of chassis. Screw mounts on chassis. Temperature Coefficient: ±20 ppm/° C, ±30 ppm/° C or ±50 ppm/° C depending on resistance value. Exceeds MIL-R-18546. **Suffix** (e.g., RH-50) **indicates wattage rating.**

STANDARD STOCK VALUES ±1%

Dale Type	Overall Size, In. Lg. x W. x H.	Resis. Range, Ohms, ±1%
RH-5†	.600x .334x .320	.1 to 24.5K
RH-10‡	.750x .420x .390	.01 to 47.1K
RH-25	1.062x .550x .546	.01 to 95.2K
RH-50	1.968x .630x .610	.01 to 273K
RH-100*	3.500x1.800x1.730	.1 to 50K
RH-250*	4.500x2.110x2.180	.1 to 75K

*Threaded terminals; all others, tinned Copperweld terminals. Rated at: †7.5 w; ‡12.5 w.

PRICES FOR RH-5 & RH-10

Resistance Ohms ±1% Tol.	Net Each, Lots of 1-24	25-49	50-99	100-249
.008–.012	$3.26	$2.93	$2.67	$2.45
.013–.025	3.16	2.83	2.57	2.37
.026–.046	3.14	2.73	2.53	2.32
.047–.099	3.16	2.83	2.57	2.37
.1–.49	3.26	2.94	2.67	2.45
.5–.99	3.14	2.73	2.53	2.32
1–1K	2.42	1.94	1.82	1.69
1.1K–5K	2.54	2.04	1.91	1.78
5.1K–10K	2.77	2.21	2.08	1.94
10.1K–12K	3.04	2.42	2.28	2.12
12.1K–15K	3.30	2.64	2.49	2.32
15.1K–25K	3.54	3.25	2.95	2.64
25.1K–40K	3.94	3.60	3.27	2.94
40.1K–47.1K	4.32	3.95	3.59	3.28

PRICES FOR RH-25

Resistance Ohms ±1% Tol.	1-24	25-49	50-99	100-249
.010–.015	$3.42	$3.14	$2.86	$2.64
.016–.030	3.39	3.07	2.81	2.59
.031–.050	3.34	3.04	2.76	2.55
.051–.072	3.30	2.98	2.71	2.50
.073–.099	3.34	3.04	2.76	2.55
.1–.49	3.42	3.14	2.86	2.64
.5–.99	3.30	2.98	2.71	2.50
1–1K	2.42	1.94	1.82	1.69
1.1K–5K	2.54	2.04	1.91	1.78
5.1K–10K	2.77	2.21	2.08	1.94
10.1K–12K	3.04	2.42	2.28	2.12
12.1K–15K	3.30	2.64	2.49	2.32
15.1K–25K	3.54	3.25	2.95	2.64
25.1K–40K	3.94	3.60	3.27	2.94
40.1K–50K	4.32	3.95	3.59	3.28
50.1K–60K	4.72	4.30	3.88	3.43
60.1K–75K	5.13	4.68	4.20	3.74
75.1K–95.2K	5.65	5.13	4.62	4.16

PRICES FOR RH-50

Resistance Ohms ±1% Tol.	1-24	25-49	50-99	100-249
.010–.015	$3.65	$3.36	$3.07	$2.86
.016–.035	3.61	3.30	3.04	2.82
.036–.050	3.58	3.25	2.97	2.75
.051–.075	3.52	3.21	2.94	2.73
.076–.099	3.49	3.17	2.90	2.68
.1–.49	3.58	3.25	2.97	2.75
.5–.99	3.52	3.21	2.94	2.73
1–5.9	3.30	3.00	2.66	2.44
6–1K	2.97	2.38	2.22	2.08
1.1K–5K	3.10	2.50	2.34	2.18
5.1K–10K	3.37	2.68	2.52	2.37
10.1K–20K	3.73	2.98	2.79	2.62
20.1K–55K	4.07	3.25	3.04	2.85
55.1K–75K	4.42	3.53	3.30	3.09
75.1K–100K	4.74	3.77	3.58	3.31
100.1K–125K	5.16	4.11	3.86	3.61
125.1K–150K	5.54	4.44	4.16	3.87
150.1K–175K	5.94	4.74	4.44	4.16
175.1K–225K	6.30	4.97	4.76	4.38
225.1K–273K	6.80	5.34	5.15	4.68

PRICES FOR RH-100 & RH-250

Resistance Ohms ±1% Tol.	1-24	25-49	50-99	100-249
.1–.99	$14.91	$13.16	$12.28	$11.40
1–5	13.21	11.66	10.89	10.11
5.1–50	12.93	11.41	10.64	9.88
50.1–1K	11.95	10.54	9.83	9.14
1.1K–10K	12.74	11.25	10.49	9.75
10.1K–20K	13.77	12.17	11.34	10.53
20.1K–35K	14.59	12.87	12.00	11.15
35.1K–55K	15.28	13.51	12.58	11.70
55.1K–75K	16.05	14.16	13.21	12.29

TYPE PH: ALUMINUM HOUSED

Same features as RH types, except mounting is made in hole thru chassis. Finned style housing. Meets functional requirements of MIL-R-18546. **Suffix** (e.g., PH-25) **indicates rating in watts.**

RH

PH

RS, RLS

WWA

TYPE PH (CONTINUED)

STANDARD STOCK VALUES ±1%

Dale Type	Overall Size, In. Lg. x Dia.	Resis. Range, Ohms, ±1%
PH-10-1*	.750 x .500	.1 to 47.1K
PH-25	1.595 x .875	.1 to 95.2K
PH-50	2.300 x 1.188	.1 to 75K
PH-100	2.970 x 1.750	.1 to 50K

*Tinned Copperweld® terminals; 180 alloy, all others. ®Copperweld Steel Corp. TM.

PRICES FOR PH-10-1

Resistance, Ohms ±1% Tol.	Net Each, Lots of 1-24	25-49	50-99	100-249
.1–.99	$4.44	$4.07	$3.70	$3.32
1–1K	2.20	1.76	1.65	1.54
1.1K–5K	2.31	1.85	1.74	1.62
5.1K–10K	2.52	2.01	1.89	1.76
10.1K–12K	2.76	2.21	2.07	1.93
12.1K–15K	3.00	2.40	2.26	2.11
15.1K–25K	3.23	2.95	2.68	2.29
25.1K–40K	3.58	3.27	2.97	2.67
40.1K–47.1K	4.04	3.59	3.26	2.98

PRICES FOR PH-25

Resistance, Ohms ±1% Tol.	1-24	25-49	50-99	100-249
.1–.99	$4.97	$4.57	$4.14	$3.72
1–1K	2.46	1.96	1.84	1.72
1.1K–5K	2.59	2.07	1.95	1.82
5.1K–10K	2.82	2.26	2.12	2.07
10.1K–12K	3.09	2.46	2.31	2.16
12.1K–15K	3.37	2.68	2.53	2.37
15.1K–25K	3.61	3.30	3.01	2.68
25.1K–40K	4.00	3.66	3.33	2.99
40.1K–50K	4.40	4.02	3.65	3.34
50.1K–60K	4.81	4.38	3.96	3.50
60.1K–75K	5.23	4.76	4.28	3.83
75.1K–95.2K	5.75	5.23	4.71	4.25

PRICES FOR PH-50

Resistance, Ohms ±1% Tol.	1-24	25-49	50-99	100-249
.1–.99	$14.03	$11.00	$10.19	$ 9.75
1–5	11.52	8.99	8.34	7.89
5.1–1K	9.19	7.22	6.67	6.29
1.1K–5K	9.66	7.56	7.00	6.61
5.1K–10K	10.11	7.91	7.33	6.92
10.1K–20K	10.73	8.45	7.80	7.37
20.1K–55K	11.20	8.78	8.14	7.69
55.1K–75K	11.70	9.17	8.38	8.04

PRICES FOR PH-100

Resistance, Ohms ±1% Tol.	1-24	25-49	50-99	100-249
.1–.99	$15.17	$13.40	$12.51	$11.61
1–5	13.45	11.87	11.09	10.29
5.1–50	13.16	11.62	10.79	10.05
50.1–1K	12.18	10.74	10.02	9.30
1.1K–10K	12.97	11.45	10.68	9.92
10.1K–20K	14.03	12.39	11.54	10.73
20.1K–35K	14.84	13.10	12.22	11.36
35.1K–50K	15.57	13.75	12.82	11.89

TYPE RS: SILICONE COATED (HIGH TEMPERATURE)

Designed to meet precision power requirements where space is at a premium. Outstanding silicone coating protects against moisture and salt spray; also maintains stable performance under other severe environmental conditions. Complete welded construction, from terminal to terminal. Meets or exceeds applicable MIL-R-26C and MIL-R-23379 requirements. Dielectric strength 500 VAC for ½ and ¼-watt types; 1000 VAC, all others. Temperature Coefficient: ±20 ppm/° C, ±30 ppm/° C or ±50 ppm/° C depending on resistance value. **Suffix** (e.g., RS-¼) **indicates rating in watts except as noted.**

STANDARD STOCK VALUES ±1%

Dale Type	Overall Size, In. Lg. x Dia.	Resis. Range, Ohms, ±1%
RS-¼	.250 x .078	1 to 3.4K
RS-½	.312 x .078	1 to 4.9K
RS-1A	.406 x .093	.1 to 10.4K
RS-1B	.531 x .093	.1 to 15K
RS-2*	.625 x .250	.1 to 47.1K
RS-2A	.812 x .188	.1 to 42.1K
RS-2B†	.562 x .188	.1 to 24.5K
RS-2C‡	.500 x .218	.1 to 32.3K
RS-5	.875 x .312	.1 to 95.2K
RS-7	1.218 x .312	.1 to 154K
RS-10	1.781 x .375	.1 to 273K

*4.0 watts. †3.0 watts. ‡2.5 watts.

PRICES FOR RS-¼, -½, -1A & -1B

Resistance Ohms ±1% Tol.	Net Each, Lots of 1-24	25-49	50-99	100-249
.1–.49	$2.64	$2.38	$2.10	$1.73
.5–.99	2.04	1.79	1.52	1.28
1.0–1K	1.31	1.03	.97	.91
1.1K–4K	1.44	1.16	1.07	1.00
4.1K–15K	1.65	1.29	1.22	1.12

TYPE RS (CONTINUED)

PRICES FOR RS-2, -2A, -2B, -2C, -5, RS-7 AND RS-10

Resistance Ohms ±1% Tol.	Net Each, Lots of 1-24	25-49	50-99	100-249
.1–.49	$2.38	$2.13	$1.90	$1.56
.5–.99	1.83	1.61	1.36	1.16
1.0–1K	1.00	.79	.75	.69
1.1K–5K	1.10	.88	.83	.76
5.1K–10K	1.16	.91	.85	.79
10.1K–15K	1.20	.95	.89	.84
15.1K–20K	2.56	1.00	.94	.88
20.1K–40K	1.33	1.06	1.00	.92
40.1K–55K	1.43	1.16	1.07	1.00
55.1K–75K	1.57	1.24	1.18	1.10
75.1K–100K	1.73	1.38	1.31	1.21
100.1K–125K	1.90	1.56	1.43	1.33
125.1K–150K	2.07	1.65	1.55	1.45
150.1K–175K	2.27	1.80	1.69	1.58
175.1K–225K	2.46	1.98	1.85	1.74
225.1K–273K	2.71	2.18	2.05	1.93

TYPE RLS: RADIAL LEAD

Same as RS Type, but radial leads. Available in 1–10 watt sizes and ranges equivalent to those shown for RS types above. **Prices on Request.**

TYPE WWA: BOBBIN

Epoxy molded for high stability and environmental protection. Completely welded construction. Available with solderable or weldable leads. Series includes subminiature models MWA-8 and MWA-10. Meet or exceed functional requirements of MIL-R-93.

STANDARD STOCK LIST

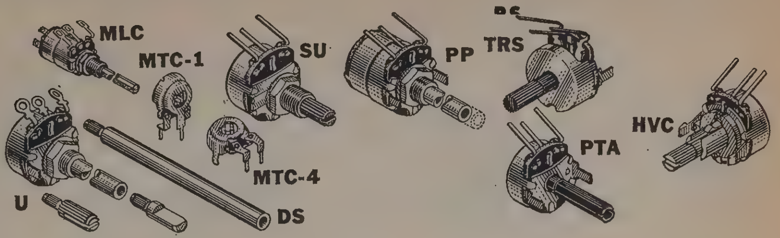
0.10	0.20	0.25	0.50
1.00	1.50	2.00	3.00
4.00	5.00	6.00	7.50
10	15	20	22.50
25	30	35	40
47	50	70	75
100	110	120	130
150	160	180	200
220	250	270	300
330	400	450	470
500	510	560	600
620	700	750	1K
1.2K	1.3K	1.5K	1.8K
2K	2.2K	2.5K	3K
3.3K	3.5K	4K	5K
10K	15K	20K	25K
40K	50K	100K	150K

DALE RN55D, RN60D AND RN65D METAL-FILM RESISTORS ARE ALSO IN STOCK

MALLORY Carbon Controls

MIDGETROLS®

Mallory Midgetrols are used in both replacement and industrial applications. Rated 1 watt linear, ½ watt audio taper. 1⁵⁄₁₆″ dia. **Tapers:** 1, left hand audio; 2, reverse audio; 4, linear.



BUSHING MOUNT—METAL SHAFT

⅜″-32 x ⅜″ bushing; shaft ¼″ dia. x 2⅜″ FMS (Front Mounting Surface). Furnished with two knob adapters and hex nut.

Mallory U Midgetrols—Without taps.

Net Each......................**$1.34**

WITHOUT TAPS

Mall. No.	Resis., Ohms	Taper	Mall. No.	Resis., Ohms	Taper
U1	100	4	**U36**	75K	1
U2	500	4	**U39**	100K	1
U52R	500	2	**U40**	100K	2
U3	1K	2	**U41**	100K	4
U4	1K	4	**U415**	125K	4
U5	1500	2	**U42**	150K	1
U5L	1500	4	**U43**	200K	4
U6	2K	4	**U44**	250K	1
U7	2500	2	**U45**	250K	2
U8	3K	4	**U46**	250K	4
U9	3K	2	**U48**	500K	1
U12	5K	1	**U50**	500K	4
U14	5K	4	**U51**	750K	1
U18	10K	1	**U52**	1 meg	2
U19	10K	2	**U53**	1 meg	1
U20	10K	4	**U54**	1 meg	4
U21	15K	1	**U155**	1.5 megs	4
U22	15K	2	**U55**	2 megs	1
U24	20K	1	**U56**	2 megs	4
U26	20K	4	**U255**	2.5 megs	4
U28	25K	2	**U57**	3 megs	1
U28A	25K	1	**U59**	3 megs	4
U29	25K	4	**U63**	5 megs	2
U30	30K	4	**U65**	5 megs	1
U33	50K	1	**U67**	5 megs	4
U34	50K	2	**U82**	10 megs	4
U35	50K	4			

BUSHING MOUNT—NYLON SHAFT

Same bushing as U type. Shaft ¼″ dia. x ¾″ FMS nylon.

Mallory SU Midgetrols—Net Ea..**$1.24**

Mallory No.	Resis., Ohms	Taper	Mallory No.	Resis., Ohms	Taper
SU6	1500	4	**SU46**	250K	4
SU8	3K	4	**SU50**	500K	4
SU14	5K	4	**SU54**	1 meg	4
SU20	10K	4	**SU56**	2 megs	4
SU29	25K	4	**SU59**	3 megs	4
SU35	50K	4	**SU67**	5 megs	4
SU41	100K	4			

TAB MOUNT—NYLON SHAFT

Same as TA except has ¼″ dia. x 1″ FMS nylon shaft. Furn. with 2″ shaft extender.

Mallory PTA Midgetrols—Net...**$0.79**

Mall. No.	Ohms	†	Mall. No.	Megs	†
PTA52L	500	4	**PTA754L**	750K*	4
PTA751L	750	4	**PTA16L**	1	4
PTA152L	1500	4	**PTA1254L**	1.25	4
PTA252L	2500	4	**PTA26L**	2	4
PTA53L	5000	4	**PTA355L**	3.5	4
PTA54L	50K	4	**PTA46A**	4	1
PTA15L	100K	4	**PTA56R**	5	2
PTA35L	300K	4	**PTA56L**	5	4
PTA55R	500K	2	**PTA755L**	7.5	4
PTA55L	500K	4	**PTA855L**	8.5	4

*Ohms. †Taper.

TAB MOUNT—REVERSE NYLON SHAFT

Same as PTA except ¼″ dia. nylon shaft projects ¾″ out REAR of control. Screwdriver slot in mounting end of shaft.

Mallory TRS Midgetrols—Net...**$0.71**

Mall. No.	Ohms	†	Mall. No.	Ohms	†
TRS12L	100	4	**TRS55L**	500K	4
TRS751L	750	4	**TRS16L**	1 M	4
TRS152L	1500	4	**TRS26A**	2 M	1
TRS53L	5K	4	**TRS26L**	2 M	4
TRS153L	15K	4	**TRS36L**	3 M	4
TRS15L	100K	4	**TRS46A**	4 M	1
TRS254L	250K	4	**TRS56L**	5 M	4

†Taper

BUSHING MOUNT WITH P-P SWITCH

Standard U control with SPST 6 amps at 125 VAC push-pull switch, UL Approved. Shaft ¼″ dia. x 2″ FMS. Furnished with knob adapters and hex nut.

Mallory Number	Resis., Ohms	Tap, Ohms	Taper	Net Each
PP13R	1K	....	2	$2.07
PP252R	2.5K	....	2	2.07
PP253R	25K	....	2	2.07
PP15A	100K	....	1	2.07
PP55A	500K	....	1	2.07
PP55L	500K	....	4	2.07
PP16A	1 meg	....	1	2.07
PP16L	1 meg	....	4	2.07
PP16T15	1 meg	100K	1	2.16
PP16T25	1 meg	200K	1	2.16
PP16T55	1 meg	500K	2	2.16
PP26A	2 megs	....	1	2.07
PP26T16	2 megs	1 meg	4	2.07
PP36DT26	3 megs	1 & 2 megs	4	2.16
PP56L	5 megs	....	4	2.07

SWITCH/CIRCUIT BREAKER

AC Switch/Circuit Breaker. Use with U, UT, UDT, TA or PTA Controls.

Mallory No.	Oper. Current	Break Current	Net Each
USB29	1.6A	2.5A	$1.16

SPECIAL CARBON ELEMENT FOCUS CONTROL

Especially designed to withstand high voltage surges in color TV sets. Available in two tab mounting configurations. Nylon shaft, ¼″ dia. x 1½″ h., FMS.

Mallory No.	Shaft	Resis.	Taper	Net Each
FCT17L	Front	10 meg	4	$1.25
FCT156L	Front	15 meg	4	1.25
FCR156L	Rear	15 meg	4	1.25

HIGH VOLTAGE COLOR CONTROL

To isolate control mounting from up to 4000 volts rms. Nylon insulating mounting plate and ¼″ dia. x 1⅛″ FMS nylon shaft.

Mallory HVC Midgetrols—Net...**$1.35**

Mallory No.	Resistance	Taper
HVC63L	6000 ohms	4
HVC155L	1.5 megs	4
HVC355L	3.5 megs	4

SWITCHES, SHAFT EXTENDERS

Switches for U, UT, UDT, TA or PTA controls.

Mall. No.	Description	Net
US26*	SPST, 6 amps at 125 VAC	$0.77
US26T	SPST, w/dummy terminal	.85
US27	DPST, 6 amps at 125 VAC	.85
US28	SPDT, 3 amps at 125 VAC	.85

*Flame retardant, UL Approved.

½″ SUBMINIATURE CONTROLS

Only ½″ dia. Rated ¼ watt linear, ⅛ watt audio. ¼″-32 x ¼″ bushing with nut. Shaft: ⅛″ dia. x 1⁷⁄₁₆″ FMS, MLC (steel); ⅛″ dia. x ⁹⁄₁₆″ FMS, MLCN (nylon). SPST switch rated 3 amps at 125 VAC, UL Approved. MTC has open screwdriver slot. **Type MLC Bushing Mount.**

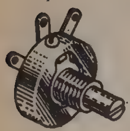
Mallory No.	Ohms	Taper	Switch	Net
MLC13L	1000	4	....	$1.52
MLC222LS	2200	4	SPST	2.59
MLC252A	2500	1	....	1.52
MLC252AS	2500	1	SPST	2.59
MLC53A	5000	1	....	1.52
MLC53AS	5000	1	SPST	2.59
MLC53L	5000	4	....	1.52
MLC53LS	5000	4	SPST	2.59
MLC14A	10K	1	....	1.52
MLC14AS	10K	1	SPST	2.59
MLC14L	10K	4	....	1.52
MLC54L	50K	4	....	1.52
MLC15A	100K	1	....	1.52
MLC15AS	100K	1	SPST	2.59
MLC15L	100K	4	....	1.52
MLC25L	200K	4	....	1.52
MLC254L	250K	4	....	1.52
MLC55A	500K	1	....	1.52
MLC55AS	500K	1	SPST	2.59
MLC55LS	500K	4	SPST	2.59
MLCN55A	500K	1	....	1.52
MLCN55L	500K	4	....	1.52
MLC16AS	1 meg	1	SPST	2.59
MLC16LS	1 meg	4	SPST	2.59
MLCN16A	1 meg	1	....	1.52
MLCN16L	1 meg	4	....	1.52

Type MTC PT Mount. Linear taper.

Net Each..........................**$0.47**

Vert. Mtg.	Horiz. Mtg.	Resis., Ohms
MTC12L1	**MTC12L4**	100
MTC22L1	**MTC22L4**	200
MTC251L1	**MTC251L4**	250
MTC32L1	**MTC32L4**	300
MTC52L1	**MTC52L4**	500
MTC751L1	**MTC751L4**	750
MTC13L1	**MTC13L4**	1000
MTC152L1	**MTC152L4**	1500
MTC23L1	**MTC23L4**	2000
MTC252L1	**MTC252L4**	2500
MTC33L1	**MTC33L4**	3000
MTC53L1	**MTC53L4**	5000
MTC63L1	**MTC63L4**	6000
MTC682L1	**MTC682L4**	6800
MTC14L1	**MTC14L4**	10K
MTC153L1	**MTC153L4**	15K
MTC24L1	**MTC24L4**	20K
MTC253L1	**MTC253L4**	25K
MTC54L1	**MTC54L4**	50K
MTC15L1	**MTC15L4**	100K
MTC124L1	**MTC124L4**	120K
MTC184L1	**MTC184L4**	180K
MTC254L1	**MTC254L4**	250K
MTC3253L1	**MTC3253L4**	325K
MTC454L1	**MTC454L4**	450K
MTC55L1	**MTC55L4**	500K
MTC16L1	**MTC16L4**	1 meg
MTC26L1	**MTC26L4**	2 megs
MTC355L1	**MTC355L4**	3.5 megs
MTC56L1	**MTC56L4**	5 megs

Wire Wound Controls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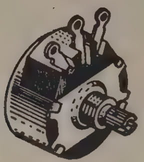
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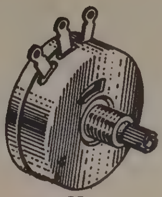
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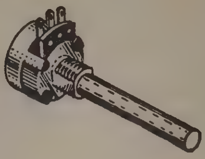
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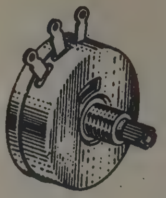
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2 WATT TYPE C

Rated 2 watts at 40° C. 1³⁄₆₄″ diameter. **Mech. Rotation:** 280°. **Elec. Rotation:** 255°. **Resis. Tolerance:** ±10%. Contact arm grounded. **Bushing:** ⅜″-32 x ⅜″. **Shaft:** ¼″ dia. x ¾″ FMS with screwdriver slot. Furn. with nut.

POTENTIOMETERS

Mallory No.	Ohms Resis.	Carrying Capacity in Amps	Net Each
C6P	6	.58	$1.39
C10P	10	.45	1.39
C50P	50	.2	1.39
C100P	100	.14	1.39
C1MP	1K	.045	1.50
C3MP	3K	.025	1.50
C10MP	10K	.014	1.85

3 WATT TYPE R

Standard TV wire-wound control rated 3 watts at 40° C. 1⁷⁄₆₄″ diameter. **Mech. Rotation:** 297°. **Elec. Rotation:** 290°. **Voltage Breakdown:** 900 VAC rms. **Bushing:** ⅜″-32 x ¼″. **Shaft:** ¼″ dia. x ¹³⁄₃₂″ FMS, knurled with screwdriver slot. Furn. with nut. See listing below for switches for R controls.

Mallory No.	Ohms Resistance	Net Each
R8L	8	$1.22
R10L	10	1.22
R20L	20	1.22
R25L	25	1.22
R50L	50	1.22
R100L	100	1.22
R250L	250	1.22
R500L	500	1.22
R750L	750	1.22
R1000L	1000	1.22
R1500L	1500	1.22
R2500L	2500	1.22
R3000L	3000	1.22
R5000L	5000	1.22
R10ML	10000	1.36
R15ML	15000	1.36
R20ML	20000	1.36

SWITCH FOR TYPE R POTS

Mall. No.	Description	Net Each
US30	Single Pole, Single Throw	$0.57

4 WATT TYPE M

Rated 4 watts at 40° C. 1⅝″ diameter. **Mech. Rotation:** 294°. **Elec. Rotation:** 275°. **Resis. Tolerance:** ±10%. **Voltage Breakdown:** 900 VAC rms. **Bushing:** ⅜″-32 x ⅜″ FMS. **Shaft:** ¼″ dia. x ¾″ FMS, knurled with screwdriver slot. Furn. with nut.

POTENTIOMETERS

Mallory Number	Ohms Resis.	Capacity in Amps	Net Each
M1PK	1	2.00	$1.69
M3PK	3	1.15	1.69
M6PK	6	82	1.69
M10PK	10	.63	1.69
M15PK	15	.52	1.69
M20PK	20	.45	1.69
M25PK	25	.40	1.69
M30PK	30	.37	1.69
M40PK	40	.32	1.69
M50PK	50	.28	1.69
M60PK	60	.26	1.69
M75PK	75	.23	1.69
M100PK	100	.20	1.69
M200PK	200	.14	1.69
M300PK	300	.116	1.69
M400PK	400	10	1.69
M500PK	500	.09	1.69
M600PK	600	.082	1.69
M1MPK	1K	.063	1.69
M1.5MPK	1.5K	.052	1.69
M2MPK	2K	.045	1.69
M2.5MPK	2.5K	.04	1.69
M3MPK	3K	.037	1.69
M4MPK	4K	.032	1.69
M5MPK	5K	.028	1.69
M10MPK	10K	.02	1.69
M15MPK	15K	.016	1.86
M20MPK	20K	.014	1.86
M25MPK	25K	.013	1.86
M50MPK	50K	.009	2.19
M70MPK	70K	.0075	2.19
M100MPK	100K	.0062	3.09

RHEOSTATS*

Mallory Number	Ohms Resis.	Capacity in Amps	Net Each
M05RK	0.5	2.80	$1.47
M6RK	6	.82	1.47
M10RK	10	.63	1.47
M15RK	15	.52	1.47
M50RK	50	.28	1.47

*"Open" or "Off" position counterclockwise.

STANDARD TAPER FOR MALLORY WIRE-WOUND CONTROLS IS NORMAL LINEAR TAPER. OTHER TAPERS MAY BE SPECIFIED ON SPECIAL ORDER.

5 WATT TYPE VW SUBMINIATURE

Rated 5 watts at 35° C. ¾″ diameter. **Mech. Rotation:** 305°. **Elec. Rotation:** 275°. **Resis. Tolerance:** ±10%. **Voltage Breakdown:** 900 VAC rms. **Bushing:** ⅜″-32 x ⅜″. **Shaft:** ¼″ dia. x 2½″ FMS. Furn. with nut and lug.

Mallory No.	Ohms Resistance	Net Each
VW1	1	$1.82
VW2	2	1.82
VW3	3	1.82
VW5	5	1.82
VW6	6	1.82
VW8	8	1.82
VW10	10	1.82
VW15	15	1.82
VW20	20	1.82
VW25	25	1.82
VW30	30	1.82
VW40	40	1.82
VW50	50	1.82
VW60	60	1.82
VW75	75	1.82
VW100	100	1.82
VW200	200	1.82
VW250	250	1.82
VW300	300	1.82
VW400	400	1.82
VW500	500	1.82
VW600	600	1.82
VW750	750	1.82
VW1K	1000	1.82
VW1P5K	1500	1.94
VW2K	2000	1.94
VW2P5K	2500	1.94
VW3K	3000	1.94
VW4K	4000	1.94
VW5K	5000	1.94
VW7P5K	7500	1.94
VW10K	10000	1.94
VW15K	15000	1.98
VW20K	20000	1.98
VW25K	25000	2.07

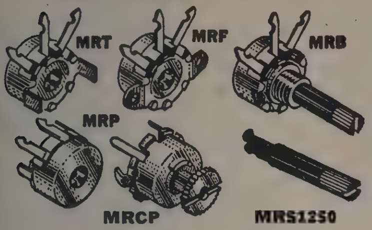
12½ WATT TYPE MG

Rated 12½ watts at 35° C. 1⅝″ diameter. **Mech. Rotation:** 294°. **Elec. Rotation:** 275°. **Resis. Tolerance:** ±10%. **Voltage Breakdown:** 900 VAC rms. **Bushing:** ⅜″-32 x ⅜″ FMS. **Shaft:** ¼″ dia. x ¾″ FMS, knurled with screwdriver slot. Furn. with nut.

Mallory No.	Ohms Resistance	Net Each
MG1	1	$2.73
MG3	3	2.73
MG10	10	2.73
MG15	15	2.73
MG25	25	2.73
MG50	50	2.73
MG100	100	2.73
MG200	200	2.73
MG500	500	2.78
MG1000	1000	2.78
MG1500	1500	2.78
MG2500	2500	2.78
MG5000	5000	2.78
MG10K	10K	2.90
MG20K	20K	2.90
MG25K	25K	2.90
MG50K	50K	3.14
MG100K	100K	3.41

MALLORY Wire Wound Controls

3-WATT TYPE MR WIRE-WOUND CONTROLS



Only ¾" diameter, MR controls are used for applications in AGC, convergence, hum-balance, etc. Case is fully enclosed: MR, all metal; MRC, metal mounting plate with molded nylon body and knob. Five mounting configurations available. Conversion from cross-slot adjustment to shaft may be made using plug-in shafts listed. **Wattage Rating at 40° C:** MR, 3 watts. **Rotation:** 250° mechanical; 248° electrical. **Resistance Tolerance:** MR, ±20%; MRC, ±10%. **Voltage Breakdown:** MR, 900 VAC rms; MRC has grounded contact arm.

MR-B 3-WATT BUSHING MOUNT

Bushing ⅜"-32 x ¼". One MRS 1250 shaft and pal nut supplied with each control.

Mallory No.	Res. Ω	Net Each	Mallory No.	Res. Ω	Net Each
MR10B	10	$1.21	MR1000B	1000	$1.21
MR50B	50	1.21	MR2500B	2500	1.21
MR100B	100	1.21	MR5000B	5000	1.21
MR250B	250	1.21	MR10KB	10K	1.41
MR500B	500	1.21	MR15KB	15K	1.41

MR-T 3-WATT TAB MOUNT

Shaft MRS 1250 or MRS 1563 can be inserted in control from front or rear.

MR10T	10	$0.86	MR2500T	2500	$0.92
MR50T	50	.86	MR3000T	3000	.92
MR100T	100	.86	MR4000T	4000	.92
MR250T	250	.86	MR5000T	5000	1.00
MR500T	500	.86	MR8000T	8000	1.00
MR850T	850	.86	MR10KT	10K	1.09
MR1000T	1000	.86	MR15KT	15K	1.21

MR-F 3-WATT FLANGE MOUNT

Mounting ears with .130" dia. holes on 1" center. Shaft MRS1250 or MRS1563 can be inserted in control from front or rear.

MR6F	6	$0.88	MR750F	750	$0.88
MR15F	15	.88	MR1000F	1000	.88
MR40F	40	.88	MR1500F	1500	.88
MR75F	75	.88	MR2000F	2000	.88
MR100F	100	.88	MR2500F	2500	.88
MR150F	150	.88	MR3000F	3000	.88
MR200F	200	.88	MR4000F	4000	.88
MR250F	250	.88	MR5000F	5000	.88
MR500F	500	.88	MR-10000F	10K	.88
MR600F	600	.88			

MR-P 3-WATT PC MOUNT

Printed circuit board mounting. Shaft MRS1250 or MRS1563 can be inserted in control from front or rear.

MR1.5P	1.5	$0.88	MR1000P	1000	$0.88
MR15P	15	.88	MR1500P	1500	.88
MR100P	100	.88	MR3000P	3000	.88
MR175SP	175*	.88	MR4000P	4000	.88
MR600P	600	.88	MR5000P	5000	.88

*Stop at 60 ohms.

MRC-P 3-WATT PC MOUNT

Convergence controls with printed circuit board mounting and permanent knob.

MRC10P	10	$0.88	MRC100P	100	$0.88
MRC30P	30	.88	MRC120P	120	.88
			MRC150P	150	.88

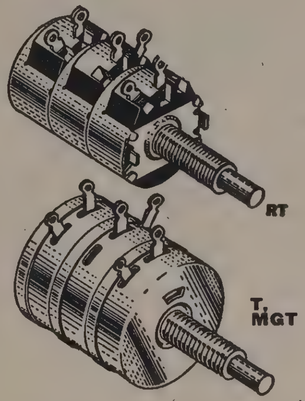
SHAFTS FOR MR CONTROLS

Mallory No. MRS1250—¼" dia. x 1¼" FMS knurled and slotted nylon. Plugs into either end of MR control. Net Ea. .**$0.17**

Mallory No. MRS1563—¼" dia. x 1$\frac{9}{16}$" FMS, knurled, slotted nylon. Net.**$0.17**

AUDIO ATTENUATORS

Mallory audio attenuators are available in three wattage ratings: 10 watts, R and RR; 15 watts, T, L, LL and BAL; and 50 watts, MGL and MGT. All are made to critical audio standards; come complete with mounting hardware. Two-case diameters: 1$\frac{7}{64}$", R; and 1⅝" for T, L, LL, BAL, MGL and MGT.



T PAD ATTENUATORS

Present constant impedance to both source (amplifier) and output (speaker).

T PAD STOCK VALUES

Imped., Ohms	Mallory No. for Audio Rating of 10 W	15 W	50 W
4	....	T4	....
8	RT8	T8	MGT8
15–16	....	T15	MGT16
50	....	T50	....
250	....	T250	....
500	....	T500	....
600	....	T600	....
1000	....	T1000	....
2000	....	T2000	....
3000	....	T3000	....

T PAD NET PRICES

With nuts, washers, knob and dial.

Type	Bushing	Shaft (FMS)	Net Each
RT	⅜"-32 x 1"	¼" x 1½"	$4.65
T	⅜"-32 x ⅜"	¼" x 2"	5.05
MGT	⅜"-32 x 1"	¼" x 1½"	8.12

STEREO LEVEL CONTROL

50-ohm tandem dual, level control for low-priced 4- and 8-ohm stereo speakers. Rated 10 watts, audio. Supplied with nuts, washers and dial. Bushing ⅜"-32 x 1". Shaft ¼" dia. x 1½" lg.

Mallory No. RR50—Net Each. . . .**$2.83**

L PAD ATTENUATORS

Present constant impedance to source (amplifier), used in audio circuits where output (speaker) impedance is not critical.

L PAD STOCK VALUES

Imped., Ohms	Mallory No. for Audio Rating of 10 W	15 W	50 W
4	RL4	L4	....
4	....	L4A	....
8	....	L8	....
8	RL8	L8A	MGL8
15	....	L15	....
16	RL16	L16A	MGL16
50	....	L50	....
100	....	L100	....
250	....	L250	....
500	....	L500	....
600	....	L600	....
1000	....	L1000	....
2000	....	L2000	....
3000	....	L3000	....
4000	....	L4000	....

L PAD NET PRICES

With nut, washer, knob and dial.

Type	Bushing	Shaft (FMS)	Net Each
RL	⅜"-32 x 1"	¼" x 1½"	$3.00
L	⅜"-32 x ⅜"	¼" x 2"	3.11
L-A	⅜"-32 x 1"	¼" x 1½"	3.27
MGL	⅜"-32 x 1"	¼" x 1½"	4.85

LL PAD ATTENUATORS

Two L pads in tandem for stereo level control. Bushing ⅜"-32 x 1". Shaft ¼" dia. x 1½" lg. With nuts, washers and deluxe "Level" dial supplied.

Mallory No.	Imped., Ohms	Audio Watts	Net Each
LL4	4	15	$6.76
LL8	8	15	6.76
LL16	16	15	6.76
LL50	50	15	6.76
MGLL8	8	50	9.70
MGLL16	16	50	9.70

STEREO BALANCE ATTENUATOR

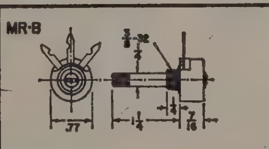
Back-to-back tandem L pads for true stereo balancing. Rated 15 watts, audio. Comes with nuts, washers and "Balance" dial. Bushing ⅜"-32 x 1". Shaft ¼" dia. x 1½" lg.

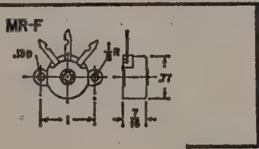
Mallory No. BAL8 (8 ohms)—
Net Each. **$6.57**

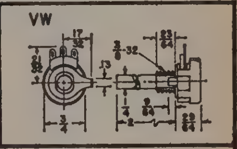
THEATRE SPEAKER CONTROLS

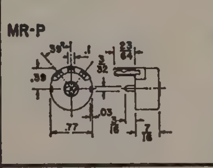
Engineered for outdoor movie speakers. Rated 8 watts, audio. Bushing ⅜"-32 x ⅜". Shaft ¼" dia. x ¾" lg. With nut.

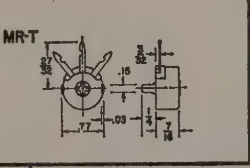
Mallory No.	Description	Net Each
TSA10	4-ohm L pad	$1.80
TSA35	35-ohm pot	1.80

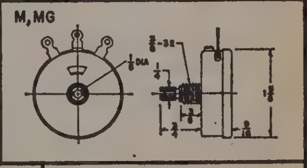


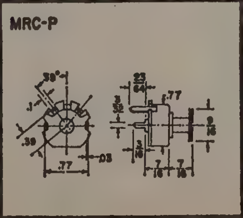


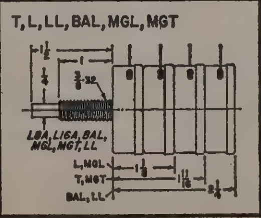


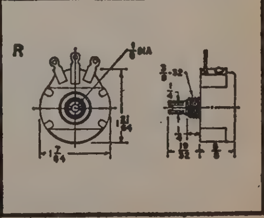








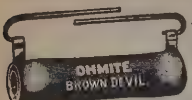




CURRENT PRICES WILL APPLY ON ALL LINES

OHMITE® Fixed Resistors

BROWN DEVIL® FIXED RESISTORS—TYPE 200



Wire-wound, vitreous enameled resistors, durable and rugged. **Resistance Tolerance:** For values 1 ohm and higher, ±5%; for 0.5 ohm, ±10%. Tinned leads 1½" lg.; 3 and 5¼ W, 20 AWG; 8, 12 and 20 W, 18 AWG.

3-Watt Size				5¼-Watt Size			
Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1.0	2712	150	2764	1.0	2822	150	2874
1.1	2713	160	2765	1.1	2823	160	2875
1.2	2714	180	2766	1.2	2824	180	2876
1.3	2715	200	2767	1.3	2825	200	2877
1.5	2716	220	2768	1.5	2826	220	2878
1.6	2717	240	2769	1.6	2827	240	2879
1.8	2718	270	2770	1.8	2828	270	2880
2.0	2719	300	2771	2.0	2829	300	2881
2.2	2720	330	2772	2.2	2830	330	2882
2.4	2721	360	2773	2.4	2831	360	2883
2.7	2722	390	2774	2.7	2832	390	2884
3.0	2723	430	2775	3.0	2833	430	2885
3.3	2724	470	2776	3.3	2834	470	2886
3.6	2725	510	2777	3.6	2835	510	2887
3.9	2726	560	2778	3.9	2836	560	2888
4.3	2727	620	2779	4.3	2837	620	2889
4.7	2728	680	2780	4.7	2838	680	2890
5.1	2729	750	2781	5.1	2839	750	2891
5.6	2730	820	2782	5.6	2840	820	2892
6.2	2731	910	2783	6.2	2841	910	2893
6.8	2732	1000	2784	6.8	2842	1000	2894
7.5	2733	1100	2785	7.5	2843	1100	2895
8.2	2734	1200	2786	8.2	2844	1200	2896
9.1	2735	1300	2787	9.1	2845	1300	2897
10	2736	1500	2788	10	2846	1500	2898
11	2737	1600	2789	11	2847	1600	2899
12	2738	1800	2790	12	2848	1800	2900
13	2739	2000	2791	13	2849	2000	2901
15	2740	2200	2792	15	2850	2200	2902
16	2741	2400	2793	16	2851	2400	2903
18	2742	2700	2794	18	2852	2700	2904
20	2743	3000	2795	20	2853	3000	2905
22	2744	3300	2796	22	2854	3300	2906
24	2745	3600	2797	24	2855	3600	2907
27	2746	3900	2798	27	2856	3900	2908
30	2747	4300	2799	30	2857	4300	2909
33	2748	4700	2800	33	2858	4700	2910
36	2749	5100	2801	36	2859	5100	2911
39	2750	5600	2802	39	2860	5600	2912
43	2751	6200	2803	43	2861	6200	2913
47	2752	6800	2804	47	2862	6800	2914
51	2753	7500	2805	51	2863	7500	2915
56	2754	8200	2806	56	2864	8200	2916
62	2755	9100	2807	62	2865	9100	2917
68	2756	10K	2808	68	2866	10K	2918
75	2757			75	2867	11K	2919
82	2758			82	2868	12K	2920
91	2759			91	2869	13K	2921
100	2760			100	2870	15K	2922
110	2761			110	2871	16K	2923
120	2762			120	2872	18K	2924
130	2763			130	2873	20K	2925

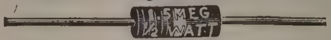
	Stock Number				Stock Number		
Ohms	8 Watts	12 Watts	20 Watts	Ohms	8 Watts	12 Watts	20 Watts
0.5	......	1700A	1800A	2250	1539	1743	1828
1.0	1500	1701	1802A	2500	1540	1744	1830
1.5	1500B	1704	......	2750	......	......	1831
2.0	1501	1705	1802B	3000	1541	1745	1832
3.0	1502	1706	1802C	3500	1542	1746	1833
4.0	1503	1707	1802D	4000	1543	1747	1834
5.0	1504	1708	1803	4500	1544	1748	1835
7.5	1505	1709	......	5000	1545	1749	1836
10	1506	1710	1804	6000	1546	1750	1837
12	1507	1711	......	7000	1547	1751	1838
15	1508	1712	......	7500	1548	1752	1839
20	1509	1713	......	8000	1549	1753	1840
25	1510	1714	1805	8500	......	1754	......
30	1511	1715	......	9000	1550	1754A	1840A
35	1512	1716	......	10K	1551	1755	1841
40	1513	1717	......	11K	......	1756	......
50	1514	1718	1806	12K	......	1757	......
75	1515	1719	1807	12.5K	1552	1758	1842
100	1516	1720	1808	13.5K	......	1759	......
125	1517	1721	......	15K	1553	1761	1843
150	1518	1722	1809	16K	......	1762	......
200	1519	1723	1810	17.5K	1554	1763	......
225	1520	1724	......	18K	......	1764	......
250	1521	1725	1811	20K	1555	1765	1844
300	1522	1726	1812	22.5K	1556	1766	......
350	1523	1727	1813	25K	1557	1767	1845
400	1524	1728	1814	30K	......	1768	1846
450	1525	1729	......	35K	......	1769	1847
500	1526	1730	1815	40K	......	1770	1848
600	1527	1731	......	45K	......	1771	1849
650	......	......	1816	50K	......	1772	1850
700	1528	1732	1817	55K	......	......	1851
750	1529	1733	1818	60K	......	......	1852
800	1530	1734	1819	65K	......	......	1853
900	1531	1735	1820A	70K	......	......	1854
1000	1532	1736	1821	75K	......	......	1855
1100	1533	1737	......	80K	......	......	1856
1200	1534	1738	1822	85K	......	......	1857
1250	1535	1739	1823	90K	......	......	1858
1500	1536	1740	1824	95K	......	......	1859
1750	1537	1741	1825	100K	......	......	1860
2000	1538	1742	1827				

3-Watt Brown Devils

Values, Ohms*	Net Each, Lots of 1-9	10-49	50-99	100-249	250-499	500 Up
1.0–9.1	$0.84	$0.71	$0.59	$0.50	$0.42	$0.38
10–1K	.72	.61	.50	.43	.36	.32
1.1K–4.7K	.81	.69	.57	.49	.41	.36
5.1K–10K	.84	.71	.59	.50	.42	.38
5¼-Watt Brown Devils						
1.0–9.1	$0.86	$0.73	$0.60	$0.52	$0.43	$0.39
10–1K	.75	.64	.53	.45	.38	.34
1.1K–4.7K	.84	.71	.59	.50	.42	.38
5.1K–10K	.86	.73	.60	.52	.43	.39
11K–20K	.95	.81	.67	.57	.48	.43
8-Watt Brown Devils						
1.0–7.5	$0.92	$0.78	$0.64	$0.55	$0.46	$0.41
10–1K	.81	.69	.57	.49	.41	.36
1.1K–5K	.86	.73	.60	.52	.43	.39
6K–10K	.97	.83	.68	.58	.49	.44
12.5K–20K	1.20	1.02	.84	.72	.60	.54
22.5K, 25K	1.25	1.06	.88	.75	.63	.56
12-Watt Brown Devils						
0.5–7.5	$1.20	$1.02	$0.84	$0.72	$0.60	$0.54
10–1K	.84	.71	.59	.50	.42	.38
1.1K–5K	.89	.76	.62	.53	.45	.40
6K–10K	1.20	1.02	.84	.72	.60	.54
11K–20K	1.20	1.02	.84	.72	.60	.54
22.5K–40K	1.25	1.06	.88	.75	.63	.56
45K, 50K	1.36	1.16	.95	.82	.68	.61
20-Watt Brown Devils						
0.5–5.0	$1.36	$1.16	$0.95	$0.82	$0.68	$0.61
10–1K	.97	.83	.68	.58	.49	.44
1.2K–5K	1.00	.85	.70	.60	.50	.45
6K–20K	1.31	1.11	.92	.79	.66	.59
25K–40K	1.42	1.21	.99	.85	.71	.64
45K–60K	1.64	1.39	1.15	.98	.82	.74
65K–80K	1.95	1.66	1.37	1.17	.98	.88
85K–100K	2.25	1.91	1.58	1.35	1.13	1.01

*Restricted to values shown in table of stock numbers. Prices are for each unit ordered, **not** assortments.

LITTLE DEVIL® MOLDED COMPOSITION RESISTORS



Can be used at full wattage ratings at 70° C (158° F) ambient temp.

The ¼, ½, 1 and 2 W sizes conform respectively to styles RC07, RC20, RC32 and RC42 of MIL-R-11. Also available per MIL-R-39008 for ¼, ½ and 1 W, ±5% tolerance. Max. continuous rms voltage drop 150 V for ⅛ watt; 250 volts for ¼-watt; 350 V for ½-watt; 500 V for 1-watt; 750 V for 2-watt units. **Size:** .145" l. x .062" dia., ⅛ watt; ¼" l. x .090" dia., ¼ watt; ⅜" l. x 9/64" dia., ½ watt; 9/16" l. x 7/32" dia., 1 watt; 11/16" l. x 5/16" dia., 2 watts.

STOCK RESISTORS

All values available ±5% tol.; **bold types are ±10% EIA.**

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs	Megs	Megs
1.0	**6.8**	**47**	**330**	**2200**	**15000**	**0.1**	**0.68**	**4.7**
1.1	7.5	51	360	2400	16000	0.11	0.75	5.1
1.2	**8.2**	**56**	**390**	**2700**	**18000**	**0.12**	**0.82**	**5.6**
1.3	9.1	62	430	3000	20000	0.13	0.91	6.2
1.5	**10**	**68**	**470**	**3300**	**22000**	**0.15**	**1.0**	**6.8**
1.6	11	75	510	3600	24000	0.16	1.1	7.5
1.8	**12**	**82**	**560**	**3900**	**27000**	**0.18**	**1.2**	**8.2**
2.0	13	91	620	4300	30000	0.20	1.3	9.1
2.2	**15**	**100**	**680**	**4700**	**33000**	**0.22**	**1.5**	**10.0**
2.4	16	110	750	5100	36000	0.24	1.6	11.0
2.7	**18**	**120**	**820**	**5600**	**39000**	**0.27**	**1.8**	**12.0**
3.0	20	130	910	6200	43000	0.30	2.0	13.0
3.3	**22**	**150**	**1000**	**6800**	**47000**	**0.33**	**2.2**	**15.0**
3.6	24	160	1100	7500	51000	0.36	2.4	16.0
3.9	**27**	**180**	**1200**	**8200**	**56000**	**0.39**	**2.7**	**18.0**
4.3	30	200	1300	9100	62000	0.43	3.0	20.0
4.7	**33**	**220**	**1500**	**10000**	**68000**	**0.47**	**3.3**	**22.0**
5.1	36	240	1600	11000	75000	0.51	3.6	
5.6	**39**	**270**	**1800**	**12000**	**82000**	**0.56**	**3.9**	
6.2	43	300	2000	13000	91000	0.62	4.3	

SPECIFICATIONS AND PRICING

Prices apply to a quantity of one resistance value, one wattage, one tolerance. "Tally Tape"® packaging—each perforated segment holds 5 resistors.

TOLERANCE ±5%

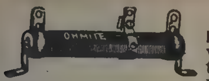
W	Resistance Range, Ohms	Net Each, Lots of 1-9	10-99	100-249	250-499	500-999	1000-4999	5000 Up
⅛	2.7–9.1	$0.63	$0.45	$0.211	$0.20	$0.192	$0.187	$0.18
	10–22 meg	.59	.41	.188	.179	.172	.167	.161
¼	2.7–9.1	.56	.28	.184	.14	.12	.088	.08
	10–1 meg	.26	.13	.085	.065	.056	.041	.037
	1.1–22 meg	.51	.25	.167	.127	.109	.080	.073
½	1.0–2.4	.60	.30	.195	.149	.127	.093	.085
	2.7–9.1	.54	.27	.177	.134	.116	.085	.077
	10–22 meg	.31	.15	.101	.077	.066	.048	.044
1	2.7–22 meg	.46	.23	.15	.113	.097	.071	.065
2	10–22 meg	.81	.41	.27	.203	.174	.127	.116

TOLERANCE ±10%

W	Resistance Range, Ohms	1-9	10-99	100-249	250-499	500-999	1000-4999	5000 Up
⅛	2.7–8.2	$0.45	$0.32	$0.146	$0.137	$0.132	$0.127	$0.124
	10–22 meg	.42	.29	.132	.125	.121	.116	.113
¼	2.7–8.2	.31	.15	.101	.077	.066	.048	.044
	10–1 meg	.15	.07	.05	.038	.033	.024	.022
	1.2–22 meg	.27	.14	.08	.068	.058	.042	.039
½	1.0–2.2	.32	.16	.103	.079	.067	.049	.045
	2.7–9.1	.29	.14	.094	.072	.061	.045	.041
	10–22 meg	.14	.07	.046	.035	.03	.022	.02
1	2.7–22 meg	.25	.13	.083	.063	.054	.04	.036
2	10–22 meg	.44	.22	.144	.11	.094	.069	.063

OHMITE® Resistors

VITREOUS ENAMELED RESISTORS



Dividohm® Adjustable Type: Vitreous enameled on ceramic cores with narrow strip of the wire-turns forming a contact surface for the embossed contact of a screwdriver—adjustable lug. A patented percentage of the resistance scale is stamped on the units to make it easy to set the lug at the desired value. **Fixed Resistors:** Lug type, wire-wound on ceramic cores. Wattage ratings are for use in free air.

STOCK VALUE ORDERING NUMBERS

Ohms	Dividohm Adjustable Resistor Type 210							Fixed Resistor Type 270				
	12-Watt	25-Watt	50-Watt	75-Watt	100-Watt	175-Watt	225-Watt	25-Watt	50-Watt	100-Watt	175-Watt	225-Watt
1	1001	0360	0560 A	0769 A	0956 A	1156 A	1356 A	0200J	0400J	0600C	0700C	0900C
2	1002	0360 B	0560 B	0769 B	0956 B	1156 B	1356 B	0200K	0400K	0600D	0700D	0900D
3	1003	0361	0560 C	0769 C	0956 C	1156 C	1356 C	0200L	0400L	0600E	0700E	0900E
4			0560 D	0769 D	0956 D	1156 D	1356 D	0200N	0400N	0600F	0700F	0900F
5	1004	0362	0560	0769	0956	1156	1356	0200A	0400A	0600A	0700A	0900A
7.5	1005	0362 B										
10	1006	0363	0561	0770	0957	1157	1357	0200B	0400B	0600B	0700B	0900B
15	1007	0364		0771				0200R				
20	1008	0364 B										
25	1009	0365	0562	0772	0958	1158	1358	0200C	0400C	0601	0701	0901
50	1010	0366	0563	0773	0959	1159	1359	0200D	0400D	0602	0702	0902
75	1011	0367	0564					0200E	0400E	0603	0703	0903
100	1012	0368	0565	0774	0960	1160	1360	0200F	0400F	0604	0704	0904
125										0604B	0704B	
150	1013	0369	0566					0200G	0400 G	0605	0705	0905
200	1014	0370	0567	0774 B				0200 H	0400 H			
250	1015	0371	0568	0775	0960 B	1160 B	1360 B	0201	0401	0606	0706	0906
300	1016	0371 B	0568 B	0775 B								
350	1017											
400	1018	0371 C	0568 C	0775 C								
500	1019	0372	0569	0776	0961	1161	1361	0202	0402	0607	0707	0907
600	1020											
750	1021	0373	0570	0777				0203	0403	0608	0708	0908
800	1022	0374	0571	0777 B				0204	0404			
1000	1023	0375	0572	0778	0962	1162	1362	0205	0405	0609	0709	0909
1250	1024	0375 B	0572 B	0778 B								
1500	1025	0376	0573	0779	0962 B	1162 B	1362 B	0206	0406	0610	0710	0910
2000	1026	0377	0574	0780				0207	0407	0611	0711	0911
2250	1027	0377 B	0574 B	0780 B								
2500	1028	0378	0575	0781	0963	1163	1363	0208	0408	0612	0712	0912
3000	1029	0379	0576	0781 B				0209	0409	0613	0713	0913
3500	1030	0380	0576B	0782				0210				
4000	1031	0381	0577	0782 B				0211	0410			
4500	1032	0381 B	0577 B	0782 C								
5000	1033	0382	0578	0783	0964	1164	1364	0212	0411	0614	0714	0914
6000	1034	0383	0578 B	0783 B				0213				
7000	1035	0383 B	0578 C	0783 C								
7500	1036	0384	0579	0784				0214	0412	0615	0715	0915
8000	1037	0384 B	0580	0784 B					0413			
8500	1038											
9000	1039	0384 C	0580 B	0784 C								
10K	1040	0385	0581	0785	0965	1165	1365	0215	0414	0616	0716	0916
12K		0386	0582	0785 B				0216	0415			
15K		0387	0583	0786	0966	1166	1366	0217	0416	0617	0717	0917
20K		0388	0584	0787	0967	1167	1367	0218	0417	0618	0718	0918
25K		0389	0585	0788	0968	1168	1368	0219	0418	0619	0719	0919
30K			0586	0789	0969	1169	1369	0220		0620	0720	0920
35K				0790				0221	0419			
40K			0587	0791	0970	1170	1370	0222		0621	0721	0921
45K				0792								
50K			0588	0793	0971	1171	1371	0224	0420	0622	0722	0922
60K			0589	0794				0225		0623	0723	0923
70K								0226				
75K					0972	1172	1372		0421	0624	0724	0924
80K			0590	0795				0227				
100K			0591	0796	0973	1173	1373	0229	0422	0625	0725	0925

Fixed Resistor Type 270, 50 Watt Only

Ohms	No.	Ohms	No.	Ohms	No.	Ohms	No.	Ohms	No.
125K	0423	150K	0424	175K	0425	200K	0426	250K	0428

FIXED 12-WATT NO. 270-12•

Limited space prevents full listing. Write for details, stock values.

Values, Ohms	Net Each, Lots of					
	1-9	10-49	50-99	100-249	250-499	500 Up
.51–6.8	$1.32	$1.12	$0.92	$0.80	$0.66	$0.60
10–1K	.92	.79	.65	.56	.46	.42
1.2K–4.7K	.98	.84	.68	.59	.49	.44
5.6K–10K	1.10	.93	.78	.66	.56	.49
12K–18K	1.32	1.12	.92	.80	.66	.60
22K–39K	1.38	1.17	.97	.83	.69	.62
47K, 51K	1.50	1.28	1.05	.90	.75	.67

DIVIDOHM® ADJUSTABLE 12-WATT NO. 210-12•

1-7.5	$2.15	$1.83	$1.50	$1.29	$1.08	$0.98
10-1K	1.87	1.59	1.31	1.12	.95	.84
1.25K–5K	1.93	1.65	1.35	1.16	.98	.87
6K-10K	2.15	1.83	1.50	1.29	1.08	.98

FIXED 25-WATT NO. 270-25

Core, 2″ x 9/16″; with No. 9 brackets. Mounting centers 2¾″.

1–4	$1.52	$1.29	$1.07	$0.91	$0.76	$0.68
5–75	1.26	1.07	.88	.75	.64	.57
100–1K	1.19	1.02	.84	.71	.60	.54
1.5K–5K	1.26	1.07	.88	.75	.64	.57
6K–10K	1.52	1.29	1.07	.91	.76	.68
12K–20K	1.58	1.34	1.10	.95	.80	.70
25K–40K	1.68	1.42	1.17	1.01	.84	.75
50K, 60K	2.03	1.72	1.42	1.22	1.02	.91
70K, 80K	2.35	2.00	1.64	1.41	1.18	1.06
100K	2.68	2.28	1.88	1.61	1.34	1.14

DIVIDOHM ADJUSTABLE 25-WATT NO. 210-25

Core, 2″ x 9/16″; with No. 9 brackets. Mounting centers, 2¾″.

1-1K	$2.06	$1.75	$1.44	$1.23	$1.03	$0.93
1.25K–5K	2.15	1.83	1.50	1.29	1.08	.98
6K–10K	2.24	1.90	1.56	1.34	1.12	1.01
12K–20K	2.37	2.02	1.66	1.42	1.19	1.07
25K	2.55	2.17	1.79	1.53	1.28	1.14

•Core, 1¾″ x 5/16″; with No. 5 brackets; mtg. centers, 2 3/16″.

FIXED 50-WATT NO. 270-50

Core, 4″ x 9/16″; with No. 9 brackets. Mounting centers, 4¾″.

Values, Ohms	Net Each, Lots of			
	1-9	10-49	50-99	100 Up
1	$2.38	$2.02	$1.67	$1.43
2–5000	1.77	1.50	1.24	1.06
7500–10K	1.90	1.61	1.33	1.13
12K–20K	2.11	1.79	1.48	1.27
25K and 35K	2.38	2.02	1.67	1.43
50K	2.72	2.31	1.91	1 63
75K	3 07	2.61	2.15	1.84
100K	3.31	2.81	2.32	1.99
125K	4.01	3.41	2.80	2.40
150K	4.22	3.59	2.96	2.53
175K	4.42	3.76	3.09	2.65
200K	4.60	3.91	3.22	2.76
250K	5.03	4.27	3.52	3.02

ADJUSTABLE 50-WATT NO. 210-50

Core, brkt. and mtg. ctrs., same as above.

1	$3.31	$2.81	$2.32	$1.99
2–1000	2.63	2.24	1.84	1.58
1250–5000	2.70	2.30	1.88	1.62
6000–10K	2.72	2.31	1.91	1.63
12K–20K	2.83	2.41	1.99	1.70
25K–40K	3.21	2.73	2.25	1.93
50K and 60K	3.45	2.94	2.42	2.07
80K	3.88	3.31	2.72	2.33
100K	4.09	3.48	2.86	2.43

ADJUSTABLE 75-WATT NO. 210-75

Core, 6″ x 9/16″; with No. 9 brackets. Mounting centers, 6¾″.

1 and 2	$4.04	$3.44	$2.84	$2.43
3–5000	3.28	2.79	2.29	1.97
6000–10K	3.41	2.89	2.39	2.05
12K–20K	3.56	3.04	2.49	2.14
25K–40K	3.85	3.28	2.70	2.32
45K–60K	4.28	3.64	3.00	2.56
80K	4.70	4.00	3.29	2.82
100K	4.92	4.18	3.45	2.95

FIXED 100-WATT NO. 270-100

Core, 6½″ x ¾″; with No. 12 brackets. Mounting centers, 7⅜″.

1–3	$3.42	$2.90	$2.39	$2.05
4–1000	2.95	2.50	2.07	1.77
1500–5000	3.10	2.63	2.16	1.85
7500 and 10K	3.27	2.78	2.29	1.97
15K–25K	3.76	3.19	2.63	2.25
30K–50K	4.35	3.70	3.05	2.61
60K–75K	4.46	3.79	3.12	2.68
100K	4.62	3.93	3.23	2.78

ADJUSTABLE 100-WATT NO. 210-100

Core, brkt. and mtg. ctrs., same as above.

1–3	$4.96	$4.22	$3.48	$2.98
4–1000	4.66	3.96	3.25	2.79
1500–5000	3.88	3.30	2.72	2.34
10K	4.12	3.50	2.88	2.47
15K–25K	4.32	3.67	3.03	2.59
30K–50K	4.69	3.99	3.28	2.81
75K	5.10	4.34	3.57	3.07
100K	5.23	4.45	3.66	3.14

ADJUSTABLE TYPE 210*

Value, Ohms	175 Watt, Net Ea., Lots of				225 Watt, Net Ea., Lots of			
	1-9	10-49	50-99	100 Up	1-9	10-49	50-99	100 Up
1–2	$8.19	$6.96	$5.74	$4.91	$10.40	$8.85	$7.28	$6.24
3–10	7.79	6.62	5.45	4.68	9.50	8.08	6.64	5.70
25–50	7.23	6.15	5.06	4.34	8.29	7.05	5.81	4.97
100–250	6.28	5.35	4.40	3.77	7.09	6.03	4.96	4.25
500–1K	5.83	4.95	4.08	3.50	6.79	5.77	4.75	4.07
1.5K–5K	5.62	4.78	3.93	3.38	6.43	5.46	4.50	3.85
10K	5.53	4.71	3.87	3.32	6.53	5.55	4.57	3.91
15K, 25K	5.93	5.05	4.15	3.56	6.68	5.69	4.68	4.01
30K–50K	6.12	5.20	4.28	3.67	6.79	5.77	4.75	4.07
75K	6.18	5.25	4.33	3.71	7.14	6.07	5.00	4.28
100K	6.63	5.63	4.65	3.98	7.59	6.46	5.31	4.55

FIXED TYPE 270*

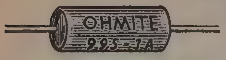
1–2	$5.62	$4.78	$3.93	$3.38	$6.94	$5.90	$4.86	$4.16
3–10	4.68	3.98	3.28	2.80	5.28	4.49	3.70	3.17
25–50	4.37	3.71	3.06	2.62	5.18	4.40	3.63	3.11
100–250	4.17	3.54	2.93	2.50	5.12	4.36	3.58	3.06
500–1K	4.12	3.50	2.88	2.47	5.02	4.26	3.51	3.02
1.5K–5K	4.07	3.46	2.85	2.44	4.87	4.14	3.41	2.91
10K	4.22	3.59	2.96	2.53	4.66	3.96	3.25	2.79
15K, 25K	4.42	3.76	3.09	2.65	4.91	4.18	3.44	2.95
30K–50K	4.62	3.93	3.23	2.77	5.28	4 49	3.70	3 17
75K	4.73	4.02	3.31	2.83	5.70	4.85	3.99	3.42
100K	4.82	4.10	3.38	2.89	5.95	5.06	4.17	3.57

*175 Watt: Core, 8½″ x 1⅛″; No. 18 brkts; mtg. ctrs., 9⅜″.
225 Watt: Core, 10½″ x 1⅛″; No. 18 brkts; mtg. ctrs., 11⅜″.

VARIOUS SIZES ARE ALSO AVAILABLE WITH ADJUSTABLE LUGS

OHMITE Series 995 Resistors

SERIES 995 MOLDED AXIAL LEAD VITREOUS ENAMELED RESISTORS



Molded wire-wound vitreous enamel resistors with 1000 VAC insulation rating meet requirements of MIL-R-26 for "insulated" resistors. Also available to MIL-R-26, Styles RW67, RW68 and RW69; resistance range and prices on request. Withstand very high temperatures, high humidity and immersion in salt solution; high overload capability. Can be mounted on component clips. **Tolerance:** ±5%. **Size:** 1.5-watt, 0.422″ lg. x 0.125″ dia.; 2¼-watt, 0.375″ lg. x 0.188″ dia.; 3¼-watt, 0.547″ lg. x 0.203″ dia.; 5-watt, 0.938″ lg. x 0.203″ dia.; 11-watt, 1.781″ lg. x 0.312″ dia. Wire leads 1½″ lg., #20 AWG except 1-watt, #24 AWG.

STYLE 995-1A 1.5-WATT AND STYLE 995-2A 2¼-WATT

Ohms	Stock Number		Ohms	Stock Number	
	1.5-Watt	2¼-Watt		1.5-Watt	2¼-Watt
1.0	4030	3860	75	4087	3918
1.1	4031	3861	82	4089	3920
1.2	4032	3862	91	4091	3922
1.3	4033	3863	100	4092	3923
1.5	4034	3864	110	4093	3924
1.6	4035	3865	120	4094	3925
1.8	4036	3866	130	4095	3926
2.0	4037	3867	150	4096	3927
2.2	4038	3868	160	4097	3928
2.4	4039	3869	180	4098	3929
2.7	4041	3871	200	4099	3930
3.0	4042	3872	220	4100	3931
3.3	4043	3873	240	4101	3932
3.6	4044	3874	250	4102	3933
3.9	4045	3875	270	4103	3934
4.0	4046	3876	300	4104	3935
4.3	4047	3877	330	4105	3936
4.7	4048	3878	350	4105A	3937
5.0	4049	3879	360	4106	3938
5.1	4050	3880	390	4107	3939
5.6	4051	3881	400	4108	3940
6.2	4053	3883	430	4109	3941
6.8	4054	3884	450	4109A	3942
7.5	4056	3886	470	4110	3943
8.2	4058	3888	500	4111	3944
9.1	4060	3890	510	4112	3945
10	4061	3891	560	4113	3946
11	4062	3892	600	4114	3947
12	4063	3893	620	4115	3948
13	4064	3894	680	4116	3949
15	4065	3895	700	4117	3950
16	4066	3896	750	4118	3951
18	4067	3897	800	4119	3952
20	4068	3898	820	4120	3953
22	4069	3899	900	4121	3954
24	4070	3900	910	4122	3955
25	4071	3901	1000	4123	3956
27	4072	3902	1100	4124	3957
30	4073	3903	1200	4125	3958
33	4074	3904	1300	4126	3959
35	4074A	3905	1400	4126A	3960
36	4075	3906	1500	4127	3961
39	4076	3907	1600	4128	3962
40	4077	3908	1800	4129	3963
43	4078	3909	2000	4130	3964
47	4079	3910	2200	4131	3965
50	4080	3911	2400	4132	3966
51	4081	3912	2500	4133	3967
56	4082	3913	2700	4134	3968
62	4084	3915	3000	4135	3969
68	4085	3916			

STYLE 995-10A 11-WATT

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1.0	4730	27	4772	470	4810	5600	4844
1.1	4731	30	4773	500	4811	6000	4845
1.2	4732	33	4774	510	4812	6200	4846
1.3	4733	35	4774A	560	4813	6800	4847
1.5	4734	36	4775	600	4814	7000	4848
1.6	4735	39	4776	620	4815	7500	4849
1.8	4736	40	4777	680	4816	8000	4850
2.0	4737	43	4778	700	4817	8200	4851
2.2	4738	47	4779	750	4818	9000	4852
2.4	4739	50	4780	800	4819	9100	4853
2.7	4741	51	4781	820	4820	10,000	4854
3.0	4742	56	4782	900	4821	11,000	4855
3.3	4743	62	4784	910	4822	12,000	4856
3.6	4744	68	4785	1000	4823	13,000	4857
3.9	4745	75	4787	1100	4824	14,000	4857B
4.0	4746	82	4789	1200	4825	15,000	4858
4.3	4747	91	4791	1300	4826	16,000	4859A
4.7	4748	100	4792	1400	4826A	17,000	4859C
5.0	4749	110	4793	1500	4827	18,000	4860
5.1	4750	120	4794	1600	4828	20,000	4861
5.6	4751	130	4795	1800	4829	22,000	4862
6.2	4753	150	4796	2000	4830	24,000	4863
6.8	4754	160	4797	2200	4831	25,000	4864
7.5	4756	180	4798	2400	4832	27,000	4865
8.2	4758	200	4799	2500	4833	30,000	4866
9.1	4760	220	4800	2700	4834	33,000	4867
10	4761	240	4801	3000	4835	35,000	4867A
11	4762	250	4802	3300	4836	36,000	4868
12	4763	270	4803	3500	4836A	39,000	4869
13	4764	300	4804	3600	4837	40,000	4870
15	4765	330	4805	3900	4838	43,000	4871
16	4766	350	4805A	4000	4839	45,000	4871A
18	4767	360	4806	4300	4840	47,000	4872
20	4768	390	4807	4500	4840A	50,000	4873
22	4769	400	4808	4700	4841	51,000	4874
24	4770	430	4809	5000	4842		
25	4771	450	4809A	5100	4843		

STYLE 995-3A 3¼-WATT AND STYLE 995-5B 5-WATT

Ohms	Stock Number		Ohms	Stock Number	
	3¼-Watt	5-Watt		3¼-Watt	5-Watt
1.0	4330	4530	330	4405	4605
1.1	4331	4531	350	4405A	4605A
1.2	4332	4532	360	4406	4606
1.3	4333	4533	390	4407	4607
1.5	4334	4534	400	4408	4608
1.6	4335	4535	430	4409	4609
1.8	4336	4536	450	4409A	4609A
2.0	4337	4537	470	4410	4610
2.2	4338	4538	500	4411	4611
2.4	4339	4539	510	4412	4612
2.7	4341	4541	560	4413	4613
3.0	4342	4542	600	4414	4614
3.3	4343	4543	620	4415	4615
3.6	4344	4544	680	4416	4616
3.9	4345	4545	700	4417	4617
4.0	4346	4546	750	4418	4618
4.3	4347	4547	800	4419	4619
4.7	4348	4548	820	4420	4620
5.0	4349	4549	900	4421	4621
5.1	4350	4550	910	4422	4622
5.6	4351	4551	1000	4423	4623
6.2	4353	4553	1100	4424	4624
6.8	4354	4554	1200	4425	4625
7.5	4356	4556	1300	4426	4626
8.2	4358	4558	1400	4426A	4626A
9.1	4360	4560	1500	4427	4627
10	4361	4561	1600	4428	4628
11	4362	4562	1800	4429	4629
12	4363	4563	2000	4430	4630
13	4364	4564	2200	4431	4631
15	4365	4565	2400	4432	4632
16	4366	4566	2500	4433	4633
18	4367	4567	2700	4434	4634
20	4368	4568	3000	4435	4635
22	4369	4569	3300	4436	4636
24	4370	4570	3500	4436A	4636A
25	4371	4571	3600	4437	4637
27	4372	4572	3900	4438	4638
30	4373	4573	4000	4439	4639
33	4374	4574	4300	4440	4640
35	4374A	4574A	4500	4440A	4640A
36	4375	4575	4700	4441	4641
39	4376	4576	5000	4442	4642
40	4377	4577	5100	4443	4643
43	4378	4578	5600	4444	4644
47	4379	4579	6000	4445	4645
50	4380	4580	6200	4446	4646
51	4381	4581	6800	4447	4647
56	4382	4582	7000	4448	4648
62	4384	4584	7500	4449	4649
68	4385	4585	8000	4450	4650
75	4387	4587	8200	4451	4651
82	4389	4589	9000	4452	4652
91	4391	4591	9100	4453	4653
100	4392	4592	10,000	4454	4654
110	4393	4593	11,000	....	4655
120	4394	4594	12,000	....	4656
130	4395	4595	13,000	....	4657
150	4396	4596	14,000	....	4657A
160	4397	4597	15,000	....	4658
180	4398	4598	16,000	....	4659
200	4399	4599	17,000	....	4659B
220	4400	4600	18,000	....	4660
240	4401	4601	20,000	....	4661
250	4402	4602	22,000	....	4662
270	4403	4603	24,000	....	4663
300	4404	4604	25,000	....	4664

PRICING

Values, Ohms*	Net Each, Lots of					
	1-9	10-49	50-99	100-249	250-499	500 Up
Style 995-1A 1.5-Watt						
1.0–9.1	$1.10	$0.93	$0.78	$0.66	$0.56	$0.49
10–1K	.98	.83	.68	.59	.49	.44
1.1K–3K	1.01	.86	.70	.61	.50	.45
Style 995-2A 2¼-Watt						
1.0–9.1	$1.03	$0.88	$0.72	$0.62	$0.52	$0.46
10–1K	.91	.77	.64	.55	.45	.41
1.1K–3K	.96	.81	.67	.58	.48	.43
Style 995-3A 3¼-Watt						
1.0–9.1	$0.93	$0.79	$0.65	$0.56	$0.47	$0.42
10–1K	.82	.70	.58	.49	.41	.37
1.1K–5K	.88	.75	.62	.53	.44	.40
5.1K–10K	.90	.77	.63	.54	.45	.41
Style 995-5B 5-Watt						
1.0–9.1	$1.00	$0.85	$0.70	$0.60	$0.50	$0.45
10–1K	.88	.75	.62	.53	.44	.40
1.1K–5K	.90	.77	.63	.54	.45	.41
5.1K–10K	1.00	.85	.70	.60	.50	.45
11K–20K	1.08	.92	.76	.65	.54	.49
22K–25K	1.26	1.07	.88	.76	.63	.57
Style 995-10A 11-Watt						
1.0–9.1	$1.20	$1.02	$0.84	$0.72	$0.60	$0.53
10–1K	1.08	.92	.76	.65	.54	.48
1.1K–5K	1.14	.97	.80	.68	.57	.50
5.1K–10K	1.26	1.07	.88	.76	.63	.57
11K–20K	1.38	1.17	.97	.83	.69	.62
22K–40K	1.45	1.23	1.02	.87	.72	.65
43K–51K	1.60	1.35	1.11	.96	.80	.71

***Restricted to those values shown in the table of stock numbers.**

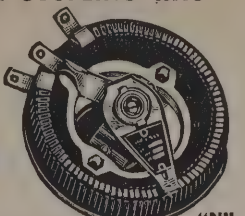
OHMITE® Rheostats, Couplings

VITREOUS ENAMELED RHEOSTATS, TANDEM COUPLING KITS

"E"

"E" Enclosed

6532 Kit


"N"

Wire-wound vitreous enameled rheostats with solid ceramic core. Pivoted, universal action. Metal-graphite contact brushes, varied to fit current and resistance. Models G, H, J, K, L, N and P are listed under UL Reexamination Service. Current ratings listed are in free air; when enclosed, currents should be reduced up to 50% depending on ventilation.

Model "E" Rheostats, 12½-Watt—Rating on metal panel. Size, ⅞" dia. x 1¹⁄₁₆" d. behind panel.

No.	Res., Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50Up
0101	1	$7.36	$6.27	$4.94	$4.05	$3.11
0102	2	7.36	6.27	4.94	4.05	3.11
0102A	2.5	7.36	6.27	4.94	4.05	3.11
0103	3	7.36	6.27	4.94	4.05	3.11
0103A	5	7.36	6.27	4.94	4.05	3.11
0104	6	7.36	6.27	4.94	4.05	3.11
0105	8	7.36	6.27	4.94	4.05	3.11
0106	10	7.36	6.27	4.94	4.05	3.11
0107	15	7.15	6.09	4.80	3.93	3.02
0108	25	7.15	6.09	4.80	3.93	3.02
0109	35	7.15	6.09	4.80	3.93	3.02
0110	50	7.15	6.09	4.80	3.93	3.02
0111	75	7.15	6.09	4.80	3.93	3.02
0112	100	7.15	6.09	4.80	3.93	3.02
0113	125	7.15	6.09	4.80	3.93	3.02
0113A	150	7.15	6.09	4.80	3.93	3.02
0114	175	7.15	6.09	4.80	3.93	3.02
0114A	200	7.15	6.09	4.80	3.93	3.02
0115	250	7.15	6.09	4.80	3.93	3.02
0116	350	7.15	6.09	4.80	3.93	3.02
0117	500	7.15	6.09	4.80	3.93	3.02
0118	750	7.15	6.09	4.80	3.93	3.02
0119	1000	7.36	6.27	4.94	4.05	3.11
0120	1500	7.36	6.27	4.94	4.05	3.11
0121	2500	7.36	6.27	4.94	4.05	3.11
0122*	3500	8.88	7.55	5.95	4.88	3.73
0123*	5000	8.88	7.55	5.95	4.88	3.73
4190*	7500	9.50	8.08	6.37	5.23	3.99
4191*	10K	9.50	8.08	6.37	5.23	3.99
4192*	12.5K	10.33	8.79	6.93	5.69	4.34
4193*	15K	10.33	8.79	6.93	5.69	4.34

Model "E" Enclosed Rheostats—Same, but in corrosion-resistant dust-proof case. Use prefix **W** (**W**0101). Mt. on ⅛" panels.

Range, Ohms	Net Each, Lots of 1-4	5-9	10-24	25 Up
1–3	$15.14	$12.97	$10.22	$8.39
5–15	14.92	12.68	10.01	8.21
25–500	14.06	11.95	9.42	7.74
750–2.5K	14.92	12.68	10.01	8.21
3.5K*, 5K*	15.36	13.05	10.29	8.44
7.5K*, 10K*	15.79	13.42	10.57	8.68
12.5K*, 15K*	17.08	14.52	11.46	9.40

Model "H" Rheostats—25-Watt—Size, 1⁹⁄₁₆" dia. x 1⅜" d. behind panel.

No.	Res., Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50Up
0140	1	$7.74	$6.59	$5.19	$4.25	$3.27
0141	2	7.74	6.59	5.19	4.25	3.27
0142	3	7.74	6.59	5.19	4.25	3.27
0143	6	7.74	6.59	5.19	4.25	3.27
0144	8	7.74	6.59	5.19	4.25	3.27
0145	10	7.74	6.59	5.19	4.25	3.27
0146	15	7.51	6.40	5.04	4.14	3.16
0147	25	7.51	6.40	5.04	4.14	3.16
0148	35	7.51	6.40	5.04	4.14	3.16
0149	50	7 51	6 40	5.04	4.14	3.16
0150	75	7.51	6.40	5.04	4.14	3.16
0151	100	7.51	6.40	5.04	4.14	3.16
0152	125	7.51	6.40	5.04	4.14	3.16
0153	175	7.51	6.40	5.04	4.14	3.16
0154	250	7.51	6.40	5.04	4.14	3.16
0155	350	7.51	6.40	5.04	4.14	3.16
0156	500	7.51	6.40	5.04	4.14	3.16
0157	750	7.51	6.40	5.04	4.14	3.16
0158	1000	7.74	6.59	5.19	4.25	3.27
0159	1500	7.74	6.59	5.19	4.25	3.27
0160	2500	7.74	6.59	5.19	4.25	3.27
0161	3500	8.72	7.41	5.84	4.80	3.66
0162	5000	8.72	7.41	5.84	4.80	3.66
4200*	7500	9.33	7.94	6.26	5.14	3.92
4201*	10K	9.33	7.94	6.26	5.14	3.92
4202*	15K	9.97	8.48	6.68	5.50	4.19
4203*	20K	10.61	9.00	7.11	5.82	4.46
4204*	25K	11.61	9.87	7.78	6.40	4.88

Model "J" Rheostats—50-Watt—Size, 2⁵⁄₁₆" dia. x 1⅜" d. behind panel.

No.	Res., Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50Up
0308	0.5	$9.09	$7.73	$6.09	$4.99	$3.82
0309	1	9.09	7.73	6.09	4.99	3.82
0310	2	9.09	7.73	6.09	4.99	3.82
0311	4	9.09	7.73	6.09	4.99	3.82
0312	6	9.09	7.73	6.09	4.99	3.82
0313	8	8.10	6.88	5.42	4.46	3.40
0314	12	8.10	6.88	5.42	4.46	3.40
0315	16	8.10	6.88	5.42	4.46	3.40
0316	22	8.10	6.88	5.42	4.46	3.40
0317	35	8.10	6.88	5.42	4.46	3.40
0318	50	8.10	6.88	5.42	4.46	3.40
0319	80	8.10	6.88	5.42	4.46	3.40
0320	125	8.10	6.88	5.42	4.46	3.40
0321	150	8.10	6.88	5.42	4.46	3.40
0322	225	8.10	6.88	5.42	4.46	3.40
0323	300	8.10	6.88	5.42	4.46	3.40
0324	500	8.10	6.88	5.42	4.46	3.40
0325	800	8.59	7.31	5.76	4.72	3.61
0326	1000	8.59	7.31	5.76	4.72	3.61
0327	1600	8.59	7.31	5.76	4.72	3.61
0328	2500	8.59	7.31	5.76	4.72	3.61
0329	3500	9.09	7.73	6.09	4.99	3.82
0330	5000	9.09	7.73	6.09	4.99	3.82
0331	8K	9.09	7.73	6.09	4.99	3.82
0332	10K	9.09	7.73	6.09	4.99	3.82
4210*	15K	11.30	9.60	7.57	6.22	4.75
4211*	20K	11.87	10.08	7.96	6.52	4.99
4212*	25K	13.12	11.15	8.81	7.22	5.52
4213*	30K	14.51	12.34	9.73	7.99	6.08
4214*	40K	16.67	14.16	11.15	9.17	6.98
4215*	50K	18.55	15.78	12.44	10.22	7.80

Model "G" Rheostats—75-Watt—Size, 2¾" dia. x 1¾" d. behind panel.

No.	Res., Ohms	Net Each, Lots of 1-4	5-9	10 Up
1100	0.5	$16.44	$13.97	$11.01
1101	1	16.44	13.97	11.01
1102	2	14.48	12.31	9.70
1103	3	14.48	12.31	9.70
1104	5	14.48	12.31	9.70
1105	7.5	14.48	12.31	9.70
1106	10	14.48	12.31	9.70
1107	16	11.75	9.99	7.88
1108	25	11.75	9.99	7.88
1109	50	11.75	9.99	7.88
1110	75	11.75	9.99	7.88
1111	100	11.75	9.99	7.88
1112	200	11.75	9.99	7.88
1113	300	11.75	9.99	7.88
1114	400	11.75	9.99	7.88
1115	500	11.75	9.99	7.88
1116	750	11.75	9.99	7.88
1117	1000	11.75	9.99	7.88
1118	1500	13.89	11.81	9.30
1119	2000	13.89	11.81	9.30
1120	2500	13.89	11.81	9.30
1121	5000	14.82	12.59	9.93
1122	7500	16.21	13.79	10.86

Model "K" Rheostats—100-Watt—Size, 3⅛" dia. x 1¾" d. behind panel.

		1-4	5-9	10-24	25 Up
0440	0.5	$16.91	$14.36	$11.32	$ 9.29
0441	1	16.91	14.36	11.32	9.29
0442	2	15.74	13.39	10.55	8.65
0443	3	15.74	13.39	10.55	8.65
0444	5	15.74	13.39	10.55	8.65
0445	7.5	15.74	13.39	10.55	8.65
0446	10	15.74	13.39	10.55	8.65
0447	16	13.20	11.21	8.84	7.26
0448	25	13.20	11.21	8.84	7.26
0449	50	13.20	11.21	8.84	7.26
0450	75	13.20	11.21	8.84	7.26
0451	100	13.20	11.21	8.84	7.26
0452	200	13.20	11.21	8.84	7.26
0453	300	13.20	11.21	8.84	7.26
0454	400	13.20	11.21	8.84	7.26
0455	500	13.20	11.21	8.84	7.26
0456	750	15.74	13.39	10.55	8.65
0457	1000	15.74	13.39	10.55	8.65
0458	1500	15.74	13.39	10.55	8.65
0459	2000	15.74	13.39	10.55	8.65
0460	2500	15.74	13.39	10.55	8.65
0461	5000	16.44	13.97	11.10	9.04
0462	7500	17.48	14.86	11.72	9.63
0463	10K	18.70	15.90	12.53	10.28

Model "L" Rheostats—150-Watt—Size. 4" dia. x 2" d. behind panel.

No.	Res., Ohms	Net Each, Lots of 1-4	5-9	10-24	25 Up
0524	0.5	$18.74	$15.93	$12.56	$10.31
0525	1	18.74	15.93	12.56	10.31
0526	2	18.74	15.93	12.56	10.31
0527	3	16.39	13.94	10.98	9.03
0528	5	16.39	13.94	10.98	9.03
0529	7.5	16.39	13.94	10.98	9.03
0530	10	16.39	13.94	10.98	9.03
0531	15	16.39	13.94	10.98	9.03
0532	25	15.21	12.95	10.19	8.38
0533	35	15.21	12.95	10.19	8.38
0534	50	15.21	12.95	10.19	8.38
0535	75	15.21	12.95	10.19	8.38
0536	100	15.21	12.95	10.19	8.38
0537	150	15.21	12.95	10.19	8.38
0538	200	15.21	12.95	10.19	8.38
0539	250	15.21	12.95	10.19	8.38
0540	350	15.21	12.95	10.19	8.38
0541	500	15.21	12.95	10.19	8.38
0542	750	17.58	13.94	10.98	9.03
0543	1250	17.58	13.94	10.98	9.03
0544	1800	18.88	14.95	11.77	9.67
0545	2250	18.88	14.95	11.77	9.67
0546	3000	18.88	14.95	11.77	9.67
0547	4500	20.94	16.04	12.64	10.38
0548	7500	23.98	17.81	13.97	11.51
0549	10K	25.65	21.81	17.19	14.11

Model "P" Rheostats—225-Watt—Size, 5" dia. x 2⅛" d. behind panel.
Net Ea., 1-2. **$25.19**; Net Ea., 3 Up. **$21.41**

Model "N" Rheostats—300-Watt—Size, 6" dia. x 2⅜" d. behind panel.
Net Ea., 1-2. **$28.94**; Net Ea., 3 Up. **$24.60**

Resis., Ohms	Model "P"	Model "N"	Resis., Ohms	Model "P"	Model "N"
1	1250	0650	150	1262	0662
2	1251	0651	200	1263	0663
3	1252	0652	300	1264	0664
4	1253	0653	400	1265	0665
5	1254	0654	700	1266	0666
7.5	1255	0655	900	1267	0667
10	1256	0656	1200	1268	0668
15	1257	0657	1500	1269	0669
25	1258	0658	1750	1270	0670
50	1259	0659	2000	1270A	0670A
75	1260	0660	2500	1271	0671
100	1261	0661			

Model "R" Rheostats, 500-Watt—Size, 8" dia. x 2⅛" d. behind panel.
Net Ea., 1–2. **$29.70**; Net Ea., 3 Up. **$25.25**

Model "T" Rheostats, 750-Watt—Size, 10" dia. x 3" d. behind panel.
Net Ea., 1–2. **$44.00**; Net Ea., 3 Up. **$39.16**

Model "U" Rheostats, 1000-Watt—Size, 12" dia. x 3" d. behind panel.
Net Ea., 1–2. **$52.00**; Net Ea., 3 Up. **$46.80**

Resis., Ohms	Model "R"	Model "T"	Model "U"
1	0849	1300	1450
1.5	0850	1301	1451
2	0851	1302	1452
2.5	0852	1303	1453
3	0853	1304	1454
4	0854	1305	1455
5	0855	1306	1456
8	0856	1307	1457
10		1308	1458
12.5	0857	1309	1459
16	0858	1310	1460
25	0859	1311	1461
40	0860		
50	0872	1312	1462
75			1463
80	0861	1313	
100		1314	1464
125	0862		
160		1315	
175	0863		1465
200		1316	
225			1466
250	0864		
300		1317	1467
325	0865		
400		1318	1468
500	0866		1469
600		1319	
750	0867	1320	1470
1000	0868		1471
1200		1321	
1500	0869		1472
1800		1322	
2000	0870	1322A	
2500	0871	1323	1473

Tandem Coupling Kits—Includes steel "U" frame, coupling with set screw, mica washer, Allen wrench and instructions.

No.	For Models	Net Each, Lots of 1-4	5-9	10-24	25 Up
6532†	H, J	$6.97	$5.92	$4.66	$3.83
6533‡	G, K, L	8.91	7.58	5.97	4.90
6591	E	4.69	3.99	3.14	2.58

*Silicone-ceramic coated; not UL listed. †Models G, K or L in rear position when panel mounted. ‡Models G, H, J, K or L in rear position.

OHMITE® Quality Controls

MODEL C MINIATURE 7.5-WATT RHEOSTATS

Ultra-miniature 7.5-watt (at 40° C ambient) power rheostat sets the standards for high performance with minimum size. Resistance element wound on ceramic ring, coated with Ohmicone® Silicone-ceramic; joined to ceramic base. Completely insulated and enclosed in corrosion-resistant case. Designed to operate at 340° C max. hot spot temperature. **Power Rating:** 7.5 watts on steel panel 4″ sq. x .04″ th. at 40° C; 5 watts in non-metallic panel or transistor socket. **Resistance Tolerance:** ±10%. **Torque:** 1–3 oz.-in. **Rotation:** 300° (±5°). **Knob:** No. 5151 recommended (not supplied). **Shaft:** ⅛″ dia. with screwdriver slot for standard (with knob) or locking bushing. **Size:** Body .515″ dia. x 9/16″ lg.; bushing ¼″-32 flatted and threaded x ¼″ lg. for panels to ⅛″ thick. Lug terminals take 22 ga. solid or 24 ga. stranded wire; fit EIA type TS–E3R100 transistor socket. Taper pin terminals for quick-connect connectors, or spade lug terminals available on special order.

NET PRICES

Resistance Range, Ohms	With Standard Shaft Net Each, Lots of 1-4	5-9	10 Up	With Locking Shaft Net Each, Lots of 1-4	5-9	10 Up
10 thru 750	$18.55	$15.77	$12.43	$20.84	$17.66	$13.92
1000 thru 2500	21.09	17.93	14.13	23.13	19.67	15.50
3500 and 5000	22.06	18.75	14.78	24.06	20.44	16.12

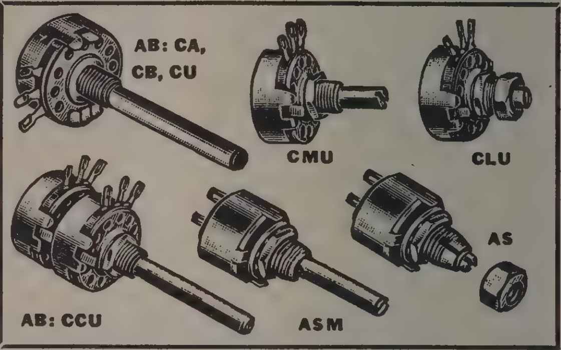
● FITS TRANSISTOR SOCKETS

STOCK VALUES

Ohms	Amps	Ohmite Model No. for Std. Shaft	Ohmite Model No. for Locking Shaft
10	.86	4908	4948
15	.71	4909	4949
25	.55	4910	4950
35	.46	4911	4951
50	.39	4912	4952
75	.32	4913	4953
100	.27	4914	4954
150	.22	4915	4955
200	.19	4916	4956
250	.17	4917	4957
350	.15	4918	4958
500	.12	4919	4959
750	.1	4920	4960
1000	.086	4921	4961
1500	.071	4922	4962
2500	.055	4923	4963
3500	.046	4924	4964
5000	.039	4925	4965

MOLDED COMPOSITION POTENTIOMETERS

Available in MIL-R-94 Styles RV4N, RV4L, RV6L, RV6N. High reliability for universal use as rheostats or potentiometers in industrial, military or other high quality electronic devices. All units provide a very large safety factor; overloads of short duration can be safely absorbed. Positive, trouble-free connections assured with terminals molded directly into control elements. Resistance and collector tracks are bridged by a molded composition brush for long life. Noise level is exceedingly low; actually decreases with use of the unit. Various elements of the unit are molded together at one time into a single, integral structure that is sealed against moisture. A metal cover is sealed to the element to electrically shield the internal parts; a synthetic resin is the sealing agent with non-mercurial fungicide to assure dust-tight, splash-proof and fungus resistant safety. Molding method permits predetermination of resistance-rotation characteristics to such a fine degree that ideal curves are followed quite closely. Thus, a single element with a smoothly graduated resistance change produces modified logarithmic tapers in AB units. **Type AB Controls:** Rated 2 watts at 70° C; 500 volts, rms, 60-Hz max. continuous across resistance elements: 1000 V rms for 1 sec., high potential test, Size, 1 5/32″ dia. Available in Style CMU, single control with ⅞″ slotted shaft, linear taper, MIL Style RV4N; Style CU single control with 2″ unslotted shaft, linear taper; Style CA clockwise modified log taper version of CU; Style CB, counter-clockwise modified log taper version of CU; Style CLU single control with locking-type shaft, linear taper MIL Style RV4L; and, Style CCU dual control with 2″ shaft, linear taper. **Type AS Miniature Controls:** Rated ½ watt at 70° C; 350 volts, rms, 60-Hz max. continuous voltage across resistance elements; 750 V rms for 1 sec., high potential test. Size, ½″ dia. Available with locking type shaft, slotted for screwdriver with collet bushing and conical nut; linear taper, MIL Style RV6L; or, ⅞″ lg. shaft for knob control, standard bushing MIL Style RV6N. **Temp. Range:** −55° C to +120° C, operating; derate linearly from full rating at +70° C to zero at +120° C, for linear taper; other tapers, multiply ratings obtained for linear taper by 0.5. **Humidity and Corrosion:** Temporary resistance changes less than 5% after exposure for 100 hours at 40° C to 95% relative humidity. Meets 200 hr. salt spray corrosion test QQ-M-151, military specification. **Rotation:** 312° ±3°, Type AB without on-off switch; 333°, ±3°, with switch. Type AS, 295°, ±5°.



TYPE AB NET PRICES

Ohmite No.	Description	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250 Up
CMU	⅞″ shaft, sgle. MIL	$3.14	$2.58	$2.48	$2.35	$1.92	$1.48
CU	2″ shaft, linear	3.14	2.58	2.48	2.35	1.92	1.48
CA	2″ shaft, CW log	3.14	2.58	2.48	2.35	1.92	1.48
CB	2″ shaft, CCW log	3.14	2.58	2.48	2.35	1.92	1.48
CLU	Locking shaft, MIL	3.86	3.16	2.97	2.76	2.17	1.68
CCU	Dual locking shaft	6.48	5.98	5.89	5.78	4.15	3.33

TYPE AS, ASM NET PRICES

Ohmite No.	Description	Net Each, Lots of 1-9	10-49	50-99	100 Up
AS	Locking shaft, min. MIL	$5.38	$4.37	$3.92	$2.80
ASM	⅞″ knob shaft, MIL	4.98	4.28	3.52	2.77

STOCK VALUES

MIL units are stamped with MIL and commercial designations.

Resistance Ohms ±10%	Type AB (1 5/32″ Dia.) Single, ⅞″ Shaft Style CMU Linear	MIL Desig. RV4NAY	Single Unit 2″ Shaft Style CU Linear	Style CA CW log	Style CB CCW log	Locking Style CLU Linear	MIL Desig. RV4LAY-	Dual Style CCU Linear	Type AS (½″ Dia.) Min. Locking Style AS Linear	MIL Desig. RV6LAY-	Min. ⅞″ Shaft Style ASM Linear	MIL Desig. RV6NAY-
50	CMU5001	SD500A	CU5001			CLU5001	SA500A					
100	CMU1011	SD101A	CU1011			CLU1011	SA101A		AS3601	SA101A	ASM6661	SD101A
150	CMU1511	SD151A	CU1511			CLU1511	SA151A					
250	CMU2511	SD251A	CU2511			CLU2511	SA251A		AS3602	SA251A	ASM6662	SD251A
350	CMU3511	SD351A	CU3511			CLU3511	SA351A					
500	CMU5011	SD501A	CU5011			CLU5011	SA501A		AS3603	SA501A	ASM6663	SD501A
750	CMU7511	SD751A	CU7511			CLU7511	SA751A					
1,000	CMU1021	SD102A	CU1021			CLU1021	SA102A		AS3604	SA102A	ASM6664	SD102A
1,500	CMU1521	SD152A	CU1521			CLU1521	SA152A					
2,500	CMU2521	SD252A	CU2521			CLU2521	SA252A		AS3605	SA252A	ASM6665	SD252A
3,500	CMU3521	SD352A	CU3521			CLU3521	SA352A					
5,000	CMU5021	SD502A	CU5021			CLU5021	SA502A		AS3606	SA502A	ASM6666	SD502A
7,500	CMU7521	SD752A	CU7521			CLU7521	SA752A					
10,000	CMU1031	SD103A	CU1031		CB1031	CLU1031	SA103A	CCU1031†	AS3607	SA103A	ASM6667	SD103A
15,000	CMU1531	SD153A	CU1531			CLU1531	SA153A					
25,000	CMU2531	SD253A	CU2531		CB2531	CLU2531	SA253A	CCU2531†	AS3608	SA253A	ASM6668	SD253A
35,000	CMU3531	SD353A	CU3531			CLU3531	SA353A					
50,000	CMU5031	SD503A	CU5031		CB5031	CLU5031	SA503A	CCU5031†	AS3609	SA503A	ASM6669	SD503A
75,000	CMU7531	SD753A	CU7531			CLU7531	SA753A					
.1 meg	CMU1041	SD104A	CU1041	CA1041		CLU1041	SA104A	CCU1041†	AS3610	SA104A	ASM6670	SD104A
.15 meg	CMU1541	SD154A	CU1541			CLU1541	SA154A					
.25 meg	CMU2541	SD254A	CU2541	CA2541		CLU2541	SA254A	CCU2541†	AS3611	SA254A	ASM6671	SD254A
.35 meg	CMU3541	SD354A	CU3541			CLU3541	SA354A					
.5 meg	CMU5041	SD504A	CU5041	CA5041		CLU5041	SA504A	CCU5041†	AS3612	SA504A	ASM6672	SD504A
.75 meg*	CMU7542	SD754B	CU7542			CLU7542	SA754B					
1.0 meg*	CMU1052	SD105B	CU1052	CA1052		CLU1052	SA105B	CCU1052†	AS3613	SA105B	ASM6673	SD105B
1.5 meg*	CMU1552	SD155B	CU1552			CLU1552	SA155B					
2.0 meg*	CMU2052	SD205B	CU2052			CLU2052	SA205B		AS3684	SA205B	ASM6674	SD205B
2.5 meg*	CMU2552	SD255B	CU2552	CA2552		CLU2552	SA255B		AS3614	SA255B	ASM6675	SD255B
3.5 meg*	CMU3552	SD355B	CU3552			CLU3552	SA355B					
5.0 meg*	CMU5052	SD505B	CU5052			CLU5052	SA505B		AS3615	SA505B	ASM6676	SD505B

*±20% tolerance. †Resistance shown is for each unit.

SPRAGUE BLUE JACKET® AXIAL LEAD, POWER WIRE-WOUND RESISTORS

Axial design provides secure, vibration-proof mounting. Satisfies MIL specification performance requirements with 35% to 50% size reduction. Crazeproof, humidity-proof, corrosion-proof enamel coating prevents failure from electrolysis. Ceramic winding core and coating enamel withstand rapid thermal changes. Hot spot rating: 300° C rise above 40° C ambient temperature. Size, 1/8″ dia. x 3/8″ lg., Type 239E; 3/16″ dia. x 3/8″ lg., Type 240E; 13/64″ dia. x 17/32″ lg., Type 242E; 13/64″ dia. x 15/16″ lg., Type 243E; 5/16″ dia. x 1 1/8″ lg., Type 244E; 5/16″ dia. x 1 3/4″ lg., Type 247E. **Standard Tolerance:** ± 5%.

TYPE 239E, 1-WATT
TYPE 240E, 2-WATT

Resistance Ohms	1-Watt 239E-	2-Watt 240E-
1	1R05	1R05
1.2	1R25	....
1.5	1R55	1R55
1.8	1R85	....
2	2R05	2R05
2.2	2R25	....
2.7	2R75	....
3	3R05	3R05
3.3	3R35	....
3.9	3R95	....
4	4R05	4R05
4.7	4R75	....
5	5R05	5R05
5.6	5R65	....
6.8	6R85	....
7.5	7R55	7R55
8.2	8R25	....
10	1005	1005
12	1205	1205
15	1505	1505
18	1805	1805
20	2005	2005
22	2205	2205
25	2505	2505
27	2705	2705
30	3005	3005
33	3305	3305
39	3905	3905
40	4005	4005
47	4705	4705
50	5005	5005
56	5605	....
68	6805	6805
75	7505	7505
82	8205	8205
100	1015	1015
120	1215	1215
150	1515	1515
180	1815	1815
200	2015	2015
220	2215	2215
250	2515	2515
270	2715	2715
300	3015	3015
330	3315	3315
390	3915	3915
400	4015	4015
470	4715	4715
500	5015	5015
560	5615	5615
600	6015	....
700	7015	7015
800	8015	8015
820	8215	8215
900	9015	9015
1000	1025	1025
1200	1225	1225
1400	1425	1425
1500	1525	1525
1800	....	1825
2000	2025	2025
2200	2225	2225
2500	2525	2525
2700	....	2725
3000	....	3025
3300	....	....
3500	....	3525
3900	....	....

TYPE 242E, 3-WATT
TYPE 243E, 5-WATT

Resistance Ohms	3-Watt 242E-	5-Watt 243E-
1	1R05	1R05
1.5	1R55	1R55
2	2R05	2R05
3	3R05	3R05
4	4R05	4R05
5	5R05	5R05
7.5	7R55	7R55
10	1005	1005
12	1205	1205
15	1505	1505
18	1805	....
20	2005	2005
22	2205	....
25	2505	2505
27	2705	....
30	3005	3005
33	3305	....
35	....	3505
39	3905	....
40	4005	4005
47	4705	....
50	5005	5005
56	5605	....
68	6805	....
75	7505	7505
82	8205	....
100	1015	1015
120	1215	1215
150	1515	1515
180	1815	....
200	2015	2015
220	2215	2215
270	2715	....
300	3015	3015
330	3315	....
350	....	3515
390	3915	....
400	4015	4015
470	4715	....
500	5015	5015
560	5615	....
600	6015	6015
680	6815	....
700	7015	7015
750	....	7515
800	8015	8015
820	8215	....
900	9015	9015
1000	1025	1025
1100	1125	1125
1200	1225	1225
1400	1425	1425
1500	1525	1525
1800	1825	1825
2000	2025	2025
2200	2225	2225
2500	2525	2525
2700	2725	....
3000	3025	3025
3300	3325	....
3500	....	3525
3900	3925	....
4000	4025	4025
4500	....	4525
4700	4725	....
5000	5025	5025
5600	5625	....
6000	6025	6025
6800	6825	....
7000	....	7025
7500	7525	7525
8000	8025	8025
8200	8225	....
9000	9025	9025
10,000	1035	1035
12,000	....	1235
14,000	....	1435
15,000	....	1535
18,000	....	1835
25,000	....	2535

TYPE 244E, 7-WATT
TYPE 247E, 10-WATT

Resistance Ohms	7-Watt 244E-	10-Watt 247E-
1	1R05	1R05
1.5	1R55	1R55
2	....	2R05
3	....	3R05
4	4R05	4R05
5	....	5R05
7.5	....	7R55
10	....	....
12	1205	1205
15	....	1505
20	....	2005
25	2505	2505
30	3005	3005
35	3505	3505
40	4005	4005
50	....	5005
75	....	7505
100	....	1015
120	1215	1215
150	....	1515
200	2015	2015
220	2215	2215
250	2515	2515
300	....	3015
350	3515	3515
400	4015	4015
500	5015	5015
600	....	6015
700	7015	7015
750	7515	7515
800	8015	8015
900	9015	9015
1000	1025	1025
1100	1125	1125
1200	1225	1225
1400	....	1425
1500	1525	1525
1800	....	1825
2000	2025	2025
2200	2225	2225
2500	....	2525
3000	3025	3025
3300	3325	3325
3500	3525	3525
3900	3925	3925
4000	....	4025
4200	4225	....
4500	4525	4525
5000	....	5025
6000	6025	6025
7000	7025	7025
7500	7525	7525
8000	8025	8025
9000	9025	....
10,000	....	1035
11,000	1135	1135
12,000	1235	1235
14,000	....	....
15,000	....	1535
16,000	1635	1635
17,000	1735	....
18,000	1835	1835
20,000	....	2035
22,000	2235	2235
25,000	....	2535
30,000	....	3035
35,000	3535	....
40,000	4035	4035
45,000	....	4535
50,000	....	5035

INDUSTRIAL NET PRICES

Sprague Type	Values, Ohms	Std. (Sect.) Pkgs.*	Net Each, Lots of* 1-9	10-49	50-99	100-249	250-499	500-Up
239E 1-Watt	1–8.2	50 (10)	$0.97	$0.82	$0.68	$0.58	$0.49	$0.44
	10–1000		.85	.72	.60	.51	.43	.38
	1200–1500		.85	.72	.60	.51	.43	.38
	2000–2500		.91	.77	.64	.55	.46	.41
240E 2-Watt	1–7.5	50 (10)	.74	.63	.52	.44	.37	.33
	10–1000		.65	.55	.46	.39	.33	.29
	1200–3900		.68	.58	.48	.41	.34	.31
242E 3-Watt	1–7.5	25 (5)	.74	.63	.52	.44	.37	.33
	10–1000		.62	.53	.43	.37	.31	.28
	1100–5000		.68	.58	.48	.41	.34	.31
	5600–10K		.77	.65	.54	.46	.39	.35
243E 5-Watt	1–7.5	25 (5)	.77	.65	.54	.46	.39	.35
	10–1000		.65	.55	.46	.39	.33	.29
	1100–5K		.71	.60	.50	.43	.36	.32
	6K–10K		.74	.63	.52	.44	.37	.33
	12K–25K		.85	.72	.60	.51	.43	.38

Sprague Type	Values, Ohms	Std. (Sect.) Pkgs.*	Net Each, Lots of* 1-9	10-49	50-99	100-249	250-499	500-Up
44E 7-Watt	1–7.5	20 (5)	$0.77	$0.65	$0.54	$0.46	$0.39	$0.35
	10–1000		.65	.55	.46	.39	.33	.29
	1100–5K		.71	.60	.50	.43	.36	.32
	6K–10K		.74	.63	.52	.44	.37	.33
	11K–20K		.85	.72	.60	.51	.43	.38
	22K–40K		.85	.72	.60	.51	.43	.38
247E 10-Watt	1–7.5	20 (5)	1.06	.90	.74	.64	.53	.48
	10–1000		.94	.80	.66	.56	.47	.42
	1100–1500		1.00	.85	.70	.60	.50	.45
	1800		1.06	.90	.74	.64	.53	.48
	2K–5K		1.00	.85	.70	.60	.50	.45
	6K–10K		1.06	.90	.74	.64	.53	.48
	11K–20K		1.15	.98	.81	.69	.58	.52
	22K–50K		1.35	1.15	.95	.81	.68	.61

*Order in **Standard** or **section** packages or **multiples.**

SPRAGUE Metanet® Precision Resistor Networks

TYPE 914C, 916C DUAL-INLINE PACKAGE RESISTOR NETWORKS

Designed for use in signal and data processing applications where repetitive resistance values and patterns are required. Come in dual-in-line packages compatible with IC's and include up to 28 metal-film resistors on single ceramic base. **Tolerance:** ±5%. **Operating Temperature Range:** −55° C to +70° C. **Temperature Coefficient:** Within 350 ppm/° C typical. **Tracking Between Resistors:** ±50 ppm/° C. **Continuous Power Dissipation:** 914C, 3 watts; 916C, 3.5 watts; both at 25° C. Derating is linear to 150° C.

PULL-UP/PULL-DOWN INTERFACE NETWORKS

Prices shown are for 14-pin networks. **For 16-pin networks,** add to prices shown: **$0.09** for 1–99; **$0.07** for 100–499; **$0.06** for 500–999; and **$0.05** for 1000–9999.

R Ohms	Fig.	Sprague No.	Net Each, Lots of		Sprague No.	Net Each, Lots of	
		14-Pin	1-99	100-499	16-Pin	1-99	100-499
200	1	914C201X2PD	$1.30	$1.04	916C201X2PD	$1.37	$1.09
500	1	914C501X2PD	1.30	1.04	916C501X2PD	1.37	1.09
1000	1	914C102X2PD	1.30	1.04	916C102X2PD	1.37	1.09
2000	1	914C202X2PD	1.30	1.04	916C202X2PD	1.37	1.09
3000	1	914C302X2PD	1.30	1.04	916C302X2PD	1.37	1.09
4000	1	914C402X2PD	1.30	1.04	916C402X2PD	1.37	1.09
5000	1	914C502X2PD	1.30	1.04	916C502X2PD	1.37	1.09
68	2	914C680X2PE	1.33	1.06	916C680X2PE	1.42	1.13
100	2	914C101X2PE	1.33	1.06	916C101X2PE	1.42	1.13
150	2	914C151X2PE	1.33	1.06	916C151X2PE	1.42	1.13
200	2	914C201X2PE	1.33	1.06	916C201X2PE	1.42	1.13
220	2	914C221X2PE	1.33	1.06	916C221X2PE	1.42	1.13
330	2	914C331X2PE	1.33	1.06	916C331X2PE	1.42	1.13
470	2	914C471X2PE	1.33	1.06	916C471X2PE	1.42	1.13
500	2	914C501X2PE	1.33	1.06	916C501X2PE	1.42	1.13
680	2	914C681X2PE	1.33	1.06	916C681X2PE	1.42	1.13
1000	2	914C102X2PE	1.33	1.06	916C102X2PE	1.42	1.13
1500	2	914C152X2PE	1.33	1.06	916C152X2PE	1.42	1.13
2000	2	914C202X2PE	1.33	1.06	916C202X2PE	1.42	1.13
2200	2	914C222X2PE	1.33	1.06	916C222X2PE	1.42	1.13
3300	2	914C332X2PE	1.33	1.06	916C332X2PE	1.42	1.13
4700	2	914C472X2PE	1.33	1.06	916C472X2PE	1.42	1.13
5600	2	914C562X2PE	1.33	1.06	916C562X2PE	1.42	1.13
6000	2	914C602X2PE	1.33	1.06	916C602X2PE	1.42	1.13
6800	2	914C682X2PE	1.33	1.06	916C682X2PE	1.42	1.13
10000	2	914C103X2PE	1.33	1.06	916C103X2PE	1.42	1.13
15000	2	914C153X2PE	1.33	1.06	916C153X2PE	1.42	1.13
22000	2	914C223X2PE	1.33	1.06	916C223X2PE	1.42	1.13

INDIVIDUAL TERMINATING NETWORKS

Prices shown are for 14-pin networks. **For 16-pin networks,** add to prices shown: **$0.07** for 1–99; **$0.05** for 100–499; **$0.04** for 500–999; and **$0.03** for 1000–9999.

50	3	914C500X2LT	$1.30	$1.04	916C500X2LT	$1.37	$1.09
100	3	914C101X2LT	1.30	1.04	916C101X2LT	1.37	1.09
200	3	914C201X2LT	1.30	1.04	916C201X2LT	1.37	1.09
500	3	914C501X2LT	1.30	1.04	916C501X2LT	1.37	1.09
50	4	914C500X2LU	1.33	1.06	916C500X2LU	1.42	1.13
68	4	914C680X2LU	1.33	1.06	916C680X2LU	1.42	1.13
100	4	914C101X2LU	1.33	1.06	916C101X2LU	1.42	1.13
200	4	914C201X2LU	1.33	1.06	916C201X2LU	1.42	1.13
220	4	914C221X2LU	1.33	1.06	916C221X2LU	1.42	1.13
330	4	914C331X2LU	1.33	1.06	916C331X2LU	1.42	1.13
470	4	914C471X2LU	1.33	1.06	916C471X2LU	1.42	1.13
500	4	914C501X2LU	1.33	1.06	916C501X2LU	1.42	1.13

MULTIPLE ISOLATED RESISTORS

Prices shown are for 14-pin package. **For 16-pin package,** add to prices shown: **$0.04** for 1–99; **$0.04** for 100–499; **$0.02** for 500–999; and **$0.02** for 1000–9999.

50	5	914C500X2SR	$1.21	$0.97	916C500X2SR	$1.21	$0.97
62	5	914C620X2SR	1.21	.97	916C620X2SR	1.21	.97
68	5	914C680X2SR	1.21	.97	916C680X2SR	1.21	.97
100	5	914C101X2SR	1.21	.97	916C101X2SR	1.21	.97
150	5	914C151X2SR	1.21	.97	916C151X2SR	1.21	.97
200	5	914C201X2SR	1.21	.97	916C201X2SR	1.21	.97
220	5	914C221X2SR	1.21	.97	916C221X2SR	1.21	.97
330	5	914C331X2SR	1.21	.97	916C331X2SR	1.21	.97
470	5	914C471X2SR	1.21	.97	916C471X2SR	1.21	.97
500	5	914C501X2SR	1.21	.97	916C501X2SR	1.21	.97
680	5	914C681X2SR	1.21	.97	916C681X2SR	1.21	.97
1000	5	914C102X2SR	1.21	.97	916C102X2SR	1.21	.97
1500	5	914C152X2SR	1.21	.97	916C152X2SR	1.21	.97
2000	5	914C202X2SR	1.21	.97	916C202X2SR	1.21	.97
2200	5	914C222X2SR	1.21	.97	916C222X2SR	1.21	.97
3300	5	914C332X2SR	1.21	.97	916C332X2SR	1.21	.97
4700	5	914C472X2SR	1.21	.97	916C472X2SR	1.21	.97
6800	5	914C682X2SR	1.21	.97	916C682X2SR	1.21	.97
10000	5	914C103X2SR	1.21	.97	916C103X2SR	1.21	.97
15000	5	914C153X2SR	1.21	.97	916C153X2SR	1.21	.97
22000	5	914C223X2SR	1.21	.97	916C223X2SR	1.21	.97

DUAL TERMINATING NETWORKS

Prices shown are for 14-pin networks. **For 16-pin networks,** add to prices shown: **$0.10** for 1–99; **$0.08** for 100–499. **$0.06** for 500–999; and **$0.05** for 1000–9999.

Ohms		Fig.	Sprague No.	Net Each, Lots of		Sprague No.	Net Each, Lots of	
R_1	R_2		14-Pin	1-99	100-499	16-Pin	1-99	100-499
50	200	6	914C400X2TR	$2.17	$1.74	916C400X2TR	$2.33	$1.86
90	660	6	914C800X2TR	2.17	1.74	916C800X2TR	2.33	1.86
220	330	6	914C131X2TR	2.17	1.74	916C131X2TR	2.33	1.86
250	375	6	914C151X2TR	2.17	1.74	916C151X2TR	2.33	1.86
330	470	6	914C191X2TR	2.17	1.74	916C191X2TR	2.33	1.86
330	390	6	914C181X2TR	2.17	1.74	916C181X2TR	2.33	1.86
390	500	6	914C221X2TR	2.17	1.74	916C221X2TR	2.33	1.86
330	680	6	914C221X2TRA	2.17	1.74	916C221X2TRA	2.33	1.86

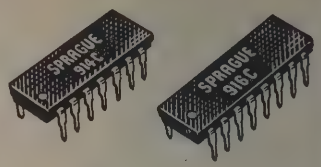


FIG. 1

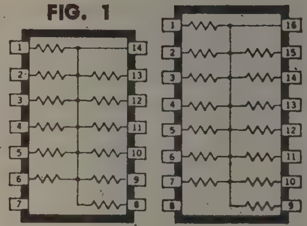


FIG. 2

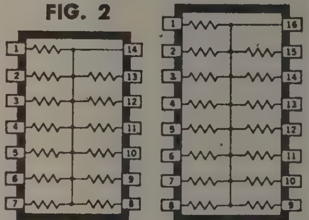


FIG. 3

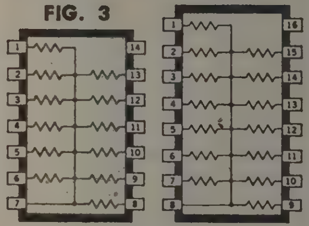


FIG. 4

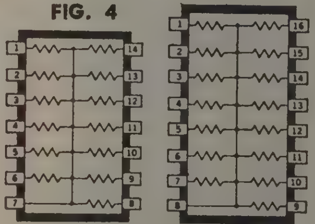


FIG. 5

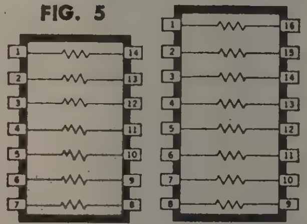
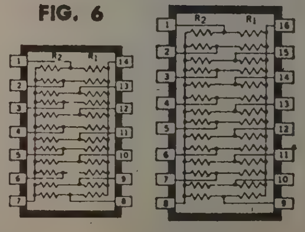


FIG. 6



STACKPOLE RESISTORS AND TRIMMERS

COMPOSITION CARBON RESISTORS

Standard Values in ¼, ½, 1 and 2 Watt Types

Extremely reliable fixed composition resistors for commercial and stringent industrial and military applications. Meet or exceed the requirements of MIL-R-11 including such essential characteristics as load life and moisture resistance. Cold molded construction assures the utmost uniformity from lot to lot. Component materials as well as finished resistors are repeatedly tested, inspected and checked in pre-production stages, during manufacture, upon completion and after storage. Standard EIA color-coding for easy identification; glossy finish cannot be scrubbed off with commercially used flux solvents. **Body Size:** ¼-watt, .250" lg. x .090" dia.; ½-watt, .375" lg. x .138" dia.; 1-watt, .562" lg. x .225" dia.; 2-watt, .688" lg. x .318" dia.

STOCK VALUES

Tolerance of ±5% available in all values; ±10% available only in values in **bold** type.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs	Megs	Megs
2.7	16	**100**	620	**3900**	24000	**0.1**	0.62	**3.9**
3.0	**18**	110	**680**	4300	**27000**	0.11	**0.68**	4.3
3.3	20	**120**	750	**4700**	30000	**0.12**	0.75	**4.7**
3.6	**22**	130	**820**	5100	**33000**	0.13	**0.82**	5.1
3.9	24	**150**	910	**5600**	36000	**0.15**	0.91	**5.6**
4.3	**27**	160	**1000**	6200	**39000**	0.16	**1.0**	6.2
4.7	30	**180**	1100	**6800**	43000	**0.18**	1.1	**6.8**
5.1	**33**	200	**1200**	7500	**47000**	0.20	**1.2**	7.5
5.6	36	**220**	1300	**8200**	51000	**0.22**	1.3	**8.2**
6.2	**39**	240	**1500**	9100	**56000**	0.24	**1.5**	9.1
6.8	43	**270**	1600	**10000**	62000	**0.27**	1.6	**10.0**
7.5	**47**	300	**1800**	11000	**68000**	0.30	**1.8**	11.0
8.2	51	**330**	2000	**12000**	75000	**0.33**	2.0	**12.0**
9.1	**56**	360	**2200**	13000	**82000**	0.36	**2.2**	13.0
10	62	**390**	2400	**15000**	91000	**0.39**	2.4	**15.0**
11	**68**	430	**2700**	16000	....	0.43	**2.7**	16.0
12	75	**470**	3000	**18000**	....	**0.47**	3.0	**18.0**
13	**82**	510	**3300**	20000	....	0.51	**3.3**	22.0
15	91	**560**	3600	**22000**	....	**0.56**	3.6	**22.0**

INDUSTRIAL NET PRICES

±5% TOLERANCE

Stackpole No.	W	Resistance Range	Net per Hundred			
			1-99	100-249	250-499	500-999
RCR-07	¼	10 ohms–1.0 meg	$15.00	$ 8.00	$ 5.00	$ 3.50
RCR-20	½	2.7 ohms–22 megs	15.00	8.00	5.00	3.50
RCR-32	1	2.7 ohms–22 megs	19.50	12.90	9.90	6.90
RCR-42	2	10 ohms–22 megs	30.00	20.00	14.30	13.50

±10% TOLERANCE

Available in standard packages only—¼ W and ½ W, 1000's; 1 W, 500's; and 2 W, 250's.

RCR-07	¼	10 ohms–1.0 meg	$ 9.50	$ 5.50	$ 3.80	$ 2.30
RCR-20	½	2.7 ohms–22 megs	9.50	5.50	3.80	2.30
RCR-32	1	2.7 ohms–22 megs	16.50	11.10	8.10	4.80
RCR-42	2	10 ohms–22 megs	20.00	14.00	9.90	9.10

STANDARD PACKAGE IS 10 PIECES

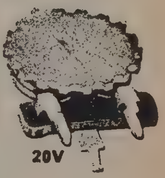
CARBON FILM RESISTORS

Available in 2% and 5% tolerances, ¼ watt only, from 10 ohms thru 1 megohm. Shipped in standard packages of 1000. **Ask for our competitive prices.**

STACKPOLE SERIES 20 MINIPOT® MINIATURE CARBON TRIMMER

Miniature size, carbon trimmer is economical and reliable. Available in vertical or horizontal mounting styles, with snap-in mounting feature. Serrated knob has screwdriver slots for adjustment from front or rear of board. **Resistance Range:** 100 ohms to 1 megohm. **Resistance Tolerance:** ±20%. **Taper:** Linear. **Angle of Rotation:** 260° ±5%. **Power Rating:** .25 watt at 55° C, derated to no load at 85° C. **Voltage Rating:** 350 VDC across end terminals.

20H



20V

Resis., Ohms	Stackpole Number Vertical Mounting	Stackpole Number Horizontal Mounting	Net Each, Lots of				
			1-24	25-49	50-99	100-499	500-1499
100	20V 101B	20H 101B	$0.39	$0.35	$0.33	$0.29	$0.24
250	20V 251B	20H 251B	.39	.35	.33	.29	.24
500	20V 501B	20H 501B	.39	.35	.33	.29	.24
1000	20V 102B	20H 102B	.39	.35	.33	.29	.24
2500	20V 252B	20H 252B	.39	.35	.33	.29	.24
5000	20V 502B	20H 502B	.39	.35	.33	.29	.24
10K	20V 103B	20H 103B	.39	.35	.33	.29	.24
25K	20V 253B	20H 253B	.39	.35	.33	.29	.24
50K	20V 503B	20H 503B	.39	.35	.33	.29	.24
100K	20V 104B	20H 104B	.39	.35	.33	.29	.24
250K	20V 254B	20H 254B	.39	.35	.33	.29	.24
500K	20V 504B	20H 504B	.39	.35	.33	.29	.24
1 meg	20V 105B	20H 105B	.39	.35	.33	.29	.24

STACKPOLE SERIES 50 SLIDE-TROL® CARBON LINEAR MOTION CONTROL

Linear motion controls can be bracket mounted or soldered directly onto a printed-circuit board. Terminals are two-level wire wrap style. Case and actuating lever are fully insulated plastic. **Resistance Range:** 500 ohms thru 100K. **Resistance Range:** ±30%. **Tapers:** Linear and audio. **Power Rating:** 500 ohms thru 5K, 1.25 watts; over 5K, 1.00 watts, derated to no load at 85° C. **Voltage Rating:** 1000 VDC across end terminals. **Actuator Travel:** 1.25". **Size:** 2.80" l. incl. brackets x .52" w. x .60" h.

Resis. Ohms	Stackpole Number Linear Taper	Stackpole Number Audio Taper	Net Each, Lots of						
			1-24	25-49	50-99	100-499	500-1499	1500-1999	2000-2499
500	50WL 501B	50WA 501B	$1.25	$1.00	$0.90	$0.75	$0.65	$0.55	$0.45
1000	50WL 102B	50WA 102B	1.25	1.00	.90	.75	.65	.55	.45
5K	50WL 502B	50WA 502B	1.25	1.00	.90	.75	.65	.55	.45
10K	50WL 103B	50WA 103B	1.25	1.00	.90	.75	.65	.55	.45
50K	50WL 503B	50WA 503B	1.25	1.00	.90	.75	.65	.55	.45
100K	50WL 104B	50WA 104B	1.25	1.00	.90	.75	.65	.55	.45

MONO-KAP™ CERAMIC CAPACITORS

MINIATURE MONOLITHIC, RADIAL LEAD, EPOXY COATED

Provide very high capacitance in extremely small size ceramic package. Reliable Ceramolithic® construction and 100% testing assures top performance and maximum quality. **Operating Temperature:** −55° C to +125° C. **Insulation Resistance:** 100K megs or 1000 megohm-microfarads, whichever is less at 25° C, rated VDCW applied. **Leads:** Tinned wire.

CN SERIES—ULTRA-STABLE

EIA Temperature Characteristic: COG (NPO). **Temp. vs Cap.:** 0±30 ppm/° C max. cap. change from +25° C reading over temp. range of +25° C to +85° C. **Dissipation Factor:** 0.15% max. at 1 kHz and +25° C. **Tolerance:** ±10% (suffix **K**); ±0.5 pF (suffix **D**).

100 VDCW

Capacitance pF or μF	CRL Number*	Net Each, Lots of		
			Pkgs. of 100	Pkgs. of 1000
		1-99	100-900	1000-Up
4.7 pF	CN10A4R7D	$1.29	$0.66	$0.458
6.8	CN10A6R8D	1.29	.66	.458
10	CN15A100K	.43	.22	.154
15	CN15A150K	.43	.22	.154
22	CN15A220K	.43	.22	.154
33	CN15A330K	.43	.22	.154
47	CN15A470K	.43	.22	.154
68	CN15A680K	.43	.22	.154
100	CN15A101K	.43	.22	.154
150	CN15A151K	.47	.23	.116
220	CN15A221K	.50	.25	.176
330	CN20A331K	.99	.51	.352
470	CN20A471K	1.04	.52	.368
680	CN20A681K	1.07	.55	.382
.001 μF	CN20A102K	1.14	.59	.406
.0015	CN20A152K	1.24	.63	.44
.022	CN30A222K	1.92	.99	.686
.0033	CN30A332K	2.02	1.03	.724
.0047	CN30A472K	2.46	1.25	.874
.0068	CN30A682K	3.16	1.62	1.13
.01	CN40A103K	5.53	2.83	1.97

CW SERIES—TEMPERATURE STABLE

EIA Temperature Characteristic: X7R. **Temp. vs Cap.:** ±15% max. cap. change from +25° C reading over temp. range of −55° C to +125° C. **Dissipation Factor:** 2.5% max. at 1 kHz and +25° C. **Tolerance:** ±10% (suffix **K**); ±20% (suffix **M**).

50 VDCW

150pF	CW15C151K	$0.43	$0.22	$0.154
180	CW15C181K	.43	.22	.154
220	CW15C221K	.43	.22	.154
270	CW15C271K	.43	.22	.154
330	CW15C331K	.43	.22	.154
390	CW15C391K	.43	.22	.154
470	CW15C471K	.43	.22	.154
560	CW15C561K	.43	.22	.154
680	CW15C681K	.43	.22	.154
820	CW15C821K	.43	.22	.154
.001 μF	CW15C102K	.43	.22	.154
.001	CW15C102M	.37	.19	.132
.0012	CW15C122K	.43	.22	.154
.0015	CW15C152K	.43	.22	.154
.0018	CW15C182K	.43	.22	.154
.0022	CW15C222K	.43	.22	.154
.0027	CW15C272K	.43	.22	.154
.0033	CW15C332K	.43	.22	.154
.0039	CW15C392K	.45	.23	.159
.0047	CW15C472K	.45	.23	.159
.0068	CW15C682K	.45	.23	.163
.0082	CW15C822K	.47	.23	.166
.01	CW15C103K	.47	.23	.166
.01	CW15C103M	.38	.20	.14
.012	CW15C123K	.53	.28	.192
.015	CW15C153K	.53	.28	.192
.018	CW20C183K	.92	.48	.329
.022	CW20C223K	.97	.49	.346
.027	CW20C273K	1.02	.52	.365
.033	CW20C333K	1.02	.52	.365
.039	CW20C393K	1.07	.55	.385
.047	CW20C473K	1.12	.57	.402
.056	CW20C563K	1.22	.63	.438
.068	CW20C683K	1.39	.71	.493
.082	CW20C823K	1.57	.80	.558
.1	CW30C104K	2.10	1.08	.749
.1	CW30C104M	1.77	.91	.633
.15	CW30C154K	2.41	1.23	.858
.22	CW30C224K	3.02	1.54	1.08

100 VDCW

150 pF	CW15A151K	$0.43	$0.22	$0.154
180	CW15A181K	.43	.22	.154
220	CW15A221K	.43	.22	.154
270	CW15A271K	.43	.22	.154
330	CW15A331K	.43	.22	.154
390	CW15A391K	.43	.22	.154
470	CW15A471K	.43	.22	.154
560	CW15A561K	.43	.22	.154
680	CW15A681K	.43	.22	.154
820	CW15A821K	.43	.22	.154

CW SERIES (CONTINUED)

100 VDCW

Capacitance pF of μF	CRL Number*	Net Each, Lots of		
			Pkgs. of 100	Pkgs. of 1000
		1-99	100-900	1000-Up
.001 μF	CW15A102K	$0.43	$0.22	$0.154
.0012	CW15A122K	.43	.22	.154
.0015	CW15A152K	.43	.22	.154
.0018	CW15A182K	.43	.22	.154
.0022	CW15A222K	.43	.22	.154
.0027	CW15A272K	.43	.23	.157
.0033	CW15A332K	.45	.23	.159
.0039	CW15A392K	.45	.23	.163
.0047	CW15A472K	.47	.23	.166
.0056	CW15A562K	.48	.25	.174
.0068	CW20A682K	.82	.42	.292
.0082	CW20A822K	.82	.42	.292
.01	CW20A103K	.82	.42	.292
.012	CW20A123K	.94	.48	.335
.015	CW20A153K	.99	.51	.35
.018	CW20A183K	1.09	.55	.389
.022	CW20A223K	1.17	.60	.416
.027	CW20A273K	1.22	.62	.433
.033	CW20A333K	1.22	.63	.436
.039	CW30A393K	1.77	.91	.633
.047	CW30A473K	1.90	.97	.678
.056	CW30A563K	2.02	1.03	.721
.068	CW30A683K	2.15	1.09	.766
.082	CW30A823K	2.32	1.19	.827
.1	CW30A104K	2.59	1.32	.922
.15	CW40A154K	4.99	2.56	1.788
.22	CW40A224K	5.70	2.91	2.032
.33	CW50A334K	8.12	4.16	2.894
.47	CW50A474K	9.82	5.02	3.501
.56	CW50A564K	10.30	5.28	3.677

CY SERIES—GENERAL PURPOSE

EIA Temperature Characteristic: Y5V (General Purpose). **Temp. vs Cap.:** +22%, −82% max. cap. change from +25° C reading over temp. range of −30° C to +85° C. **Dissipation Factor:** 2.5% max. at 1 kHz and +25° C. **Tolerance:** ±20% (suffix **M**); GMV +100–0% (suffix **P**).

50 VDCW

470 pF	CY15C471M	$0.43	$0.23	$0.157
680	CY15C681M	.43	.23	.157
.001 μF	CY15C102M	.43	.23	.157
.0015	CY15C152M	.43	.23	.157
.0022	CY15C222M	.43	.23	.157
.0033	CY15C332M	.43	.23	.157
.0047	CY15C472M	.43	.23	.157
.0068	CY15C682M	.43	.23	.157
.01	CY15C103M	.43	.23	.157
.01	CY15C103P	.35	.19	.124
.015	CY15C153M	.47	.25	.167
.022	CY15C223M	.50	.25	.176
.033	CY15C333M	.50	.25	.176
.047	CY15C473M	.53	.28	.192
.068	CY15C683M	.59	.29	.209
.1	CY20C104M	.80	.40	.309
.1	CY20C104P	.64	.32	.226
.15	CY20C154M	.97	.49	.355
.22	CY20C224M	1.07	.55	.385
.33	CY20C334M	1.22	.63	.438
.47	CY20C474M	1.34	.68	.475
1.0	CY30C105M	3.32	1.71	1.187
1.0	CY30C105P	2.66	1.36	.948
1.5	CY30C155M	4.39	2.25	1.569
2.2	CY30C225M	5.16	2.65	1.843
3.3	CY40C335M	6.60	3.37	2.354
4.7	CY40C475M	10.34	5.30	3.689

100 VDCW

.0068 μF	CY15A682M	$0.47	$0.25	$0.167
.01	CY15A103M	.47	.25	.167
.01	CY15A103P	.38	.20	.136
.015	CY15A153M	.50	.26	.18
.022	CY15A223M	.55	.28	.197
.033	CY15A333M	.55	.28	.197
.047	CY20A473M	.95	.48	.337
.068	CY20A683M	.95	.48	.337
.1	CY20A104M	.95	.48	.337
.1	CY20A104P	.75	.39	.27
.15	CY20A154M	1.10	.57	.393
.22	CY20A224M	1.32	.68	.468
.33	CY30A334M	2.79	1.43	.994
.47	CY30A474M	2.97	1.53	1.058
.68	CY30A684M	3.06	1.57	1.09
1.0	CY30A105M	3.81	1.94	1.356
1.5	CY40A155M	5.56	2.85	1.986
2.2	CY40A225M	6.40	3.28	2.282

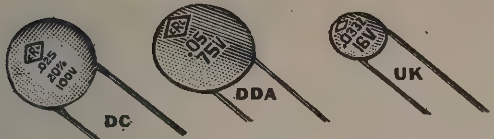
*SIZE CHART

First two numbers of CRL No. indicate size code (e.g., CN**10**= Size 10). Lead length, 1.25″ min.

Size Code	Size, Inches				
	Maximum			Lead	
	Lgth.	Width	Thk.	Spacing	AWG
10	.100	.100	.100	.100	26
15	.150	.150	.100	.100	26
20	.200	.200	.125	.100	24
30	.300	.300	.150	.200	24
40	.400	.400	.150	.200	24
50	.500	.500	.200	.400	22

CENTRALAB Ceramic Capacitors

LOW VOLTAGE CAPACITORS



Miniature ceramic capacitors designed to meet the demands for high capacity, low voltage applications in transistor circuits. Double durez insulation with high vacuum wax impregnation to withstand extreme temperature, humidity and vibration. Where size permits, capacitors are stamped with capacity and voltage.

TYPE UK ULTRA-KAP® (3 WVDC) TOL. GMV

Cap., μF	CRL No.	Net Each, Lots of			
			Pkgs. of 100	Pkgs. of 1000	Pkgs. of 1000
		1-99	100-900	1000-9000	10,000-Up
.1	UK-104	$0.33	$0.19	$0.11	$0.079
.22	UK-224	.45	.25	.143	.103
.47	UK-474	.45	.25	.143	.103
1.0	UK-105	.57	.31	.183	.131
2.2	UK-225	.99	.55	.32	.23

TYPE UK10 ULTRA-KAP (10 WVDC) TOL. +80, −20%

.05	UK10-503	$0.30	$0.17	$0.097	$0.07
.1	UK10-104	.35	.19	.112	.08
.2	UK10-204	.43	.23	.139	.099
.47	UK10-474	.75	.42	.24	.173

TYPE UK16 ULTRA-KAP (16 WVDC) TOL. ±20%

.01	UK16-103	$0.30	$0.17	$0.097	$0.07
.022	UK16-223	.30	.17	.097	.07
.033	UK16-333	.30	.17	.097	.07
.05	UK16-503	.33	.18	.107	.076
.068	UK16-683	.35	.19	.112	.08
.1	UK16-104	.40	.23	.132	.094
.15	UK16-154	.48	.26	.156	.111
.2	UK16-204	.72	.40	.232	.166
.3	UK16-304	.94	.52	.305	.218

TYPE UK20 ULTRA-KAP (20 WVDC) TOL. +80, −20%

.05	UK20-503	$0.35	$0.19	$0.112	$0.80
.1	UK20-104	.43	.23	.139	.099
.2	UK20-204	.74	.40	.239	.17

TYPE UK25 ULTRA-KAP (25 WVDC) TOL. ±20%

.01	UK25-103	$0.30	$0.17	$0.100	$.071
.022	UK25-223	.30	.17	.100	.071
.033	UK25-333	.33	.19	.107	.076
.05	UK25-503	.35	.20	.114	.082
.068	UK25-683	.42	.23	.134	.096
.1	UK25-104	.48	.26	.156	.111
.15	UK25-154	.72	.40	.232	.166
.2	UK25-204	.84	.46	.272	.196

TYPE UK50 ULTRA-KAP (50 WVDC) TOL. ±20%

.01	UK50-103	$0.32	$0.17	$0.102	$0.074
.015	UK50-153	.33	.19	.107	.076
.022	UK50-223	.42	.23	.134	.096
.033	UK50-333	.45	.25	.143	.103
.047	UK50-473	.48	.28	.159	.114
.05	UK50-503	.48	.28	.159	.114
.068	UK50-683	.77	.43	.25	.18
.1	UK50-104	.92	.51	.296	.213

TYPE CK DISC CAPACITORS (50 WVDC) TOL. +80, −20%

.005	CK-502	$0.20	$0.11	$0.063	$0.046
.01	CK-103	.22	.12	.069	.048
.02	CK-203	.30	.17	.097	.070
.025	CK-253	.32	.17	.102	.074
.03	CK-303	.33	.19	.107	.076
.05	CK-503	.43	.25	.142	.101
.1	CK-104	.99	.55	.32	.23

TYPE DDA DISC CAPACITORS (75 WVDC) TOL. +80, −30%

.05	DDA-503	$0.45	$0.25	$0.143	$0.103
.1	DDA-104	1.04	.57	.333	.239

TYPE DDM DISC CAPACITORS (150 WVDC) TOL. +60, −40%

.005	DDM-502	$0.22	$0.12	$0.069	$0.048
.01	DDM-103	.23	.13	.076	.054
.02	DDM-203	.58	.32	.19	.135

TYPE DC DISC CAPACITORS (100 WVDC) TOLERANCE ±20%

Cap., μF	CRL No.	Net Each, Lots of			
			Pkgs. of 100	Pkgs. of 1000	Pkgs. of 1000
		1-99	100-900	1000-9000	10,000-Up
.005	DC-502	$0.20	$0.11	$0.066	$0.047
.01	DC-103	.23	.12	.073	.052
.02	DC-203	.33	.18	.11	.079
.025	DC-253	.37	.20	.117	.083
.03	DC-303	.38	.22	.124	.088
.05	DC-503	.47	.26	.15	.108
.1	DC-104	1.14	.63	.365	.261

DD CERAMIC DISC CAPACITORS

Ideal for bypass and non-critical coupling in electronic equipment having operating temperatures ranging from −55° C to +85° C where high capacity is required and control stability is secondary. Rated 1000 WVDC except: DD6-103, DD-153, DD-203, DD-303, DD-403 and DD-503, which are 600 WVDC. **Tolerance:** ±10% unless otherwise noted.

Cap., pF	CRL Number	Dia., In.	Cap., pF	CRL Number	Dia., In.
3.3*	DD-3R3	.290	470	DD-471	.290
5	DD-050	.290	500	DD-501	.290
6	DD-060	.290	510	DD-511	.290
6.8	DD-6R8	.290	560	DD-561	.290
7.5	DD-7R5	.290	600	DD-601	.290
8	DD-080	.290	680	DD-681	.290
10	DD-100	.290	750	DD-751	.290
12	DD-120	.290	800†	DD-801	.290
15	DD-150	.290	820	DD-821	.290
18	DD-180	.290	910	DD-911	.290
20	DD-200	.290	1000	DD-102	.385
22	DD-220	.290	1000†	DD-102G	.290
24	DD-240	.290	1200	DD-122	.385
25	DD-250	.290	1300	DD-132	.385
27	DD-270	.290	1500	DD-152	.385
30	DD-300	.290	1500†	DD-152G	.290
33	DD-330	.290	1600	DD-162	.385
39	DD-390	.290	1800	DD-182	.385
47	DD-470	.290	2000†	DD-202	.385
50	DD-500	.290	2200†	DD-222	.385
51	DD-510	.290	2500†	DD-252	.385
56	DD-560	.290	2700†	DD-272	.385
68	DD-680	.290	3000†	DD-302	.385
75	DD-750	.290	3300†	DD-332	.590
82	DD-820	.290	3900†	DD-392	.590
91	DD-910	.290	4000†	DD-402	.590
100	DD-101	.290	4300†	DD-432	.590
120	DD-121	.290	4700‡	DD-472	.590
130	DD-131	.290	5000‡	DD-5022	.590
150	DD-151	.290	5000†	DD-502	.590
180	DD-181	.290	5600†	DD-562	.590
200	DD-201	.290	6800†	DD-682	.590
220	DD-221	.290	7500†	DD-752	.590
240	DD-241	.290	8200†	DD-822	.690
250	DD-251	.290	10,000†	DD-103	.690
270	DD-271	.290	10,000‡	DD-1032	.690
300	DD-301	.290	10,000†	DD6-103	.590
330	DD-331	.290	15,000§	DD-153	.690
350	DD-351	.290	20,000§	DD-203	.690
360	DD-361	.290	30,000§	DD-303	.718
390	DD-391	.290	40,000§	DD-403	.718
400	DD-401	.290	50,000§	DD-503	.875

DD INDUSTRIAL NET EACH PRICES

Values, pF	Net Each 1-99	Pkgs. of 100	Pkgs. of 1000	Pkgs. of 1000
		100-900	1000-9000	10,000-Up
3.3 thru 200	$0.17	$0.09	$0.056	$0.040
220 thru 910	.18	.09	.059	.042
1000	.20	.11	.063	.046
1000†	.18	.09	.059	.042
1200 thru 1300	.20	.11	.063	.046
1500	.20	.11	.063	.046
1500†	.18	.09	.059	.042
1600 thru 1800	.20	.11	.063	.046
2000 thru 3300	.20	.11	.066	.047
3900 thru 4700	.25	.14	.080	.058
5000	.30	.17	.094	.068
5000†	.25	.14	.080	.058
5600	.25	.14	.080	.058
6800 thru 8200	.30	.17	.097	.070
10,000	.45	.25	.143	.103
10,000†	.43	.23	.139	.099
15,000§	.43	.25	.142	.101
20,000§	.45	.25	.146	.105
30,000§	1.09	.60	.353	.253
40,000§	1.14	.63	.365	.261
50,000§	1.20	.66	.389	.279

Tolerance: * ±0.5 pF. †GMV. ‡ ±20%. § +80, −20%.

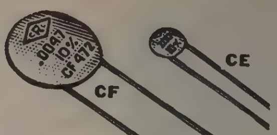
CENTRALAB Ceramic Capacitors

850, 858

Tap Type
Lead Type

853, 854, 855

829



CERAMIC TRANSMITTING CAPACITORS

Designed for use in high voltage, high frequency circuits such as in transmitters, induction heaters, electronic welders, X-ray and diathermy equipment. Power factor extremely low. Stable retrace characteristics. "Double cup" design affords long leakage paths and mechanical ruggedness. **Note:** RF load figures shown are based on 30 MHz RF load and are typical characteristics, not specific ratings.

TYPE 850 AND 858—5 AND 7.5 kV

Stud type has ⅛″ long hex studs 6-32 thread. Size: 13/16″ dia. x ⅝″. Tolerance: ±10% 850 type; ±20% 858 type.

Cap., pF	CRL No.	kV DCW	Temp. Coeff.	RF Load at 30 MHz
25	**850S-25Z**	7.5	NPO	7 amps
50	**850S-50Z**	7.5	NPO	10 amps
50	**850S-50N**	7.5	N750	8.8 amps
75	**850S-75N**	7.5	N750	10 amps
100	**850S-100N**	5	N750	9.8 amps
500	**858S-500**	5	Hi-K	....
1K	**858S-1000**	5	Hi-K	....

TYPE 853, 854, 855—5 kV

Lead type has 1½″ axial leads. Tap type has axial screw terminals tapped 2-56. Size: 853, ½″ dia. x 7/16″. 854, ⅝″ dia. x ⅜″. 855, ¼″ dia. x 11/16″; A Series: Add 1/16″ to dia., 1/64″ to lg. Tol.: ±10%.

Cap., pF	CRL No. Lead Type	CRL No. Tap Type	kV DCW	Temp. Coeff.	RF Load at 30 MHz
3	**855-3Z**	**855A-3Z**	5	NPO	1.8 amps
5	**855-5Z**	**855A-5Z**	5	NPO	1.8 amps
10	**854-10Z**	**854A-10Z**	5	NPO	1.8 amps
10	**855-10N**	**855A-10N**	5	N750	3.2 amps
20	**853-20Z**	**853A-20Z**	5	NPO	2.8 amps
20	**854-20N**	**854A-20N**	5	N750	3.2 amps
40	**853-40N**	**853A-40N**	5	N750	5.6 amps

TYPE 857—7.5 AND 15 kV

Axial screw terminals at both ends; ¼″ deep, 10-32 NF-2 thread. Size: 1 9/32″ dia. x 1 57/64″. Tolerance: ±10%.

Cap., pF	CRL No.	Temp. Coeff.	RF Load at 30 MHz	kV DCW
25	**857-25Z**	NPO	12 amps	15
50	**857-50Z**	NPO	12 amps	15
100	**857-100N**	N750	14.4 amps	15
200	**857-200N**	N750	18.2 amps	7.5

TYPE 859—15 AND 20 kV

Terminals ¼″ deep both ends, tapped 10-32. Size: 2″ dia. x 2⅞″ overall. Tolerance: ±10%.

50	**859S-50Z**	NPO	30 amps	20
100	**859S-100Z**	NPO	30 amps	20
250	**859S-250N**	N750	30 amps	20
500	**859S-500N**	N3300	30 amps	15

TRANSMITTING CAPACITOR INDUSTRIAL NET EACH PRICES

CRL Type, All Values	Pkg. of 1 1-99	Pkg. of 100 100 Up
850 w/suffix **Z**	$ 6.04	$ 4.62
850 w/suffix **N**	5.34	4.09
853	5.25	4.06
853A	5.96	4.56
854	4.96	3.79
854A	5.76	4.42
855	4.62	3.57
855A	17.55	13.48
857 w/suffix **Z**	20.05	15.45
857 w/suffix **N**	5.20	3.98
858	5.77	4.43
859	110.80	87.45

CERAMIC TRIMMER CAPACITORS

CRL Type 829—Rated 500 WVDC; 1000 VDC test. Diminutive tubular trimmer for perpendicular mounting; special locknut included. Wire leads are tinned #22 AWG. Nos. 829-3 and 829-4 are ½″ long; 829-6, ⅝″; 829-7 and 829-10, ¾″.

Range, pF	CRL No.	Pkgs. of 1	Pkgs. of 100	Pkgs. of 1000	Pkgs. of 1000
		1-99	100-900	1000-Up	10,000-Up
.5–3	829-3	$0.64	$0.35	$0.207	$0.147
1–4	829-4	.64	.35	.207	.147
1–6	829-6	.64	.35	.207	.147
1–7.5	829-7	.64	.35	.207	.147
1.5–10	829-10	.64	.35	.207	.147

TYPES CE TEMPERATURE STABLE AND CF SEMI-STABLE DISC CAPACITORS

Offer exceptional stability through an extended temperature range; for applications requiring low capacity change between −55° C and +85° C temperatures. Rated 500 WVDC. Life test, 1000 hours at 1000 VDC at +85° C. Leakage resistance, 10,000 megs, min. initial; 1000 megs, after humidity. Phenolic insulation vacuum impregnated with high temperature wax. Power factor, 2% max. at 1 kHz. Leads #22 tinned copper, 1½″ lg. minimum. Tolerance, ±10%. Only .156″ thick. **Dia.:** 150–470 pF, .290″; 500–800 pF, .390″; 1000 pF, .590″; 1200–1800 pF, .390″; 2000–3900 pF, .590″; 4700–6200 pF, .690″; 8200 and 10K pF, .920″.

Temperature Stable "K"						Temp. Semi-Stable "K"					
Cap. pF	No. CE-	Cap. pF	No. CE-	Cap. pF	No. CE-	Cap. pF	No. CF-	Cap. pF	No. CF-	Cap. pF	No. CF-
150	**151**	500	**501**	800	**801**	1200	**122**	2200	**222**	5000	**502**
220	**221**	560	**561**	1000	**102**	1500	**152**	3300	**332**	6200	**622**
330	**331**	680	**681**			1800	**182**	3900	**392**	8200	**822**
470	**471**	750	**751**			2000	**202**	4700	**472**	10 K	**103**

CE INDUSTRIAL NET EACH PRICES

Values pF	Net Each 1-99	Pkgs. of 100	Pkgs. of 1000	Pkgs. of 1000
		100-900	1000-9000	10,000-Up
150 thru 1000	$0.18	$0.11	$0.061	$0.044

CF INDUSTRIAL NET EACH PRICES

1200 thru 2200	$0.20	$0.11	$0.063	$0.046
3300	.25	.14	.080	0.58
3900 thru 5000	.30	.17	.097	.070
6200	.43	.25	.142	.101
8200 thru 10K	.50	.28	.160	.115

CENTRALAB CAPACITOR KIT

- **Wide Assortment**
- **Popular Sizes**
- **Ready To Use**

KIT-60D contains an assortment of the most widely used general purpose ceramic disc capacitors. 600 and 1000 VDCW ratings in 40 different values from 5pf to .05µf. Housed in rugged steel frame cabinet with 15 high impact plastic drawers. Capacitors functionally arranged in clearly labeled drawers by voltage and value. Shipped set up and ready to use.

Cap.	Qty.	Type	Cap.	Qty.	Type
5pf	5	**DD-050**	390pf	5	**DD-391**
10	5	**DD-100**	470	5	**DD-471**
15	5	**DD-150**	500	5	**DD-501**
20	5	**DD-200**	680	5	**DD-681**
22	5	**DD-220**	820	5	**DD-821**
25	5	**DD-250**	.001µf	15	**DD-102**
33	5	**DD-330**	.001	10	**DD-102G**
47	5	**DD-470**	.0015	5	**DD-152**
50	5	**DD-500**	.002	10	**DD-202**
68	5	**DD-680**	.0022	5	**DD-222**
100	10	**DD-101**	.003	5	**DD-302**
120	5	**DD-121**	.0047	5	**DD-472**
150	5	**DD-151**	.005	5	**DD-502**
180	5	**DD-181**	.005	10	**DD-5022**
200	10	**DD-201**	.0068	5	**DD-682**
220	5	**DD-221**	.01	5	**DD-103**
250	5	**DD-251**	.01	15	**DD-1032**
270	5	**DD-271**	.01	5	**DD6-103**
300	5	**DD-301**	.02	5	**DD-203**
330	5	**DD-331**	.05	5	**DD-503**

Centralab KIT-60D—Net Each....................**$59.95**

CENTRALAB Ceramic Capacitors

3000-6000 VOLT CAPACITORS

All these units are highly efficient for bypass-coupling in high frequency circuits under conditions of extreme humidity or temperature. Special phenolic insulation with triple, high temperature wax impregnation. Maintain high capacity and performance at 85° C. Tolerance: ±20%.

Capacity, pF	3000 Volt, DC Working		6000 Volt, DC Working	
	CRL No.	Dia.	CRL No.	Dia.
4.7	DD30-4R7	.320″	DD60-4R7	.650″
10	DD30-100	.320″	DD60-100	.650″
15	DD30-150	.320″	DD60-150	.650″
22	DD30-220	.320″	………	………
25	DD30-250	.320″	………	………
30	DD30-300	.330″	DD60-300	.650″
33	DD30-330	.330″	DD60-330	.650″
39	DD30-390	.330″	DD60-390	.650″
47	DD30-470	.330″	DD60-470	.650″
50	DD30-500	.330″	DD60-500	.650″
56	DD30-560	.330″	DD60-560	.650″
68	DD30-680	.330″	DD60-680	.660″
75	DD30-750	.330″	DD60-750	.660″
82	DD30-820	.330″	DD60-820	.660″
100	DD30-101	.330″	DD60-101	.660″
120	DD30-121	.330″	DD60-121	.660″
130	………	………	DD60-131	.660″
150	DD30-151	.330″	DD60-151	.660″
180	DD30-181	.330″	DD60-181	.660″
200	DD30-201	.330″	DD60-201	.660″
220	DD30-221	.330″	DD60-221	.660″
250	DD30-251	.330″	DD60-251	.660″
270	DD30-271	.330″	DD60-271	.660″
300	DD30-301	.330″	DD60-301	.660″
330	DD30-331	.330″	DD60-331	.660″
390	DD30-391	.330″	DD60-391	.660″
400	DD30-401	.330″	………	………
470	DD30-471	.330″	DD60-471	.660″
500	DD30-501	.330″	DD60-501	.660″
560	DD30-561	.330″	DD60-561	.660″
680	DD30-681	.330″	DD60-681	.660″
750	DD30-751	.330″	DD60-751	.660″
820	DD30-821	.430″	DD60-821	.660″
1000	DD30-102	.430″	DD60-102	.660″
1200	DD30-122	.430″	DD60-122	.660″
1500	DD30-152	.630″	DD60-152	.660″
2000	DD30-202	.630″	DD60-202	.760″
2200	DD30-222	.630″	DD60-222	.760″
2500	DD30-252	.630″	………	………
2700	DD30-272	.630″	………	………
3000	DD30-302	.630″	………	………
3300	DD30-332	.630″	………	………
3900	DD30-392	.730″	………	………
4700	DD30-472	.730″	………	………
5000	DD30-502	.800″	………	………

INDUSTRIAL NET EACH PRICES

Values, pF	Net Ea. 1-99	Pkg./100 100-900	Pkg./1000 1000-9000	Pkg./1000 10,000 Up
TYPE DD30 (3000 WVDC)				
4.7 thru 750	$0.48	$0.26	$0.156	$0.111
820 thru 1200	.52	.29	.167	.121
1500 thru 3300	.67	.37	.216	.155
3900 thru 4700	.77	.43	.247	.178
5000	.84	.46	.272	.196
TYPE DD60 (6000 WVDC)				
4.7 thru 1500	$0.84	$0.46	$0.272	$0.196
2000 thru 2200	1.17	.65	.378	.271

TYPE DD16 BUFFERS

Compact, easy to install. Long life, low cost. Able to withstand high heat, moisture, and vibration. Thickness, 11/64″. Tolerance: GMV. Rated 1600 WVDC.

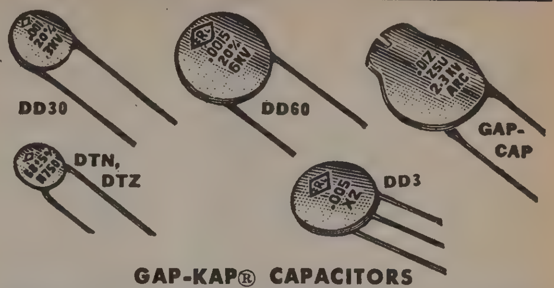
Cap., μF	CRL No.	Dia.	Net Ea. 1-99	Pkg./100 100-900	Pkg./1000 1000-9000	Pkg./1000 10,000-Up
.003	DD16-302	.605″	$0.35	$0.20	$0.114	$0.082
.004	DD16-402	.605″	.35	.20	.114	.082
.005	DD16-502	.605″	.35	.20	.114	.082
.006	DD16-602	.705″	.47	.26	.15	.109
.007	DD16-702	.705″	.47	.26	.15	.109
.0075	DD16-752	.835″	.58	.32	.19	.135
.008	DD16-802	.835″	.58	.32	.19	.135
.01	DD16-103	.835″	.58	.32	.19	.135
.015	DD16-153*	.935″	.94	.52	.305	.218

*Tolerance, −20, +80%.

TYPE DD3 DUAL CAPACITORS

Three leads—two capacitors in the space formerly needed for one. Shielded to minimize stray capacities between discs. Rated 600 VDC, working; 1200 VDC, test. **Tolerance:** GMV. **Diameter:** DD3-102, DD3-152, .391″; DD3-202, DD3-502, .593″; DD3-103, .719″.

Values, μF	CRL No.	Net Each 1-99	Pkgs. of 100 100-900	Pkgs. of 1000 1000-9000	Pkgs. of 1000 10,000-Up
2 x .001	DD3-102	$0.70	$0.39	$0.229	$0.163
2 x .0015	DD3-152	.70	.39	.229	.163
2 x .002	DD3-202	1.02	.55	.329	.236
2 x .005	DD3-502	1.02	.55	.329	.236
2 x .01	DD3-103	1.24	.69	.402	.288



GAP-KAP® CAPACITORS

Parallel capacitor-spark gap combination is useful in applications requiring by-pass of transient overvoltages. In color TV usage, a minimum capacitance Gap-Kap inserted between the grid lead and chassis ground provides a low impedance path to ground for transients of 1500 V and above. Leads are #20 tinned copper.

CRL No.	Cap.	Tolerance	Max. Dia.	Max. Ht.	Max. Thk.	Voltage	
						Working	Arc
GAP-R75	.75 pF	Maximum	.440″	.620″	.250″	1 kV	1–2 kV
GAP-102	.001 μF	±20%	.420″	.545″	.195″	1 kV	2–3 kV
GAP-103	.01 μF	±200%	.705″	.855″	.195″	1.5 kV	2–3 kV
GAP-203	.02 μF	±20%	.935″	1.060″	.216″	1 kV	2–3 kV
GAP-402	.004 μF	±10%	.960″	1.110″	.216″	3 kV	4–6 kV

INDUSTRIAL PRICES

CRL No.	Net Ea. 1-99	Pkg./100 100-900	Pkg./1000 1000-9000	Pkg./1000 10,000-Up
GAP-R75	$0.22	$0.12	$0.069	$0.048
GAP-102	.32	.18	.104	.075
GAP-103	.57	.32	.184	.133
GAP-203	1.05	.59	.34	.244
GAP-402	1.05	.59	.34	.244

TEMPERATURE COMPENSATING DISCS

Replaces mica types in all applications. High stability, small size, using TC ceramic dielectric material. Type DTZ is NPO or zero TC disc type. Type DTN is N750TC type. Tol.: ±5% except (*), ±0.5 pF.

Cap., pF	CRL No.	Dia.	Thickness	Net Ea. 1-99	Pkg./100 100-900	Pkg./1000 1000-9000	Pkg./1000 10,000-Up
TYPE DTN (N750)							
5	DTN-5*	.320″	.180″	$0.17	$0.09	$0.056	$0.040
10	DTN-10*	.290″	.156″	.17	.09	.056	.040
15	DTN-15	.290″	.156″	.17	.09	.056	.040
20	DTN-20	.290″	.156″	.17	.09	.056	.040
22	DTN-22	.290″	.156″	.17	.09	.056	.040
25	DTN-25	.290″	.156″	.17	.09	.056	.040
33	DTN-33	.290″	.156″	.17	.09	.056	.040
47	DTN-47	.290″	.156″	.17	.09	.056	.040
68	DTN-68	.390″	.156″	.20	.11	.066	.047
75	DTN-75	.390″	.156″	.20	.11	.066	.047
100	DTN-100	.390″	.156″	.20	.11	.066	.047
150	DTN-150	.590″	.156″	.27	.15	.087	.063
200	DTN-200	.590″	.156″	.33	.18	.107	.076
220	DTN-220	.590″	.156″	.33	.18	.107	.076
330	DTN-330	.690″	.156″	.50	.28	.16	.115
TYPE DTZ (NPO)							
1.5	DTZ-1R5*	.320″	.180″	$0.18	$0.09	$0.059	$0.042
2.2	DTZ-2R2*	.290″	.156″	.18	.09	.059	.042
3.3	DTZ-3R3*	.290″	.156″	.18	.09	.059	.042
4.7	DTZ-4R7*	.290″	.156″	.18	.09	.059	.042
6.8	DTZ-6R8*	.290″	.156″	.18	.09	.059	.042
10	DTZ-10	.290″	.156″	.18	.09	.059	.042
15	DTZ-15	.290″	.156″	.18	.09	.059	.042
20	DTZ-20	.290″	.156″	.18	.09	.059	.042
22	DTZ-22	.390″	.156″	.18	.09	.059	.042
25	DTZ-25	.390″	.156″	.20	.11	.063	.046
33	DTZ-33	.390″	.156″	.20	.11	.063	.046
47	DTZ-47	.590″	.156″	.25	.14	.083	.059
50	DTZ-50	.590″	.156″	.25	.14	.083	.059
68	DTZ-68	.590″	.156″	.25	.14	.083	.059
75	DTZ-75	.590″	.156″	.30	.17	.097	.070
82	DTZ-82	.590″	.156″	.30	.17	.097	.070
100	DTZ-100	.590″	.156″	.30	.17	.097	.070
120	DTZ-120	.690″	.156″	.45	.25	.149	.106
150	DTZ-150	.760″	.156″	.45	.25	.149	.106
180	DTZ-180	.760″	.156″	.50	.28	.16	.115
200	DTZ-200	.820″	.156″	.53	.29	.174	.126
220	DTZ-220	.920″	.156″	.75	.42	.243	.174
270	DTZ-270	.920″	.156″	.75	.42	.243	.174
TYPE DTX (N1500)							
100	DTX-101	.390″	.156″	$0.20	$0.11	$0.063	$0.046
120	DTX-121	.390″	.156″	.20	.11	.063	.046
150	DTX-151	.485″	.156″	.27	.14	.086	.062
180	DTX-181	.485″	.156″	.27	.14	.086	.062
200	DTX-201	.590″	.156″	.32	.18	.104	.075
220	DTX-221	.590″	.156″	.32	.18	.104	.075
330	DTX-331	.690″	.156″	.48	.28	.159	.114
390	DTX-391	.690″	.156″	.48	.28	.159	.114
470	DTX-471	.760″	.156″	.53	.29	.173	.123
500	DTX-501	.760″	.156″	.53	.29	.173	.123
560	DTX-561	.820″	.156″	.58	.32	.187	.134
620	DTX-621	.920″	.156″	.75	.42	.243	.174

CORNELL-DUBILIER Mica Capacitors

CD5—CD42 DIPPED SILVERED MICAS

Range: −55° C to +125° C. **Temp. Characteristic:** Indicated by 3rd letter in number (e.g., CD10**C**D050D): C, ±200 ppm/° C (drift, ±0.5%); E, −20 to +100 ppm/° C drift, ±sum of 0.1% and .1 pF); F, 0 to +70 ppm/° C (drift, ±sum of 0.05% and .1 pF). **Tolerance:** ±5% unless otherwise noted (many values available in ±20%, ±2%, ±1%). **Voltage:** 500 WVDC unless otherwise noted. For applications that need high stability, high Q, reliability, small size, protection against moisture and temperature extremes. **Note:** CD5, CD6 and CD7 types not available in MIL version.

TYPE CD5

CDE No.* CD5-	Cap., pF	Net Ea., Lots of		
		1-24	25-99	100-499
CC010C§	1‡	$0.286	$0.19	$0.143
CC020C§	2‡	.286	.19	.143
CC030C§	3‡	.286	.19	.143
CC040C§	4‡	.286	.19	.143
CC050C§	5‡	.286	.19	.143
CC060C§	6‡	.286	.19	.143
CC070C§	7‡	.286	.19	.143
CC080C§	8‡	.286	.19	.143
CC090C§	9‡	.286	.19	.143
CC100J§	10	.482	.321	.241
CC110J§	11	.482	.321	.241
CC120J§	12	.482	.321	.241
CC150J§	15	.482	.321	.241
CC180J§	18	.482	.321	.241
CC200J§	20	.327	.218	.164
CC220J§	22	.327	.218	.164
EC240J§	24	.327	.218	.164
EC270J§	27	.354	.235	.177
EC300J§	30	.354	.235	.177
EC330J§	33	.354	.235	.177
EC360J§	36	.377	.251	.188
EC390J§	39	.387	.259	.195
EC430J§	43	.387	.259	.195
EC470J§	47	.399	.265	.199
EC510J§	51	.399	.265	.199
EC560J§	56	.413	.276	.207
EC620J§	62	.413	.276	.207
EC680J§	68	.428	.286	.214
EC750J§	75	.432	.288	.216
EC820J§	82	.45	.301	.226
FC910J§	91	.473	.293	.236
FC101J§	100	.506	.337	.254
FA111J•	110	.528	.352	.264
FA121J•	120	.55	.367	.276
FA131J•	130	.576	.384	.288
FA151J•	150	.631	.421	.317
FA161J•	160	.669	.445	.335
FA181J•	180	.713	.475	.357
FA201J•	200	.794	.53	.398
FY221J▪	220	.85	.566	.425
FY241J▪	240	.904	.603	.453
FY251J▪	250	.985	.657	.493
FY271J▪	270	.985	.657	.493
FY301J▪	300	1.092	.729	.547
FY331J▪	330	1.174	.782	.587
FY361J▪	360	1.252	.835	.626
FY391J▪	390	1.356	.903	.678

TYPE CD6

CDE No.* CD6-	Cap., pF	Net Each, Lots of		
		1-24	25-99	100-999
CA010•	1‡	$0.295	$0.197	$0.148
CA020C•	2‡	.295	.197	.148
CA030C•	3‡	.295	.197	.148
CA040C•	4‡	.295	.197	.148
CA050C•	5‡	.295	.197	.148
CA060C•	6‡	.295	.197	.148
CA070C•	7‡	.295	.197	.148
CA080C•	8‡	.295	.197	.148
CA090C•	9‡	.295	.197	.148
CA100D•	10#	.485	.323	.243
CA110C•	11‡	.34	.227	.17
CA120J•	12	.34	.227	.17
CA150J•	15	.347	.231	.174
CA180J•	18	.347	.231	.174
CA200J•	20	.347	.231	.174
CA220J•	22	.354	.235	.178
EA240J•	24	.354	.235	.178
EA270J•	27	.354	.235	.178
EA300J•	30	.357	.239	.179
EA330J•	33	.357	.239	.179
EA360J•	36	.361	.241	.181
EA390J•	39	.361	.241	.181
EA430J•	43	.375	.249	.187
EA470J•	47	.375	.249	.187
EA500J•	50	.388	.259	.195
EA510J•	51	.388	.259	.195
EA620J•	62	.398	.265	.199
EA680J•	68	.409	.273	.205
EA750J•	75	.432	.289	.216
EA820J•	82	.457	.305	.229
EA910J•	91	.48	.321	.241
FA101J•	100	.48	.321	.241
FA111J•	110	.536	.357	.268
FA121J•	120	.536	.357	.268
CD010C	1‡	.388	.259	.195
CD020C	2‡	.388	.259	.195
CD030C	3‡	.388	.259	.195
CD040C	4‡	.388	.259	.195
CD050C	5‡	.388	.259	.195
CD060C	6‡	.388	.259	.195
CD070C	7‡	$0.388	$0.259	$0.195
CD080C	8‡	.388	.259	.195
CD090C	9‡	.388	.259	.195
CD100D	10#	.645	.43	.323
CD110C	11‡	.44	.293	.219
CD120J	12	.636	.424	.318
CD150J	15	.636	.424	.318
CD180J	18	.636	.424	.318
CD200J	20	.44	.293	.219
CD220J	22	.463	.309	.232
ED240J	24	.463	.309	.232
ED270J	27	.463	.309	.232
ED300J	30	.463	.309	.232
ED330J	33	.48	.321	.241
ED360J	36	.48	.321	.241
ED390J	39	.48	.321	.241
ED430J	43	.48	.321	.241
ED470J	47	.48	.321	.241
ED500J	50	.516	.343	.258
ED510J	51	.516	.343	.258
ED560J	56	.516	.343	.258
ED620J	62	.516	.343	.258
ED680J	68	.56	.373	.28
ED750J	75	.56	.373	.28
EC820J§	82	.635	.424	.318
EC910J§	91	.635	.424	.318
FC101J§	100	.635	.424	.318
FC111J§	110	.654	.435	.327
FC121J§	120	.654	.435	.327

TYPE CD7

CDE No.* CD7-	Cap., pF	Net Each, Lots of		
		1-24	25-99	100-999
FD131J	130	$0.661	$0.442	$0.331
FD151J	150	.661	.442	.331
FD161J	160	.681	.454	.34
FD181J	180	.691	.461	.346
FC201J§	200	.73	.486	.365
FC221J§	220	.767	.51	.384
FC241J§	240	.793	.529	.397
FC251J§	250	.824	.55	.412
FC271J§	270	.843	.562	.422
FC301J§	300	.869	.579	.434
FA331J•	330	.945	.63	.472
FA361J•	360	.993	.662	.498
FA391J•	390	.993	.662	.498
FA431J•	430	.993	.662	.498
FA471J•	470	1.039	.693	.52
FA501J•	500	1.087	.725	.544
FA511J•	510	1.087	.725	.544
FA561J•	560	1.133	.755	.567
FA621J•	620	1.183	.789	.592
FA681J•	680	1.417	.945	.708
FA751J•	750	1.511	1.008	.755
FA821J•	820	1.561	1.04	.78
FA911J•	910	1.655	1.103	.827
FA102J•	1000	1.844	1.228	.921
FA112J•	1100	1.89	1.259	.945
FA122J•	1200	1.939	1.293	.969
FA132J•	1300	2.173	1.449	1.086
FA152J•	1500	2.411	1.607	1.205

TYPE CD10

CDE No.* CD10-	Cap., pF	Net Ea., Lots of		
		1-24	25-99	100-999
CD010C†	1‡	$0.241	$0.161	$0.121
CD020C	2‡	.241	.161	.121
CD030C	3‡	.241	.161	.121
CD050C†	5‡	.241	.161	.121
CD060C†	6‡	.265	.178	.133
CD070C†	7‡	.265	.178	.133
CD080C†	8‡	.265	.178	.133
CD100J†	10	.482	.322	.241
CD120J†	12	.337	.223	.17
CD150J†	15	.337	.223	.17
CD180J†	18	.337	.223	.17
ED200J†	20	.337	.223	.17
ED220J†	22	.337	.223	.17
ED240J†	24	.344	.231	.173
ED270J†	27	.344	.231	.173
ED300J†	30	.344	.231	.173
ED330J†	33	.344	.231	.173
ED360J†	36	.35	.233	.175
ED390J†	39	.35	.233	.175
ED430J†	43	.35	.233	.175
ED470J†	47	.358	.238	.179
ED500J	50	$0.358	$0.238	$0.179
ED510J†	51	.358	.238	.179
ED560J†	56	.374	.25	.186
ED620J†	62	.374	.25	.186
ED680J†	68	.378	.253	.191
ED750J†	75	.378	.253	.191
ED820J†	82	.383	.255	.192
FD910J†	91	.399	.266	.199
FD101J†	100	.402	.269	.203
FD111J†	110	.402	.269	.203
FD121J†	120	.42	.28	.21
FD131J†	130	.45	.299	.223
FD151J†	150	.495	.331	.249
FD161J†	160	.512	.34	.256
FD181J†	180	.567	.377	.282
FD201J†	200	.607	.403	.303
FD221J†	220	.632	.422	.315
FD241J†	240	.677	.452	.339
FD251J	250	.698	.467	.35
FC271J§†	270	.652	.436	.327
FC301J§†	300	.719	.48	.361
FA331J•†	330	.677	.452	.339
FA361J•†	360	.719	.48	.361
FA391J•†	390	.765	.51	.383

TYPE CD15

CDE No.* CD15-	Cap., pF	Net Ea., Lots of		
		1-24	25-99	100-999
CD010D†	1#	$0.324	$0.216	$0.161
CD020D	2#	.324	.216	.161
CD030D	3#	.324	.216	.161
CD040D	4#	.324	.216	.161
CD050D†	5#	.324	.216	.161
CD060D†	6#	.324	.216	.161
CD070D†	7#	.324	.216	.161
CD080D†	8#	.324	.216	.161
CD100J†	10	.349	.233	.175
CD120J†	12	.349	.233	.175
CD150J†	15	.349	.233	.175
CD180J†	18	.349	.233	.175
ED200J†	20	.283	.189	.142
ED220J†	22	.283	.189	.142
ED240J†	24	.283	.189	.142
ED270J†	27	.283	.189	.142
ED300J†	30	.283	.189	.142
ED330J†	33	.283	.189	.142
ED360J†	36	.283	.189	.142
ED390J†	39	.283	.189	.142
ED430J†	43	.283	.189	.142
ED470J†	47	.283	.189	.142
ED500J	50	.283	.189	.142
ED510J†	51	.283	.189	.142
ED560J†	56	.283	.189	.142
ED620J†	62	.283	.189	.142
ED680J†	68	.283	.189	.142
ED750J†	75	.283	.189	.142
ED820J†	82	.283	.189	.142
FD910J†	91	.288	.192	.144
FD101J†	100	.288	.192	.144
FD111J†	110	.311	.207	.155
FD121J†	120	.311	.207	.155
FD131J†	130	.33	.221	.166
FD151J†	150	.33	.221	.166
FD161J†	160	.357	.239	.179
FD181J†	180	.384	.256	.193
FD201J†	200	.384	.256	.193
FD221J†	220	.411	.274	.206
FD241J†	240	.439	.292	.221
FD251J	250	.439	.292	.221
FD271J†	270	.463	.308	.232
FD301J†	300	.488	.327	.244
FD331J†	330	.543	.363	.272
FD361J†	360	.571	.381	.286
FD391J†	390	.594	.395	.298
FD431J	430	.641	.427	.320
FD471J	470	.668	.445	.334
FD501J	500	.719	.479	.36
FD511J	510	.719	.479	.36
FC561J§	560	.719	.479	.36
FC621J§	620	.773	.515	.388
FC681J§	680	.847	.564	.423
FC751J§	750	.902	.60	.45
FC821J§	820	.979	.652	.488
FA911J•	910	.847	.564	.423
FA102J•	1000	.927	.618	.465
FA112J•	1100	1.006	.670	.503
FA122J•	1200	1,084	.722	.542

*Add final suffix **03** when ordering (e.g., CD10CD050D**03**). Where indicated in listing, MIL version is available. †MIL version available; replace prefix **CD10** with **CM04; CD15** with **CM05; CD19** with **CM06; CD30** with **CM07; CD42** with **CM08.** ‡Tol., ±1.0 pF. #Tol., ±0.5 pF. §300 WVDC. •100 WVDC. ▪50 WVDC.

CD5—CD42 DIPPED SILVERED MICAS (CONT'D)

TYPE CD19

CDE No.* CD19-	Cap., pF	Net Ea., Lots of 1-24	25-99	100-999
FD271J	270	$0.37	$0.246	$0.185
FD301J	300	.37	.246	.185
FD331J	330	.37	.246	.185
FD361J	360	.437	.292	.219
FD391J	390	.437	.292	.219
FD431J†	430	.437	.292	.219
FD471J†	470	.479	.319	.24
FD501J	500	.479	.319	.24
FD511J†	510	.479	.319	.24
FD561J†	560	.479	.319	.24
FD621J†	620	.529	.352	.264
FD681J†	680	.529	.352	.264
FD751J†	750	.573	.383	.286
FD821J†	820	.573	.383	.286
FD911J†	910	.623	.415	.312
FD102J†	1000	.623	.415	.312
FD112J†	1100	.635	.424	.319
FD122J†	1200	.635	.424	.319
FD132J†	1300	.674	.45	.337
FD152J†	1500	.755	.504	.378
FD162J†	1600	.79	.528	.396
FD182J†	1800	.865	.577	.432
FD202J†	2000	.928	.618	.464
FD222J†	2200	.972	.649	.487
FD242J†	2400	1.069	.712	.534
FD252J	2500	1.123	.749	.56
FD272J†	2700	1.18	.788	.591
FD302J†	3000	1.126	.843	.632
FD332J†	3300	1.377	.917	.689
FD362J†	3600	1.517	1.012	.760
FD392J†	3900	1.683	1.123	.843
FD432J†	4300	1.858	1.239	.93
FD472J†	4700	2.079	1.385	1.04
FD502J	5000	2.095	1.397	1.047
FD512J	5100	2.133	1.422	1.067
FC562J§	5600	2.049	1.367	1.026
FC622J§	6200	2.275	1.516	1.137
FC682J§	6800	2.482	1.656	1.242
FA752J§	7500	2.656	1.770	1.329
FA822J§	8200	2.882	1.921	1.441

TYPE CD30

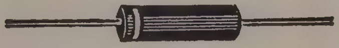
CDE No.* CD30-	Cap., pF	Net Ea., Lots of 1-24	25-99	100-999
FD202J	2000	$0.910	$0.454	$0.409
FD222J	2200	.999	.50	.45
FD242J	2400	1.038	.521	.468
FD252J	2500	1.081	.542	.485
FD272J	2700	1.124	.564	.506
FD302J	3000	1.229	.616	.553
FD332J	3300	1.305	.656	.589
FD362J	3600	1.383	.697	.621
FD392J	3900	1.459	.73	.657
FD432J	4300	1.541	.771	.693
FD472J	4700	1.676	.837	.754
FD502J	5000	1.771	.886	.797
FD512J†	5100	1.771	.886	.797
FD562J†	5600	1.929	.964	.867
FD622J†	6200	2.086	1.043	.938
FD682J†	6800	2.320	1.162	1.044
FD752J†	7500	2.506	1.254	1.127
FD822J†	8200	2.717	1.359	1.224
FD912J†	9100	2.899	1.45	1.304
FD103J†	10000	3.278	1.640	1.475
FD113J†	11000	3.851	1.927	1.734
FD123J†	12000	3.851	1.927	1.734
FD133J†	13000	4.187	2.094	1.884
FD153J†	15000	4.678	2.34	2.105
FD163J†	16000	4.97	2.486	2.237
FD183J†	18000	5.502	2.751	2.477
FD203J†	20000	6.075	3.038	2.735
FC223J§	22000	5.726	2.864	2.577
FC243J§	24000	6.205	3.103	2.793
FC253J§	25000	6.579	3.289	2.96
FC273J§	27000	7.191	3.597	3.235
FC303J§	30000	9.228	4.615	4.152
FA333J•	33000	7.698	3.85	3.464
FA363J•	36000	9.228	4.615	4.152

TYPE CD42

CDE No.* CD42-	Cap., pF	Net Ea., Lots of 1-24	25-99	100-999
FD203J	20000	$5.741	$3.828	$2.871
FD223J	22000	6.227	4.153	3.115
FD243J	24000	6.756	4.504	3.378
FD253J	25000	6.907	4.603	3.453
FD273J	27000	7.302	4.868	3.65
FD303J	30000	7.988	5.325	3.994
FD333J	33000	8.523	5.683	4.263
FD363J	36000	9.186	6.124	4.593
FD393J	39000	9.851	6.569	4.926
FD433J	43000	10.783	7.188	5.391
FD473J	47000	11.494	7.664	5.748
FD503J	50000	11.915	7.943	5.957
FD513J	51000	12.372	8.248	6.186
FC563J§	56000	10.85	7.233	5.425
FC623J§	62000	12.09	8.06	6.045
FC683J§	68000	13.742	9.161	6.871
FA753J•	75000	11.315	7.544	5.658
FA823J•	82000	12.647	8.432	6.323

*Add final suffix **03** when ordering (e.g., CD10CD050D**03**). Where indicated in listing, MIL version is available. †MIL version available; replace prefix **CD10** with **CM04**; **CD15** with **CM05**; **CD19** with **CM06**; **CD30** with **CM07**; **CD42** with **CM08**. ‡Tol., ±1.0 pF. #Tol., ±0.5 pF. §300 WVDC. •100 WVDC. ▪50 WVDC.

TYPE MPY TRI-CLAD® METALLIZED PAPER CAPACITORS



High quality metallized paper dielectric capacitor enclosed in CDE's Tri-Cad case: Cardboard backed with film and aluminum foil. Insures maximum moisture and humidity resistance and minimum size. Solid resin impregnated for optimum performance. Wax-free, non-leaking. Ideal replacement for metal or non-metal case tubular metallized capacitors. **Temperature Range:** −55° C to +125° C. **Tolerance:** ±20%.

200 WVDC

CDE Number	Cap., µF	Size, In. Dia. x L.	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
MPY2S22	.022	1/4 x 5/8	$0.51	$0.38	$0.30	$0.255	$0.213
MPY2S33	.033	1/4 x 5/8	.51	.38	.30	.255	.213
MPY2S47	.047	1/4 x 5/8	.51	.38	.30	.255	.213
MPY2S68	.068	5/16 x 5/8	.54	.41	.32	.27	.225
MPY2P1	.1	3/8 x 5/8	.60	.45	.35	.30	.25
MPY2P15	.15	3/8 x 5/8	.63	.47	.37	.32	.263
MPY2P22	.22	15/32 x 5/8	.69	.52	.40	.35	.288
MPY2P33	.33	3/8 x 1 1/8	.75	.56	.44	.38	.313
MPY2P47	.47	7/16 x 1 1/8	.84	.63	.49	.42	.35
MPY2P68	.68	15/32 x 1 1/8	.99	.74	.58	.50	.413
MPY2W1	1.0	9/16 x 1 1/8	1.20	.90	.70	.60	.50
MPY2W1P5	1.5	9/16 x 1 7/16	1.38	1.04	.81	.69	.575
MPY2W2	2.0	5/8 x 1 7/16	1.62	1.22	.95	.81	.675

400 WVDC

CDE Number	Cap., µF	Size, In. Dia. x L.	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
MPY4S15	.015	1/4 x 5/8	$0.51	$0.38	$0.30	$0.255	$0.213
MPY4S22	.022	5/16 x 5/8	.51	.38	.30	.255	.213
MPY4S33	.033	3/8 x 5/8	.54	.41	.32	.27	.225
MPY4S47	.047	7/16 x 5/8	.57	.43	.33	.285	.238
MPY4S68	.068	15/32 x 5/8	.60	.45	.35	.30	.250
MPY4P1	.1	3/8 x 1 1/8	.63	.47	.37	.315	.263
MPY4P15	.15	7/16 x 1 1/8	.69	.52	.40	.345	.288
MPY4P22	.22	1/2 x 1 1/8	.81	.61	.47	.405	.338
MPY4P33	.33	5/8 x 1 1/8	.93	.70	.54	.465	.388
MPY4P47	.47	5/8 x 1 7/16	1.05	.79	.61	.525	.438
MPY4P68	.68	5/8 x 1 13/16	1.26	.95	.74	.63	.525
MPY4W1	1.0	11/16 x 1 13/16	1.47	1.10	.86	.735	.613
MPY4W1P5	1.5	23/32 x 2 3/8	1.68	1.26	.98	.84	.703
MPY4W2	2.0	13/16 x 2 3/8	1.92	1.44	1.12	.96	.80

600 WVDC

CDE Number	Cap., µF	Size, In. Dia. x L.	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
MPY6S1	.01	1/4 x 5/8	$0.51	$0.38	$0.30	$0.255	$0.213
MPY6S15	.015	5/16 x 5/8	.54	.41	.32	.27	.225
MPY6S22	.022	3/8 x 5/8	.54	.41	.32	.27	.225
MPY6S33	.033	3/8 x 5/8	.57	.43	.33	.285	.238
MPY6S47	.047	15/32 x 5/8	.60	.45	.35	.30	.25
MPY6S68	.068	3/8 x 1 1/8	.63	.47	.37	.32	.263
MPY6P1	.1	3/8 x 1 1/8	.66	.50	.39	.33	.275
MPY6P15	.15	15/32 x 1 1/8	.84	.63	.49	.42	.35
MPY6P22	.22	9/16 x 1 1/8	.93	.70	.54	.47	.388
MPY6P33	.33	5/8 x 1 1/8	1.17	.88	.68	.59	.488
MPY6P47	.47	5/8 x 1 7/16	1.26	.95	.74	.63	.525
MPY6P68	.68	5/8 x 1 13/16	1.38	1.04	.81	.69	.575
MPY6W1	1.0	23/32 x 1 13/16	1.59	1.19	.93	.80	.663
MPY6W1P5	1.5	13/16 x 2 3/8	1.98	1.49	1.16	.99	.825
MPY6W2	2.0	29/32 x 2 3/8	2.55	1.91	1.49	1.28	1.063

CORNELL-DUBILIER Electrolytic Capacitors

TYPE NLW SUBMINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

Smallest subminiature electrolytic capacitors. Welded construction, hermetically sealed in an aluminum case and provided with plastic insulating sleeve. **Operating Range:** −40° to +105°C. **Tolerance:** −10%, +75%.

CDE No.†	Cap. µF	Size*, In. D. x L.	Net Each, Lots of*				
			1-24	25-99	100-249	250-499	500-999
NLW 25-3	25	¼ x ½	$0.591	$0.403	$0.251	$0.206	$0.188
NLW 35-3	35	¼ x ½	.591	.403	.251	.206	.188
NLW 75-3	75	5/16 x ⅝	.667	.455	.283	.232	.212
NLW 100-3	100	5/16 x ⅝	.667	.455	.283	.232	.212
NLW 125-3	125	5/16 x ⅝	.667	.455	.283	.232	.212
NLW 150-3	150	5/16 x ⅝	.838	.572	.356	.292	.267
NLW 175-3	175	5/16 x ¾	.838	.572	.356	.292	.267
NLW 200-3	200	5/16 x ¾	.838	.572	.356	.292	.267
NLW 250-3	250	⅜ x ¾	.878	.599	.372	.306	.279
NLW 300-3	300	⅜ x ¾	.878	.599	.372	.306	.279
NLW 350-3	350	⅜ x ⅞	.914	.623	.388	.319	.291
NLW 400-3	400	⅜ x ⅞	.914	.623	.388	.319	.291
NLW 450-3	450	⅜ x ⅞	.954	.65	.405	.332	.303
NLW 500-3	500	⅜ x 1	.954	.65	.405	.332	.303
NLW 1000-3	1000	⅜ x 1½	1.089	.743	.462	.38	.347
NLW 10-6	10	¼ x ½	.591	.403	.251	.206	.188
NLW 20-6	20	¼ x ½	.591	.403	.251	.206	.188
NLW 30-6	30	¼ x ½	.591	.403	.251	.206	.188
NLW 35-6	35	¼ x ½	.591	.403	.251	.206	.188
NLW 40-6	40	¼ x ½	.591	.403	.251	.206	.188
NLW 50-6	50	¼ x ⅝	.667	.455	.283	.232	.212
NLW 100-6	100	5/16 x ⅝	.838	.572	.356	.292	.267
NLW 150-6	150	5/16 x ¾	.878	.599	.372	.306	.279
NLW 175-6	175	5/16 x ¾	.878	.599	.372	.306	.279
NLW 200-6	200	⅜ x ¾	.878	.599	.372	.306	.279
NLW 250-6	250	⅜ x ⅞	.914	.623	.388	.319	.291
NLW 300-6	300	⅜ x ⅞	.914	.623	.388	.319	.291
NLW 350-6	350	⅜ x ⅞	.954	.65	.405	.332	.303
NLW 500-6	500	⅜ x 1¼	.99	.675	.42	.345	.315
NLW 600-6	600	⅜ x 1¼	1.013	.691	.43	.353	.322
NLW 800-6	800	⅜ x 1½	1.089	.743	.462	.38	.347
NLW 8-10	8	¼ x ½	.591	.403	.251	.206	.188
NLW 40-10	40	¼ x ⅝	.591	.403	.251	.206	.188
NLW 50-10	50	5/16 x ⅝	.667	.455	.283	.232	.212
NLW 75-10	75	5/16 x ⅝	.838	.572	.356	.292	.267
NLW 125-10	125	5/16 x ¾	.878	.599	.372	.306	.279
NLW 150-10	150	⅜ x ¾	.914	.623	.388	.319	.291
NLW 225-10	225	⅜ x ⅞	.954	.65	.405	.332	.303
NLW 450-10	450	⅜ x 1¼	1.013	.691	.43	.353	.322
NLW 15-12	15	¼ x ½	.591	.403	.251	.206	.188
NLW 25-12	25	¼ x ½	.591	.403	.251	.206	.188
NLW 30-12	30	¼ x ½	.591	.403	.251	.206	.188
NLW 35-12	35	¼ x ⅝	.591	.403	.251	.206	.188
NLW 40-12	40	¼ x ⅝	.667	.455	.283	.232	.212
NLW 75-12	75	5/16 x ⅝	.838	.572	.356	.292	.267
NLW 100-12	100	5/16 x ¾	.878	.599	.372	.306	.279
NLW 125-12	125	⅜ x ⅝	.878	.599	.372	.306	.279
NLW 175-12	175	⅜ x ¾	.914	.623	.388	.319	.291
NLW 200-12	200	⅜ x ⅞	.954	.65	.405	.332	.303
NLW 250-12	250	⅜ x ⅞	.954	.65	.405	.332	.303
NLW 300-12	300	⅜ x 1	.954	.650	.405	.332	.303
NLW 400-12	400	⅜ x 1¼	1.013	.691	.43	.353	.322
NLW 500-12	500	⅜ x 1½	1.089	.743	.462	.38	.347
NLW 4-16	4	¼ x ½	.591	.403	.251	.206	.188
NLW 5-16	5	¼ x ½	.591	.403	.251	.206	.188
NLW 6-16	6	¼ x ½	.591	.403	.251	.206	.188
NLW 10-16	10	¼ x ½	.591	.403	.251	.206	.188
NLW 15-16	15	¼ x ½	.591	.403	.251	.206	.188
NLW 20-16	20	¼ x ½	.591	.403	.251	.206	.188
NLW 25-16	25	¼ x ⅝	.591	.403	.251	.206	.188
NLW 30-16	30	¼ x ⅝	.667	.455	.283	.232	.212
NLW 40-16	40	5/16 x ⅝	.667	.455	.283	.232	.212
NLW 50-16	50	5/16 x ⅝	.667	.455	.283	.232	.212
NLW 75-16	75	5/16 x ¾	.838	.572	.356	.292	.267
NLW 100-16	100	5/16 x ¾	.878	.599	.372	.306	.279
NLW 125-16	125	⅜ x ¾	$ .878	$.599	$.372	$.306	$2.79
NLW 150-16	150	⅜ x ¾	.914	.623	.388	.319	.291
NLW 175-16	175	⅜ x ⅞	.914	.623	.388	.319	.291
NLW 200-16	200	⅜ x ⅞	.954	.65	.405	.332	.303
NLW 250-16	250	⅜ x 1	.954	.65	.405	.332	.303
NLW 300-16	300	⅜ x 1¼	.99	.675	.42	.345	.315
NLW 350-16	350	⅜ x 1¼	.99	.675	.42	.345	.315
NLW 400-16	400	⅜ x 1½	1.089	.743	.462	.38	.347
NLW 450-16	450	⅜ x 1½	1.089	.743	.462	.38	.347
NLW 600-16	600	⅜ x 1½	1.089	.743	.462	.38	.347
NLW 1-25	1	¼ x ½	.591	.403	.251	.206	.188
NLW 2-25	2	¼ x ½	.591	.403	.251	.206	.188
NLW 3-25	3	¼ x ½	.591	.403	.251	.206	.188
NLW 5-25	5	¼ x ½	.591	.403	.251	.206	.188
NLW 6-25	6	¼ x ½	.591	.403	.251	.206	.188
NLW 8-25	8	¼ x ½	.591	.403	.251	.206	.188
NLW 10-25	10	¼ x ½	.591	.403	.251	.206	.188
NLW 15-25	15	¼ x ½	.591	.403	.251	.206	.188
NLW 20-25	20	¼ x ⅝	.667	.455	.283	.232	.212
NLW 25-25	25	5/16 x ⅝	.667	.455	.283	.232	.212
NLW 30-25	30	5/16 x ⅝	.667	.455	.283	.232	.212
NLW 35-25	35	5/16 x ⅝	.667	.455	.283	.232	.212
NLW 40-25	40	5/16 x ⅝	.838	.572	.356	.292	.267
NLW 50-25	50	5/16 x ¾	.838	.572	.838	.572	.356
NLW 75-25	75	⅜ x ¾	.878	.599	.878	.599	.372
NLW 100-25	100	⅜ x ¾	.914	.623	.388	.319	.291
NLW 125-25	125	⅜ x ⅞	.914	.623	.388	.319	.291
NLW 150-25	150	⅜ x 1	.954	.65	.405	.332	.303
NLW 175-25	175	⅜ x 1¼	1.013	.691	.43	.353	.322
NLW 200-25	200	⅜ x 1¼	1.013	.691	.43	.353	.322
NLW 250-25	250	⅜ x 1½	1.089	.743	.462	.38	.347
NLW 300-25	300	⅜ x 1½	1.089	.743	.462	.38	.347
NLW 1-50	1	¼ x ½	.591	.403	.251	.206	.188
NLW 2-50	2	¼ x ½	.591	.403	.251	.206	.188
NLW 3-50	3	¼ x ½	.591	.403	.251	.206	.188
NLW 4-50	4	¼ x ½	.591	.403	.251	.206	.188
NLW 5-50	5	¼ x ½	.591	.403	.251	.206	.188
NLW 6-50	6	¼ x ½	.591	.403	.251	.206	.188
NLW 8-50	8	¼ x ⅝	.591	.403	.251	.206	.188
NLW 10-50	10	¼ x ⅝	.667	.455	.283	.232	.212
NLW 15-50	15	5/16 x ⅝	.667	.455	.283	.232	.212
NLW 20-50	20	5/16 x ⅝	.838	.572	.356	.292	.267
NLW 25-50	25	5/16 x ¾	.838	.572	.356	.292	.267
NLW 30-50	30	⅜ x ⅝	.878	.599	.372	.306	.279
NLW 35-50	35	⅜ x ¾	.878	.599	.372	.306	.279
NLW 40-50	40	⅜ x ¾	.914	.623	.388	.319	.291
NLW 50-50	50	⅜ x ⅞	.914	.623	.388	.319	.291
NLW 75-50	75	⅜ x 1	.954	.65	.405	.332	.303
NLW 100-50	100	⅜ x 1¼	.99	.675	.42	.345	.315
NLW 125-50	125	⅜ x 1½	1.089	.743	.462	.38	.347
NLW 2-100	2	¼ x ½	.667	.455	.283	.232	.212
NLW 4-100	4	5/16 x ⅝	.746	.509	.316	.26	.237
NLW 5-100	5	5/16 x ⅝	.838	.572	.356	.292	.267
NLW 6-100	6	5/16 x ⅝	.838	.572	.356	.292	.267
NLW 8-100	8	⅜ x ⅝	.878	.599	.372	.306	.279
NLW 10-100	10	⅜ x ¾	.878	.599	.372	.306	.279
NLW 15-100	15	⅜ x ⅞	.914	.623	.388	.319	.291
NLW 20-100	20	⅜ x 1	.954	.65	.405	.332	.303
NLW 25-100	25	⅜ x 1	.99	.675	.42	.345	.315
NLW 30-100	30	⅜ x 1¼	1.013	.691	.43	.353	.322
NLW 40-100	40	⅜ x 1½	1.089	.743	.462	.38	.347
NLW 1-150	1	¼ x ½	.667	.455	.283	.232	.212
NLW 2-150	2	¼ x ⅝	.667	.455	.283	.232	.212
NLW 3-150	3	5/16 x ⅝	.746	.509	.316	.26	.237
NLW 4-150	4	5/16 x ¾	.838	.572	.356	.292	.267
NLW 5-150	5	5/16 x ¾	.838	.572	.356	.292	.267
NLW 6-150	6	⅜ x ¾	.878	.599	.372	.306	.279
NLW 8-150	8	⅜ x ¾	.878	.599	.372	.306	.279
NLW 10-150	10	⅜ x ⅞	.914	.623	.388	.319	.291
NLW 12-150	12	⅜ x 1	.954	.65	.405	.332	.303
NLW 15-150	15	⅜ x 1¼	.954	.65	.405	.332	.303
NLW 18-150	18	⅜ x 1¼	.99	.675	.42	.345	.315
NLW 20-150	20	⅜ x 1½	1.013	.691	.43	.353	.322
NLW 25-150	25	⅜ x 1½	1.089	.743	.462	.38	.347

*Add 1/32″ x 1/16″ for overall size.

★LARGER QUANTITIES AVAILABLE ON REQUEST

OUR STOCKS ARE FULLY UP TO DATE WITH ALL THE LATEST PRODUCTS.
ASK ABOUT NEW OR UNLISTED ITEMS.

CDE CORNELL-DUBILIER Dipped Tubular and SCR Capacitors

TYPE DPMS DIPPED PAPER-MYLAR* TUBULAR CAPACITORS

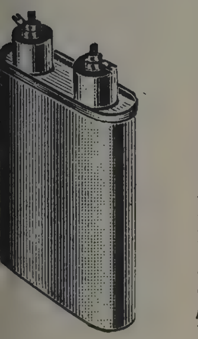
Radial lead capacitors ideal for color TV and other demanding applications; also suitable for point-to-point assembly. Multiple dipped unit has dielectric of high-strength kraft paper and Mylar. Dykanol-Y® impregnant. **Operating Temperature:** −55° to +125° C at full rated voltage. **Tolerance:** ±10%.

*DuPont trademark.

CDE No. DPMS-	Cap., μF	WV DC	Size, In. Dia. x Lg.	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
2S2	.020	200	.350x .855	$.276	$.188	$.147	$.126	$.104
2S22	.022	200	.370x .855	.276	.188	.147	.126	.104
2S47	.047	200	.450x .855	.276	.198	.158	.133	.11
2S5	.050	200	.450x .855	.276	.212	.165	.141	.118
2P1	.1	200	.470x1.180	.31	.24	.187	.161	.133
2P2	.2	200	.565x1.300	.414	.292	.227	.195	.152
2P15	.15	200	.540x1.180	.414	.316	.246	.210	.175
2P22	.22	200	.590x1.300	.483	.347	.27	.231	.193
2P25	.25	200	.620x1.300	.517	.368	.286	.244	.204
2P33	.33	200	.605x1.600	.517	.391	.303	.261	.217
2P47	.47	200	.730x1.600	.621	.457	.356	.305	.254
2P5	.5	200	.730x1.600	.621	.468	.364	.312	.259
4S1	.010	400	.390x .660	.276	.188	.147	.126	.104
4S15	.015	400	.430x .660	.276	.188	.147	.126	.104
4S2	.020	400	.390x .855	.276	.188	.147	.126	.104
4S22	.022	400	.400x .855	.276	.188	.147	.126	.104
4S33	.033	400	.440x .855	.276	.192	.149	.127	.105
4S47	.047	400	.415x1.150	.276	.207	.161	.138	.115
4S5	.050	400	.415x1.150	.31	.217	.169	.144	.12
4S08	.068	400	.440x1.180	.31	.227	.177	.151	.126
4P1	.1	400	.520x1.180	.379	.264	.205	.175	.147
4P2	.2	400	.600x1.560	.414	.31	.241	.207	.172
4P15	.15	400	.560x1.300	.448	.336	.262	.224	.187
4P22	.22	400	.620x1.560	.483	.347	.270	.231	.193
4P25	.25	400	.650x1.560	.552	.419	.326	.279	.233
4P47	.47	400	.850x1.600	.793	.577	.448	.385	.32
4P5	.5	400	.850x1.600	.793	.595	.462	.396	.331
6D1	.001	600	.340x .660	.276	.188	.147	.126	.104
6D12	.0012	600	.340x .660	.276	.188	.147	.126	.104
6D15	.0015	600	.340x .660	.276	.188	.147	.126	.104
6D2	.0020	600	.340x .660	.276	.188	.147	.126	.104
6D22	.0022	600	.340x .660	.276	.188	.147	.126	.104
6D25	.0025	600	.340x .660	.276	.188	.147	.126	.104
6D27	.0027	600	.370x .660	.276	.188	.147	.126	.104
6D3	.0030	600	.370x .660	.276	.188	.147	.126	.104
6D33	.0033	600	.370x .660	.276	.188	.147	.126	.104
6D39	.0039	600	.370x .660	.276	.188	.147	.126	.104
6D4	.0040	600	.370x .660	.276	.188	.147	.126	.104
6D47	.0047	600	.400x .690	.276	.188	.147	.126	.104
6D5	.0050	600	.400x .690	.276	.188	.147	.126	.104
6D56	.0056	600	.415x .690	.276	.188	.147	.126	.104
6D6	.0060	600	.415x .690	.276	.188	.147	.126	.104
6D68	.0068	600	.430x .690	.276	.188	.147	.126	.104
6D75	.0075	600	.430x .690	.276	.188	.147	.126	.104
6D8	.0080	600	.430x .690	.276	.188	.147	.126	.104
6D82	.0082	600	.370x .870	.276	.188	.147	.126	.104
6S1	.010	600	.390x .870	.276	.188	.147	.126	.104
6S12	.012	600	.400x .870	.276	.188	.147	.126	.104
6S15	.015	600	.415x .870	.276	.188	.147	.126	.104
6S2	.020	600	.445x .870	.276	.192	.149	.127	.105
6S22	.022	600	.470x .870	.276	.192	.149	.127	.105

CDE No. DPMS-	Cap., μF	WV DC	Size, In. Dia. x Lg.	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
6S25	.025	600	.500x .870	$.276	$.204	$.158	$.136	$.113
6S27	.027	600	.415x1.150	.276	.215	.166	.143	.119
6S3	.030	600	.415x1.150	.31	.233	.181	.155	.129
6S33	.033	600	.430x1.150	.31	.233	.181	.155	.129
6S36	.036	600	.450x1.150	.345	.248	.193	.165	.138
6S39	.039	600	.470x1.150	.345	.248	.193	.165	.138
6S4	.040	600	.470x1.150	.379	.264	.205	.175	.147
6S47	.047	600	.490x1.150	.379	.264	.205	.175	.147
6S5	.050	600	.490x1.150	.379	.264	.205	.175	.147
6S56	.056	600	.520x1.180	.379	.264	.205	.175	.147
6S6	.060	600	.520x1.180	.379	.281	.219	.188	.156
6S68	.068	600	.540x1.300	.414	.292	.227	.195	.162
6S75	.075	600	.575x1.300	.414	.316	.246	.21	.175
6S82	.082	600	.590x1.300	.414	.316	.246	.21	.175
6P1	.1	600	.640x1.300	.448	.339	.263	.226	.188
6P2	.2	600	.730x1.560	.552	.405	.316	.271	.225
6P15	.15	600	.650x1.560	.621	.465	.362	.31	.258
6P22	.22	600	.750x1.560	.690	.507	.394	.338	.281
6P25	.25	600	.830x1.560	.759	.554	.431	.369	.308
6P33	.33	600	.890x1.560	.931	.703	.547	.469	.391
16D1	.001	1600	.350x .870	.276	.215	.166	.143	.119
16D15	.0015	1600	.375x .870	.31	.217	.169	.144	.12
16D18	.0018	1600	.400x .870	.31	.227	.177	.151	.126
16D2	.0020	1600	.405x .870	.31	.227	.177	.151	.126
16D22	.0022	1600	.420x .870	.31	.227	.177	.151	.126
16D3	.0030	1600	.475x .870	.31	.227	.177	.151	.126
16D33	.0033	1600	.480x .870	.345	.238	.185	.158	.132
16D4	.0040	1600	.520x .870	.345	.246	.19	.164	.136
16D47	.0047	1600	.540x .870	.345	.258	.201	.172	.143
16D5	.0050	1600	.565x .870	.345	.258	.201	.172	.143
16D6	.0060	1600	.460x1.180	.345	.258	.201	.172	.143
16D68	.0068	1600	.485x1.180	.345	.258	.201	.172	.143
16D7	.0070	1600	.485x1.180	.345	.261	.203	.174	.144
16D75	.0075	1600	.495x1.180	.379	.264	.205	.175	.147
16D8	.0080	1600	.510x1.180	.379	.269	.209	.179	.149
16S1	.010	1600	.525x1.180	.379	.287	.223	.190	.159
16S15	.015	1600	.560x1.300	.414	.289	.225	.193	.161
16S2	.020	1600	.570x1.600	.448	.316	.246	.210	.175
16S22	.022	1600	.585x1.600	.483	.354	.276	.239	.196
16S3	.030	1600	.665x1.600	.517	.393	.305	.262	.218
16S33	.033	1600	.695x1.600	.552	.416	.324	.278	.231
16S4	.040	1600	.735x1.600	.586	.434	.338	.289	.241
16S47	.047	1600	.785x1.600	.621	.468	.364	.312	.259
16S5	.050	1600	.815x1.600	.621	.468	.364	.312	.259
20D1	.001	2000	.360x .875	.345	.258	.201	.172	.143
20D15	.0015	2000	.400x .875	.379	.266	.207	.178	.148
6D4	.0040	600	.370x .660	.414	.292	.227	.195	.162
20D27	.0027	2000	.415x1.187	.414	.30	.233	.20	.166
20D39	.0039	2000	.465x1.187	.448	.328	.255	.219	.182
20D47	.0047	2000	.495x1.187	.483	.343	.267	.23	.19
20D56	.0056	2000	.560x1.187	.483	.347	.27	.231	.193
20D82	.0082	2000	.520x1.250	.552	.403	.313	.269	.224
20S12	.012	2000	.600x1.250	.621	.463	.359	.309	.257
20S22	.022	2000	.585x1.750	.690	.523	.407	.348	.29
20S25	.025	2000	.595x1.750	.724	.55	.428	.368	.305
20S27	.027	2000	.625x1.750	.793	.579	.45	.386	.322
20S36	.036	2000	.700x1.750	.862	.654	.509	.437	.363
20S39	.039	2000	.735x1.750	.931	.683	.531	.455	.379
20S47	.047	2000	.785x.1750	.966	.714	.555	.476	.396
20S5	.050	2000	.800x1.750	.966	.730	.568	.486	.405

DRAWN CASE CAPACITORS FOR SCR COMMUTATION APPLICATIONS



Specially designed for use in silicon controlled rectifier circuits with high pulse repetition rates. Bonded extended foil construction and heavy internal leads assure minimum inductance and dissipation factor, low effective series resistance. Can be used to commutate (turn off) SCR's; make excellent transient spike suppressors, filters and resonating capacitors at moderate frequencies. Also used in phase control circuits, frequency multipliers, inverters and timing circuits. Painted gray to increase the emissivity of the case, keeping internal heat rise to a minimum. Furnished with 10/32 ceramic insulated screw terminals. Capacitance stability: ±2.5% from −55° C to +80° C. Specifications based on 50 μsec current pulse width for operation within limits shown. Hermetically sealed, oil-paper dielectric, (except as indicated).

CDE Number	Cap., μF	Peak V*	Max. rms V	Size, Inches W. x D. x H.	Net Each, Lots of 1-9	10-24
SCRG101	3	200	200	2.16 x 1.31 x 2.06	$10.32	$ 6.45
SCRG102	5	200	200	2.16 x 1.31 x 2.56	11.32	7.07
SCRG103	10	200	200	2.16 x 1.31 x 3.81	13.92	8.70
KMSCR103	10	200	165	3¾ x 1¼ x 4¼†	20.21	12.63
SCRG105	20	200	200	2.69 x 1.56 x 4.50	16.89	10.55
KMSCR104	20	200	165	3¾ x 2¼ x 4½†	28.14	17.58
SCRG110	2	400	300	2.16 x 1.31 x 2.06	10.16	6.34
SCRG114	15	400	300	2.91 x 1.91 x 4.75	17.82	11.13
SCRG115	20	400	300	2.91 x 1.91 x 6.25	20.88	13.04
SCRG116	30	400	300	3.66 x 1.97 x 6.75	27.91	17.43

CDE Number	Cap., μF	Peak V*	Max. rms V	Size, Inches W. x D. x H.	Net Each, Lots of 1-9	10-24
SCRG120	2	600	400	2.16 x 1.31 x 2.31	$10.39	$ 6.49
SCRG121	3	600	400	2.16 x 1.31 x 2.81	10.89	6.80
SCRG122	5	600	400	2.16 x 1.31 x 3.81	12.52	7.82
KMSCR108	5	600	330	3¾ x 1¼ x 4¾†	20.01	12.50
SCRG123	10	600	400	2.91 x 1.91 x 4.25	16.88	10.55
KMSCR109	10	600	330	3¾ x 2¼ x 4½†	28.11	17.56
SCRG124	15	600	400	2.91 x 1.91 x 5.75	19.41	12.13
SCRG125	20	600	400	3.66 x 1.97 x 5.75	23.38	14.60
KMSCR110	20	600	330	3¾ x 3$\frac{3}{16}$ x 5½†	39.79	24.86
SCRG131	1	1000	500	2.16 x 1.31 x 2.06	11.12	6.95
SCRG132	2	1000	500	2.66 x 1.31 x 3.06	11.86	7.41
SCRG133	3	1000	500	2.16 x 1.31 x 3.81	12.95	8.09
SCRG134	5	1000	500	2.69 x 1.56 x 4.25	14.22	8.88
SCRG142	1	1500	700	2.16 x 1.31 x 3.06	11.56	7.22
SCRG143	2	1500	700	2.69 x 1.56 x 3.88	13.29	8.30
SCRG146	10	1500	700	4.56 x 2.84 x 5.18†	32.10	20.05
SCRG152	0.5	2000	800	2.16 x 1.31 x 2.56	10.96	6.84
SCRG153	1	2000	800	2.16 x 1.31 x 3.44	11.99	7.49
KMSCR114	2	2000	700	3¾ x 1¼ x 4¾†	19.95	12.50
SCRG155	3	2000	800	2.91 x 1.91 x 4.75	15.85	9.90
KMSCR115	3	2000	700	3¾ x 2¼ x 4½†	28.11	17.56
SCRG156	5	2000	800	3.66 x 1.97 x 6.25	21.65	13.52
KMSCR116	5	2000	700	3¾ x 3$\frac{3}{16}$ x 5⅛†	33.20	20.74
KMSCR117	10	2000	700	4$\frac{9}{16}$ x 3¾ x 6†	44.66	27.89

*Maximum voltage swing. †Rectangular case; all others rounded.
§Polycarbonate dielectric.

CDE CORNELL-DUBILIER Electrolytic Capacitors

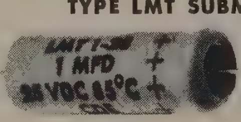
TYPE WBR WIDE-RANGE TUBULAR ELECTROLYTICS

Aluminum electrolytic capacitors feature welded termination; hermetically sealed, with highly etched cathode and anode foil. With flexible plastic sleeve. **Operating Temperature:** −40° C to +85° C, up to 450 V; to +65° C, up to 700 V.

CDE No. WBR-	Cap., µF	WV DC	Size, In.* Dia. x L.	Net Each, Lots of ★			
				1-24	25-99	100-249	250-499
1000-6	1000	6	5/8 x 1 7/16	$1.859	$1.425	$0.776	$0.649
2000-6	2000	6	3/4 x 1 7/16	2.129	1.632	.888	.743
3000-10	3000	10	3/4 x 1 11/16	2.197	1.684	.917	.767
4000-10	4000	10	7/8 x 1 11/16	2.40	1.839	1.001	.838
5000-10	5000	10	7/8 x 2	2.974	2.279	1.241	1.038
10000-10	10,000	10	1 x 2 11/16	3.819	2.927	1.593	1.333
100-16	100	16	5/16 x 3/4	.946	.725	.395	.33
250-16	250	16	3/8 x 1	1.149	.881	.479	.401
500-16	500	16	1/2 x 1 7/16	1.352	1.036	.564	.472
1000-16	1000	16	5/8 x 1 11/16	1.69	1.295	.705	.59
2000-16	2000	16	3/4 x 2	2.028	1.554	.846	.708
3000-16	3000	16	3/4 x 2 1/2	2.569	1.968	1.072	.897
4000-16	4000	16	7/8 x 2 1/2	2.974	2.28	1.241	1.038
5000-16	5000	16	1 x 2 3/16	3.38	2.59	1.41	1.18
10000-16	10,000	16	1 1/8 x 3 9/16	4.191	3.212	1.748	1.463
10-25	10	25	1/4 x 1/2	.781	.598	.326	.273
25-25	25	25	5/16 x 5/8	.845	.648	.353	.295
50-25	50	25	5/16 x 3/4	.879	.673	.367	.307
100-25	100	25	3/8 x 3/4	1.082	.829	.451	.378
250-25	250	25	1/2 x 1 7/16	1.521	1.166	.635	.531
500-25	500	25	5/8 x 1 7/16	1.98	1.513	.825	.688
1000-25	1000	25	3/4 x 1 11/16	3.272	2.55	1.364	1.136
2000-25	2000	25	3/4 x 2 1/2	4.028	3.077	1.679	1.399
100-35	100	35	3/8 x 1	1.082	.829	.451	.378
150-35	150	35	1/2 x 1 1/16	1.183	.907	.494	.413
300-35	300	35	5/8 x 1 1/16	1.589	1.217	.663	.555
500-35	500	35	5/8 x 1 7/16	1.98	1.513	.825	.688
1000-35	1000	35	3/4 x 1 11/16	3.272	2.55	1.364	1.136
2000-35	2000	35	7/8 x 2 1/2	4.028	3.077	1.679	1.399
3000-35	3000	35	1 x 2 1/2	4.615	3.525	1.923	1.603
5500-35	5500	35	1 1/8 x 3 9/16	5.746	4.403	2.397	2.006
1-50	1	50	1/4 x 1/2	.71	.544	.296	.248
2-50	2	50	1/4 x 1/2	.71	.544	.296	.248
5-50	5	50	1/4 x 1/2	.781	.598	.326	.273
10-50	10	50	3/8 x 5/8	.781	.598	.326	.273
25-50	25	50	3/8 x 5/8	.845	.648	.353	.295
35-50	35	50	3/8 x 3/4	.913	.699	.381	.319
50-50	50	50	3/8 x 7/8	.98	.751	.409	.342
100-50	100	50	1/2 x 1 7/16	1.082	.829	.451	.378
125-50	125	50	1/2 x 1 7/16	1.217	.932	.507	.425
150-50	150	50	5/8 x 1 1/16	1.228	.938	.512	.426
250-50	250	50	5/8 x 1 7/16	1.552	1.185	.647	.539
500-50	500	50	3/4 x 1 11/16	2.056	1.57	.857	.714
1000-50	1000	50	7/8 x 2	3.452	2.637	1.439	1.199
1500-50	1500	50	1 x 2 3/16	4.244	3.242	1.768	1.474
2000-50	2000	50	1 x 2 11/16	4.788	3.658	1.996	1.663
3000-50	3000	50	1 x 4 1/16	5.396	4.122	2.249	1.874
5000-50	5000	50	1 3/8 x 3 5/8	6.397	4.887	2.666	2.221
150-75	150	75	5/8 x 1 7/16	1.487	1.14	.62	.519
275-75	275	75	3/4 x 1 11/16	1.758	1.347	.733	.614
500-75	500	75	7/8 x 2	2.873	2.202	1.199	1.003
1000-75	1000	75	1 x 2 1/2	3.452	2.637	1.439	1.199
2000-75	2000	75	1 3/8 x 2 9/16	5.746	4.403	2.397	2.006
400-100	400	100	7/8 x 2 1/2	2.873	2.202	1.199	1.003
600-100	600	100	1 x 2 11/16	3.718	2.849	1.551	1.298
1000-100	1000	100	1 x 4 1/16	4.225	3.238	1.763	1.475
1500-100	1500	100	1 3/8 x 3 5/8	4.969	3.807	2.073	1.735
2000-100	2000	100	1 3/8 x 4 1/8	6.557	5.025	2.735	2.289
4-150	4	150	5/16 x 3/4	.913	.699	.381	.319
5-150	5	150	3/8 x 5/8	.946	.725	.395	.33
8-150	8	150	3/8 x 3/4	1.014	.777	.423	.354
10-150	10	150	3/8 x 7/8	1.082	.829	.451	.378
16-150	16	150	3/8 x 1	1.115	.855	.465	.389
20-150	20	150	3/8 x 1 1/4	1.183	.907	.494	.413
30-150	30	150	3/8 x 1 1/2	1.284	.984	.536	.448
40-150	40	150	5/8 x 1 7/16	1.589	1.217	.663	.555
50-150	50	150	5/8 x 1 7/16	$1.69	$1.295	$0.705	$0.59
60-150	60	150	5/8 x 1 7/16	1.791	1.373	.747	.625
80-150	80	150	3/4 x 1 7/16	1.893	1.45	.79	.661
100-150	100	150	3/4 x 1 11/16	1.96	1.502	.818	.684
150-150	150	150	7/8 x 1 11/16	2.062	1.58	.86	.72
160-150	160	150	7/8 x 1 11/16	2.129	1.632	.888	.743
200-150	200	150	7/8 x 2	2.603	1.994	1.086	.909
250-150	250	150	1 x 1 11/16	3.211	2.461	1.34	1.121
300-150	300	150	1 x 2 3/16	3.819	2.927	1.593	1.333
350-150	350	150	1 x 2 3/16	3.921	3.004	1.636	1.369
500-150	500	150	1 1/8 x 2 1/2	4.13	3.165	1.723	1.442
125-180	125	180	3/4 x 2 1/2	2.633	2.018	1.098	.919
225-180	225	180	7/8 x 2 1/2	2.836	2.173	1.183	.99
260-180	260	180	1 x 2 3/16	3.174	2.432	1.324	1.108
400-180	400	180	1 1/8 x 2 1/2	4.225	3.238	1.763	1.475
4-250	4	250	1/2 x 1 1/16	.879	.673	.367	.307
8-250	8	250	1/2 x 1 7/16	1.352	1.036	.564	.472
12-250	12	250	1/2 x 1 7/16	1.386	1.062	.578	.484
16-250	16	250	5/8 x 1 1/16	1.521	1.166	.635	.531
20-250	20	250	3/4 x 1 1/16	1.69	1.295	.705	.59
30-250	30	250	3/4 x 1 7/16	1.758	1.347	.733	.614
40-250	40	250	5/8 x 1 11/16	1.859	1.425	.776	.649
50-250	50	250	3/4 x 1 11/16	1.927	1.476	.804	.673
60-250	60	250	3/4 x 2	1.994	1.528	.832	.696
80-250	80	250	7/8 x 1 11/16	2.298	1.761	.959	.802
100-250	100	250	7/8 x 2	2.535	1.943	1.058	.885
160-250	160	250	1 x 2 3/16	2.805	2.15	1.17	.979
225-250	225	250	1 x 2 11/16	4.225	3.238	1.763	1.475
300-250	300	250	1 x 3 9/16	4.563	3.497	1.904	1.593
450-250	450	250	1 3/8 x 3 1/16	5.07	3.885	2.115	1.77
4-350	4	350	1/2 x 1 1/16	1.352	1.036	.564	.472
8-350	8	350	5/8 x 1 1/16	1.386	1.062	.578	.484
20-350	20	350	3/4 x 1 7/16	1.791	1.373	.747	.625
40-350	40	350	3/4 x 1 11/16	2.062	1.58	.86	.72
60-350	60	350	3/4 x 2 1/2	2.501	1.917	1.043	.873
100-350	100	350	1 x 2	3.11	2.382	1.297	1.086
160-350	160	350	1 1/8 x 2 1/2	3.921	3.044	1.636	1.369
200-350	200	350	1 x 4 1/16	4.495	3.445	1.875	1.569
250-350	250	350	1 1/8 x 3 9/16	5.178	3.968	2.16	1.808
1-450	1	450	5/8 x 1 1/16	1.42	1.08	.592	.496
2-450	2	450	5/8 x 1 1/16	1.42	1.08	.592	.496
4-450	4	450	5/8 x 1 1/16	1.453	1.114	.606	.507
5-450	5	450	5/8 x 1 1/16	1.453	1.114	.606	.507
8-450	8	450	3/4 x 1 1/16	1.589	1.217	.663	.555
10-450	10	450	3/4 x 1 1/16	1.758	1.347	.733	.614
12-450	12	450	3/4 x 1 1/16	1.859	1.425	.776	.649
16-450	16	450	3/4 x 1 7/16	2.028	1.554	.846	.708
20-450	20	450	3/4 x 1 11/16	2.298	1.761	.959	.802
30-450	30	450	7/8 x 1 11/16	2.454	1.88	1.024	.857
40-450	40	450	7/8 x 2	2.805	2.15	1.17	.979
50-450	50	450	7/8 x 2 1/2	3.008	2.305	1.255	1.05
60-450	60	450	1 x 2 3/16	3.008	2.305	1.255	1.05
80-450	80	450	1 x 2 11/16	3.38	2.59	1.41	1.18
100-450	100	450	1 x 3 9/16	4.056	3.108	1.692	1.416
120-450	120	450	1 1/8 x 3	4.80	3.678	2.002	1.676
160-450	160	450	1 1/8 x 4 1/16	5.239	4.015	2.186	1.829
225-450	225	450	1 3/8 x 3 5/8	6.016	4.61	2.51	2.10
1-500	1	500	1/2 x 1 1/16	1.859	1.425	.776	.649
3-500	3	500	1/2 x 1 7/16	1.927	1.476	.804	.673
5-500	5	500	5/8 x 1 1/16	2.079	1.593	.867	.726
8-500	8	500	3/4 x 1 1/16	2.366	1.813	.987	.826
10-500	10	500	5/8 x 1 11/16	2.366	1.813	.987	.826
16-500	16	500	3/4 x 1 11/16	2.704	2.072	1.128	.944
20-500	20	500	3/4 x 2	2.097	2.227	1.213	1.015
30-500	30	500	7/8 x 1 11/16	3.11	2.383	1.297	1.086
40-500	40	500	7/8 x 2 1/2	3.448	2.642	1.438	1.204
60-500	60	500	1 x 2 1/2	3.55	2.72	1.481	1.239
4-600	4	600	1 1/16 x 2 7/16†	4.141	3.173	1.727	1.446
8-600	8	600	1 3/16 x 2 7/16†	4.353	3.336	1.816	1.52
10-600	10	600	1 3/16 x 3 3/16†	4.563	3.497	1.904	1.593
16-600	16	600	1 5/16 x 3 3/16†	4.766	3.652	1.988	1.664
20-600	20	600	1 5/16 x 3 11/16†	5.002	3.833	2.087	1.746
10-700	10	700	1 5/16 x 3 3/16†	4.817	3.691	2.01	1.682
16-700	16	700	1 5/16 x 4 5/16†	5.283	4.048	2.204	1.844

*Uninsulated case size; add 1/16" to dia. and 3/16" to lgth. for size including insulating sleeve. †Overall size, including sleeve.

TYPE LMT SUBMINIATURE ALUMINUM ELECTROLYTIC CAPACITORS



All-aluminum, all-welded construction provides light weight and resistance to intermittent connections. Hermetically sealed and with plastic sleeve. **Operating Temperature Range:** −40° C to +85° C.

CDE No.	Cap., F	Size, Ins. Dia. x L.	Net Each, Lots of			
			1-24	25-49	50-99	100-249
16 WCDC						
LMT50-16	50	0.322 x 0.687	$0.484	$0.383	$0.320	$0.211
LMT100-16	100	0.322 x 0.812	.535	.424	.354	.233
25 WVDC						
LMT1-25	1	0.260 x 0.562	$0.414	$0.328	$0.274	$0.181
LMT2-25	2	0.260 x 0.562	.414	.328	.274	.181
LMT5-25	5	0.260 x 0.562	.414	.328	.274	.181
25 WVDC (CONT'D)						
LMT10-25	10	0.260 x 0.562	$0.428	$0.339	$0.283	$0.187
LMT15-25	15	0.260 x 0.562	.428	.339	.283	.187
LMT25-25	25	0.322 x 0.687	.484	.383	.320	.211
LMT50-25	50	0.385 x 0.687	.535	.424	.354	.233
LMT100-25	100	0.385 x 0.812	.535	.424	.354	.233
50 WVDC						
LMT1-50	1	0.260 x 0.562	$0.414	$0.328	$0.274	$0.181
LMT2-50	2	0.260 x 0.562	.414	.328	.274	.181
LMT5-50	5	0.260 x 0.562	.428	.339	.283	.187
LMT10-50	10	0.260 x 0.687	.484	.383	.320	.211
LMT25-50	25	0.385 x 0.687	.535	.424	.354	.233
LMT100-50	100	0.385 x 1.312	.675	.534	.446	.294
100 WVDC						
LMT2-100	2	0.260 x 0.687	$0.470	$0.372	$0.311	$0.205
150 WVDC						
LMT1-150	1	0.260 x 0.562	$0.461	$0.365	$0.305	$0.201

★LARGER QUANTITY PRICES ON REQUEST.

TYPE WMF POLYESTER DIELECTRIC FILM-ENCASED CAPACITORS

Ultra-compact polyester dielectric in film wrap; thermosetting epoxy end seals. High resistance to humidity. Excellent stability.

Temp: −55° C to +85° C at full voltage: derate 10% at 100° C; 50% at 125° C. **Tol.:** ±10%. Other tolerances also available; prices on request.

CDE No. WMF	Cap., µF	WV DC	Size, In. Dia. x Lg.	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999*
05P1	.1	50	.250 x .812	$0.39	$0.298	$0.231	$0.195	$0.163
05P12	.12	50	.275 x .812	.396	.302	.235	.198	.165
05P15	.15	50	.285 x .812	.399	.305	.237	.200	.166
05P18	.18	50	.315 x .812	.408	.311	.242	.204	.170
05P22	.22	50	.330 x .812	.423	.323	.251	.212	.176
05P27	.27	50	.390 x .812	.462	.353	.274	.231	.193
05P33	.33	50	.400 x .812	.501	.382	.297	.251	.209
05P39	.39	50	.375 x 1.062	.555	.424	.329	.278	.231
05P47	.47	50	.375 x 1.062	.615	.469	.365	.308	.256
05P5	.50	50	.395 x 1.062	.624	.476	.370	.312	.260
05P56	.56	50	.450 x 1.062	.732	.559	.434	.366	.305
05P68	.68	50	.490 x 1.062	.783	.598	.465	.392	.326
05P82	.82	50	.505 x 1.062	.963	.735	.571	.482	.401
05W1	1.0	50	.500 x 1.375	1.092	.834	.648	.546	.455
05W2	2.0	50	.600 x 1.625	1.809	1.381	1.073	.905	.754
05W3	3.0	50	.730 x 1.625	2.535	1.935	1.504	1.268	1.056
05W4	4.0	50	.760 x 1.875	2.991	2.283	1.775	1.496	1.246
05W5	5.0	50	.850 x 1.875	3.729	2.846	1.213	1.865	1.554
1D1	.001	100	.156 x .50	.318	.243	.189	.159	.133
1D12	.0012	100	.156 x .50	.318	.243	.189	.159	.133
1D15	.0015	100	.156 x .50	.318	.243	.189	.159	.133
1D18	.0018	100	.156 x .50	.318	.243	.189	.159	.133
1D22	.0022	100	.156 x .50	.318	.243	.189	.159	.133
1D27	.0027	100	.156 x .50	.318	.243	.189	.159	.133
1D33	.0033	100	.156 x .50	.318	.243	.189	.159	.133
1D39	.0039	100	.156 x .50	.318	.243	.189	.159	.133
1D47	.0047	100	.156 x .50	.318	.243	.189	.159	.133
1D5	.0050	100	.156 x .50	.318	.243	.189	.159	.133
1D56	.0056	100	.156 x .50	.318	.243	.189	.159	.133
1D68	.0068	100	.175 x .50	.318	.243	.189	.159	.133
1D82	.0082	100	.175 x .50	.318	.243	.189	.159	.133
1S1	.01	100	.200 x .50	.318	.243	.189	.159	.133
1S12	.012	100	.215 x .50	.318	.243	.189	.159	.133
1S15	.015	100	.235 x .50	.318	.243	.189	.159	.133
1S18	.018	100	.255 x .50	.318	.243	.189	.159	.133
1S22	.022	100	.275 x .625	.318	.243	.189	.159	.133
1S27	.027	100	.300 x .625	.318	.243	.189	.159	.133
1S33	.033	100	.300 x .625	.318	.243	.189	.159	.133
1S39	.039	100	.245 x .75	.318	.243	.189	.159	.133
1S47	.047	100	.265 x .75	.327	.250	.194	.164	.136
1S5	.050	100	.270 x .75	.327	.250	.194	.164	.136
1S56	.056	100	.270 x .75	.339	.259	.201	.170	.141
1S68	.068	100	.280 x .75	.348	.266	.206	.174	.145
1S82	.082	100	.270 x .875	.351	.268	.208	.176	.146
1P1	.1	100	.290 x .875	.354	.270	.210	.177	.148
1P12	.12	100	.315 x .875	.357	.273	.212	.179	.149
1P15	.15	100	.335 x .875	.360	.275	.214	.180	.150
1P18	.18	100	.350 x 1.0	.369	.282	.219	.185	.154
1P22	.22	100	.385 x 1.0	.384	.293	.228	.192	.160
1P27	.27	100	.380 x 1.125	.423	.323	.251	.212	.176
1P33	.33	100	.415 x 1.125	.456	.348	.271	.228	.190
1P39	.39	100	.460 x 1.125	.504	.385	.299	.252	.210
1P47	.47	100	.475 x 1.125	.549	.419	.326	.275	.229
1P5	.50	100	.495 x 1.25	.564	.431	.335	.282	.235
1P56	.56	100	.520 x 1.25	.660	.504	.392	.330	.275
1P68	.68	100	.570 x 1.25	.711	.543	.422	.356	.296
1P82	.82	100	.585 x 1.375	.867	.662	.514	.434	.361
1W1	1.0	100	.625 x 1.50	.987	.753	.586	.494	.411
1W1P25	1.25	100	.690 x 1.50	1.131	.863	.671	.566	.471
1W1P5	1.5	100	.715 x 1.625	1.344	1.026	.797	.672	.560
1W2	2.0	100	.800 x 1.625	1.626	1.241	.965	.813	.678
1W3	3.0	100	1.100 x 2.312	2.280	1.740	1.353	1.140	.950
1W4	4.0	100	1.250 x 2.50	2.685	2.050	1.593	1.343	1.119
2D1	.001	200	.156 x .50	.318	.243	.189	.159	.133
2D15	.0015	200	.156 x .50	.318	.243	.189	.159	.133

*Larger Quantity Prices on Request

CDE No. WMF	Cap., µF	WV DC	Size, In. Dia. x Lg.	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999*
2D22	.0022	200	.156 x .50	$0.318	$0.243	$0.189	$0.159	$0.133
2D33	.0033	200	.160 x .50	.318	.243	.189	.159	.133
2D47	.0047	200	.170 x .50	.318	.243	.189	.159	.133
2D68	.0068	200	.200 x .50	.318	.243	.189	.159	.133
2S1	.01	200	.230 x .50	.318	.243	.189	.159	.133
2S15	.015	200	.290 x .50	.318	.243	.189	.159	.133
2S22	.022	200	.275 x .625	.318	.243	.189	.159	.133
2S33	.033	200	.270 x .75	.318	.243	.189	.159	.133
2S47	.047	200	.320 x .75	.327	.250	.194	.164	.136
2S68	.068	200	.350 x .75	.348	.266	.206	.174	.145
2P1	.1	200	.410 x .875	.423	.323	.251	.212	.176
2P15	.15	200	.500 x .875	.441	.337	.262	.221	.184
2P22	.22	200	.500 x 1.125	.471	.360	.279	.236	.196
2P33	.33	200	.550 x 1.125	.534	.408	.317	.267	.223
2P47	.47	200	.600 x 1.25	.606	.463	.360	.303	.253
2P68	.68	200	.650 x 1.625	.711	.543	.422	.356	.296
2W1	1.0	200	.750 x 1.75	.987	.753	.586	.494	.411
2W1P25	1.25	200	.825 x 1.75	1.131	.863	.671	.566	.471
2W1P5	1.5	200	.900 x 1.75	1.344	1.026	.797	.672	.560
2W2	2.0	200	.980 x 1.875	1.626	1.241	.965	.813	.678
4D1	.001	400	.156 x .625	.357	.273	.212	.179	.149
4D15	.0015	400	.156 x .625	.357	.273	.212	.179	.149
4D22	.0022	400	.156 x .625	.357	.273	.212	.179	.149
4D33	.0033	400	.190 x .625	.357	.273	.212	.179	.149
4D47	.0047	400	.200 x .625	.357	.273	.212	.179	.149
4D68	.0068	400	.250 x .625	.357	.273	.212	.179	.149
4S1	.01	400	.300 x .625	.357	.273	.212	.179	.149
4S15	.015	400	.360 x .625	.357	.273	.212	.179	.149
4S22	.022	400	.320 x .75	.357	.273	.212	.179	.149
4S33	.033	400	.350 x .875	.357	.273	.212	.179	.149
4S47	.047	400	.400 x .875	.369	.282	.219	.185	.154
4S68	.068	400	.390 x 1.0	.399	.305	.237	.200	.166
4P1	.1	400	.465 x 1.0	.405	.309	.240	.203	.169
4P15	.15	400	.515 x 1.25	.423	.323	.251	.212	.176
4P22	.22	400	.565 x 1.375	.486	.371	.288	.243	.203
4P33	.33	400	.600 x 1.625	.792	.605	.470	.396	.330
4P47	.47	400	.700 x 1.625	.942	.719	.559	.471	.393
4P68	.68	400	.790 x 1.75	1.152	.879	.684	.576	.480
4W1	1.0	400	.875 x 2.0	1.371	1.047	.813	.686	.571
4W1P25	1.25	400	.950 x 2.0	1.503	1.147	.892	.752	.626
4W1P5	1.5	400	.975 x 2.25	1.704	1.301	1.011	.852	.710
4W2	2.0	400	1.250 x 2.25	2.235	1.706	1.326	1.118	.931
6D1	.001	600	.170 x .75	.408	.311	.242	.204	.170
6D15	.0015	600	.170 x .75	.408	.311	.242	.204	.170
6D22	.0022	600	.187 x .75	.408	.311	.242	.204	.170
6D33	.0033	600	.203 x .75	.408	.311	.242	.204	.170
6D47	.0047	600	.234 x .75	.408	.311	.242	.204	.170
6D68	.0068	600	.265 x .75	.408	.311	.242	.204	.170
6S1	.01	600	.290 x .75	.408	.311	.242	.204	.170
6S15	.015	600	.312 x .875	.408	.311	.242	.204	.170
6S22	.022	600	.335 x .875	.408	.311	.242	.204	.170
6S33	.033	600	.350 x 1.0	.408	.311	.242	.204	.170
6S47	.047	600	.415 x 1.0	.408	.311	.242	.204	.170
6S68	.068	600	.500 x 1.0	.429	.327	.255	.215	.179
6P1	.1	600	.520 x 1.375	.531	.405	.315	.266	.221
6P15	.15	600	.625 x 1.375	.555	.424	.329	.278	.231
6P22	.22	600	.660 x 1.625	.630	.481	.374	.315	.263
6P33	.33	600	.687 x 2.0	1.080	.824	.641	.540	.450
6P47	.47	600	.855 x 2.0	1.383	1.056	.821	.692	.576
6P68	.68	600	.970 x 2.0	1.854	1.415	1.100	.927	.773
6W1	1.0	600	1.165 x 2.50	2.925	2.233	1.736	1.463	1.219
6W1P25	1.25	600	1.340 x 2.50	3.159	2.411	1.874	1.580	1.316
6W1P5	1.5	600	1.275 x 3.0	3.828	2.922	2.271	1.914	1.595
6W2	2.0	600	1.460 x 3.0	4.785	3.653	2.839	2.393	1.994

FOR INDUSTRIAL ELECTRONIC EQUIPMENT AND PARTS, WE CAN SUPPLY ALL YOUR REQUIREMENTS,

OFFERING COMPLETE LINE WITH UP-TO-DATE STOCK, FAST DELIVERY AND INDUSTRIAL QUANTITY CONVENIENCE. AS NEW PRODUCTS ARE DEVELOPED, WE WILL OBTAIN THEM FOR YOUR IMMEDIATE AVAILABILITY.

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CDE CORNELL-DUBILIER Tubular Capacitors

TYPE PKM MOLDED PAPER-POLYESTER TUBULARS

A molded axial lead capacitor with a combination paper-polyester dielectric impregnated with Dykanol® Y, a solid, stable impregnant. Extremely high quality units with high voltage ratings in small case sizes. For use in DC, AC, and pulsed DC applications. **Operating Temperature:** −55° C to +125° C at full rated voltage. **Tolerance:** ±10%.

®Trademark: Dykanol of Cornell-Dubilier; Mylar of DuPont.

400 WVDC

CDE No.	Cap., µF	Size, In. Dia. x Lg.	Net Each, Lots of				
			1-24	25-99	100-499	500-999	1000-Up
PKM4D39	.0039	5/16 x 1	$0.446	$0.325	$0.209	$0.175	$0.139
PKM4D47	.0047	5/16 x 1	.446	.325	.209	.175	.139
PKM4D5	.0050	5/16 x 1	.446	.325	.209	.175	.139
PKM4D56	.0056	5/16 x 1	.446	.325	.209	.175	.139
PKM4D68	.0068	5/16 x 1	.446	.325	.209	.175	.139
PKM4D82	.0082	5/16 x 1	.446	.325	.209	.175	.139
PKM4S1	.01	5/16 x 1	.446	.325	.209	.175	.139
PKM4S12	.012	5/16 x 1	.449	.328	.210	.176	.140
PKM4S25	.025	3/8 x 1 1/4	.485	.354	.227	.19	.151
PKM4S27	.027	3/8 x 1 1/4	.538	.393	.252	.211	.168
PKM4S33	.033	3/8 x 1 1/4	.538	.393	.252	.211	.168
PKM4S39	.039	3/8 x 1 1/4	.538	.393	.252	.211	.168
PKM4S47	.047	7/16 x 1 1/4	.538	.393	.252	.211	.168
PKM4S5	.050	7/16 x 1 1/4	.538	.393	.252	.211	.168
PKM4S56	.056	7/16 x 1 1/4	.538	.393	.252	.211	.168
PKM4S68	.068	7/16 x 1 1/4	.538	.393	.252	.211	.168
PKM4S82	.082	1/2 x 1 1/2	.602	.439	.282	.237	.188
PKM4P1	.1	1/2 x 1 1/2	.624	.455	.292	.245	.195
PKM4P12	.12	1/2 x 1 1/2	.638	.465	.299	.251	.199
PKM4P15	.15	1/2 x 1 1/2	.663	.484	.311	.26	.207
PKM4P18	.18	5/8 x 1 7/8	.863	.629	.404	.339	.269
PKM4P22	.22	5/8 x 1 7/8	.902	.658	.423	.354	.282
PKM4P25	.25	5/8 x 1 7/8	.902	.658	.423	.354	.282
PKM4P27	.27	5/8 x 1 7/8	.920	.671	.431	.361	.287
PKM4P33	.33	5/8 x 1 7/8	.977	.712	.458	.384	.305
PKM4P39	.39	11/16 x 1 15/16	1.070	.78	.501	.42	.334
PKM4P47	.47	11/16 x 1 15/16	1.144	.835	.536	.449	.357
PKM4P5	.50	11/16 x 1 15/16	1.159	.845	.543	.456	.362
PKM4P56	.56	3/4 x 2 1/4	1.348	.983	.631	.529	.421
PKM4P68	.68	3/4 x 2 1/4	1.437	1.048	.673	.564	.449
PKM4P82	.82	1 x 2 1/8	1.437	1.048	.673	.564	.449
PKM4W1	1.0	1 x 2 1/8	2.050	1.495	.96	.805	.64

600 WVDC

PKM6D12	.0012	5/16 x 1	$0.438	$0.32	$0.205	$0.172	$0.137
PKM6D15	.0015	5/16 x 1	.446	.325	.209	.175	.139
PKM6D18	.0018	5/16 x 1	.449	.328	.21	.176	.14
PKM6D22	.0022	5/16 x 1	.449	.328	.21	.176	.14
PKM6D25	.0025	5/16 x 1	.449	.328	.21	.176	.14
PKM6D27	.0027	5/16 x 1	.449	.328	.21	.176	.14
PKM6D33	.0033	5/16 x 1	.449	.328	.21	.176	.14
PKM6D39	.0039	3/8 x 1 1/4	.478	.348	.224	.188	.149
PKM6D5	.0050	3/8 x 1 1/4	.485	.354	.227	.19	.151
PKM6D56	.0056	3/8 x 1 1/4	.349	.251	.191	.164	.136
PKM6D68	.0068	3/8 x 1 1/4	.488	.356	.229	.192	.152
PKM6D82	.0082	3/8 x 1 1/4	.503	.367	.235	.197	.157
PKM6S1	.01	3/8 x 1 1/4	.503	.367	.235	.197	.157
PKM6S12	.012	3/8 x 1 1/4	.503	.367	.235	.197	.157
PKM6S15	.015	3/8 x 1 1/4	.503	.367	.235	.197	.157
PKM6S18	.018	3/8 x 1 1/4	.503	.367	.235	.197	.157
PKM6S22	.022	3/8 x 1 1/4	.513	.374	.24	.202	.16
PKM6S25	.025	7/16 x 1 1/4	.513	.374	.24	.202	.16
PKM6S27	.027	7/16 x 1 1/4	.513	.374	.24	.202	.16
PKM6S33	.033	7/16 x 1 1/4	.528	.385	.247	.207	.165
PKM6S39	.039	1/2 x 1 1/2	.624	.455	.292	.245	.195
PKM6S47	.047	1/2 x 1 1/2	.624	.455	.292	.245	.195
PKM6S5	.050	1/2 x 1 1/2	.624	.455	.292	.245	.195
PKM6S56	.056	1/2 x 1 1/2	.624	.455	.292	.245	.195
PKM6S68	.068	1/2 x 1 1/2	.627	.458	.294	.246	.196
PKM6S82	.082	9/16 x 1 9/16	.759	.554	.356	.298	.237
PKM6P1	.1	9/16 x 1 9/16	.809	.59	.379	.318	.253
PKM6P12	.12	5/8 x 1 7/8	.902	.658	.423	.354	.282
PKM6P15	.15	5/8 x 1 7/8	.948	.692	.444	.372	.296
PKM6P18	.18	11/16 x 1 15/16	1.009	.736	.473	.396	.315
PKM6P22	.22	11/16 x 1 15/16	1.012	.738	.474	.378	.316
PKM6P25	.25	11/16 x 1 15/16	1.137	.829	.533	.447	.355
PKM6P27	.27	11/16 x 1 15/16	1.173	.855	.549	.461	.366
PKM6P33	.33	3/4 x 2 1/4	1.394	1.017	.653	.547	.435
PKM6P39	.39	3/4 x 2 1/4	1.483	1.082	.695	.582	.463
PKM6P47	.47	1 x 2 1/8	1.961	1.43	.919	.77	.612
PKM6P5	.50	1 x 2 1/8	2.000	1.459	.937	.785	.624
PKM6P56	.56	1 x 2 1/8	2.068	1.508	.969	.812	.646
PKM6P68	.68	1 x 2 1/8	2.717	1.981	1.273	1.067	.848

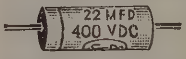
1000 WVDC

CDE No.	Cap., µF	Size, In. Dia. x Lg.	Net Each, Lots of				
			1-24	25-99	100-499	500-999	1000-Up
PKM10D1	.001	5/16 x 1	$0.438	$0.32	$0.205	$0.172	$0.137
PKM10D5	.0050	3/8 x 1 1/4	.46	.335	.215	.181	.144
PKM10D68	.068	3/8 x 1 1/4	.503	.367	.235	.197	.157
PKM10S1	.01	7/16 x 1 1/4	.503	.367	.235	.197	.157
PKM10S15	.015	7/16 x 1 1/4	.51	.372	.239	.20	.159
PKM10S22	.022	1/2 x 1 1/2	.577	.421	.271	.227	.18
PKM10S33	.033	1/2 x 1 1/2	.599	.437	.281	.235	.187
PKM10S47	.047	9/16 x 1 9/16	.784	.572	.367	.308	.245
PKM10S5	.050	9/16 x 1 9/16	.784	.572	.367	.308	.245
PKM10S68	.068	5/8 x 1 7/8	.813	.593	.381	.319	.254
PKM10P1	.1	11/16 x 1 15/16	.927	.676	.434	.364	.289

1600 WVDC

CDE No.	Cap., µF	Size, In. Dia. x Lg.	Net Each, Lots of				
			1-24	25-99	100-499	500-999	1000-Up
PKM16D1	.001	3/8 x 1 1/4	$0.595	$0.434	$0.279	$0.234	$0.186
PKM16D15	.0015	3/8 x 1 1/4	.595	.434	.279	.234	.186
PKM16D22	.0022	3/8 x 1 1/4	.62	.452	.291	.244	.194
PKM16D33	.0033	3/8 x 1 1/4	.62	.452	.291	.244	.194
PKM16D47	.0047	3/8 x 1 1/4	.635	.463	.297	.249	.198
PKM16D5	.005	3/8 x 1 1/4	.635	.463	.297	.249	.198
PKM16D68	.0068	7/16 x 1 1/4	.674	.491	.316	.265	.21
PKM16D82	.0082	7/16 x 1 1/4	.738	.538	.346	.29	.23
PKM16S1	.01	1/2 x 1 1/2	.898	.655	.421	.353	.28
PKM16S15	.015	1/2 x 1 1/2	.898	.655	.421	.353	.28
PKM16S22	.022	5/8 x 1 7/8	.988	.72	.463	.388	.308
PKM16S33	.033	5/8 x 1 7/8	.988	.72	.463	.388	.308
PKM16S47	.047	5/8 x 1 7/8	1.233	.90	.578	.484	.385
PKM16S5	.05	5/8 x 1 7/8	1.437	1.048	.673	.564	.449

TYPE MMW MINIATURE METALLIZED POLYESTER FILM TUBULARS



Extremely small size for transistorized circuits. Metallized polyester dielectric in tough film wrap and sealed with high-density, thermosetting resin end fill. Extra strong and durable; high capacitance stability, resistance to moisture and humidity. **Temperature Range:** −55° C to +85° C, at rated voltage; to +125° C with derating. **Tolerance:** ±20%. **Size:** Min. .180″ dia. x 9/16″ lg. to .950″ dia. x 1¾″ lg.

200 WVDC

CDE No. MMW	Cap., µF	Size, In. Dia. x Lg.	Net Each, Lots of				
			1-24	25-49	50-99	100-499	500-999
2S33	.033	.180 x .562	$0.684	$0.513	$0.399	$0.342	$0.285
2S47	.047	.200 x .562	.684	.513	.399	.342	.285
2S68	.068	.200 x .687	.714	.536	.417	.357	.298
2P1	.10	.240 x .687	.744	.558	.434	.372	.310
2P15	.15	.280 x .687	.801	.601	.467	.401	.334
2P22	.22	.340 x .687	.891	.668	.520	.446	.371
2P33	.33	.390 x .687	1.011	.758	.590	.506	.421
2P47	.47	.370 x 1.0	1.041	.781	.607	.512	.434
2P68	.68	.420 x 1.0	1.122	.842	.655	.561	.468
2W1	1.0	.500 x 1.0	1.263	.947	.737	.632	.526
2W1P5	1.5	.540 x 1.25	1.515	1.136	.884	.758	.631
2W2	2.0	.620 x 1.25	1.824	1.368	1.064	.912	.760

400 WVDC

4S1	.01	.180 x .562	$0.654	$0.491	$0.382	$0.327	$0.273
4S15	.015	.180 x .687	.684	.513	.399	.342	.285
4S22	.022	.210 x .687	.684	.513	.399	.342	.285
4S33	.033	.250 x .687	.714	.536	.417	.357	.298
4S47	.047	.300 x .687	.744	.558	.434	.372	.310
4S68	.068	.350 x .687	.771	.578	.450	.386	.321
4P1	.10	.325 x 1.0	.831	.623	.485	.416	.346
4P15	.15	.375 x 1.0	.921	.691	.537	.461	.384
4P22	.22	.400 x 1.25	1.011	.758	.590	.506	.421
4P33	.33	.450 x 1.5	1.158	.869	.676	.579	.483
4P47	.47	.520 x 1.5	1.338	1.004	.781	.669	.558
4P68	.68	.625 x 1.5	1.515	1.136	.884	.758	.631
4W1	1.0	.675 x 1.75	1.908	1.431	1.113	.954	.795
4W1P5	1.5	.825 x 1.75	2.385	1.789	1.391	1.193	.994
4W2	2.0	.950 x 1.75	2.892	2.169	1.687	1.446	1.205

600 WVDC

6S1	.01	.200 x .75	$0.684	$0.513	$0.399	$0.342	$0.285
6S15	.015	.250 x .75	.714	.536	.417	.357	.298
6S22	.022	.300 x .75	.744	.558	.434	.372	.310
6S33	.033	.370 x .75	.771	.578	.450	.386	.321
6S47	.047	.325 x 1.062	.831	.623	.485	.416	.346
6S68	.068	.400 x 1.062	.891	.668	.520	.446	.371
6P1	.10	.450 x 1.062	.951	.713	.555	.476	.396
6P15	.15	.475 x 1.25	1.068	.801	.623	.534	.445
6P22	.22	.575 x 1.25	1.248	.936	.728	.624	.520
6P33	.33	.560 x 1.75	1.545	1.159	.901	.773	.644
6P47	.47	.675 x 1.75	1.872	1.404	1.092	.936	.780
6P68	.68	.800 x 1.75	2.274	1.706	1.327	1.137	.948
6W1	1.0	.950 x 1.75	3.003	2.252	1.752	1.502	1.251

CORNELL-DUBILIER HAS A FULL
LINE OF CAPACITORS FOR EVERY
PURPOSE. WRITE FOR DETAILS ON OTHER
CDE PRODUCTS ALSO AVAILABLE.

CORNING® Ceramic Capacitors

TYPE CAC CERAMIC CAPACITORS

TYPE CAC X7R

Miniature, axial-lead, monolithic ceramic capacitors designed for commercial and industrial applications where space and weight are at a premium. Ideally suited for automatic insertion. **Temp. Coef.:** ±15% from −55° C to +125° C. **Capacity Tolerance:** K = ±10%, M = ±20%. **Dissipation Factor:** 2.5% max. **Ins. Res.:** 100,000 megs or 1000 megohm-microfarads, whichever is less. **WVDC:** 50 and 100 volts.

TYPE CAC02X7R

ize: .100″ dia. x .190″ lg.

Cap., pF	CAC02-X7R-	Cap., pF	CAC02-X7R-	Cap., pF	CAC02-X7R-	Cap., pF	CAC02-X7R-
10	**100**	82	**820**	680	**681**	5600	**562**
12	**120**	100	**101**	820	**821**	5600*	**562**
15	**150**	120	**121**	1000	**102**	6800	**682**
18	**180**	150	**151**	1200	**122**	6800*	**682**
22	**220**	180	**181**	1500	**152**	8200*	**822**
27	**270**	220	**221**	1800	**182**	10,000*	**103**
33	**330**	270	**271**	2200	**222**	12,000*	**123**
39	**390**	330	**331**	2700	**272**	15,000*	**153**
47	**470**	390	**391**	3300	**332**	18,000*	**183**
56	**560**	470	**471**	3900	**392**	22,000*	**223**
68	**680**	560	**561**	4700	**472**		

*50 VDC; all others 100 VDC.

TYPE CAC03X7R

ize: .100″ dia. x .290″ lg.

Cap., pF	CAC03-X7R-	WV DC	Cap., pF	CAC03-X7R-	WV DC	Cap., pF	CAC03-X7R-	WV DC
5600	**562**	100	12,000	**123**	100	22,000	**223**	50
6800	**682**	100	12,000	**123**	50	27,000	**273**	50
8200	**822**	100	15,000	**153**	100	33,000	**333**	50
10,000	**103**	100	15,000	**153**	50	39,000	**393**	50
10,000	**103**	50	18,000	**183**	50	47,000	**473**	50

TYPE CAC04X7R

ize: .145″ dia. x .290″ lg.

Cap., pF	CAC04-X7R-	WV DC	Cap., pF	CAC04-X7R-	WV DC	Cap., pF	CAC04-X7R-	WV DC
10,000	**103**	100	27,000	**273**	100	56,000	**563**	50
12,000	**123**	100	33,000	**333**	100	68,000	**683**	50
15,000	**153**	100	39,000	**393**	100	82,000	**823**	50
18,000	**183**	100	47,000	**473**	100	100,000	**104**	50
22,000	**223**	100	47,000	**473**	50			

TYPE CAC05X7R

ize: .145″ dia. x .420″ lg.

Cap., pF	CAC05-X7R-	WV DC	Cap., pF	CAC05-X7R-	WV DC	Cap., pF	CAC05-X7R-	WV DC
10,000	**103**	100	47,000	**473**	100	100,000	**104**	100
12,000	**123**	100	47,000	**473**	50	100,000	**104**	50
15,000	**153**	100	56,000	**563**	100	120,000	**124**	50
18,000	**183**	100	56,000	**563**	50	150,000	**154**	50
22,000	**223**	100	68,000	**683**	100	180,000	**184**	50
27,000	**273**	100	68,000	**683**	50	220,000	**224**	50
33,000	**333**	100	82,000	**823**	100	270,000	**274**	50
39,000	**393**	100	82,000	**823**	50			

TYPE CAC__Z5U

Same as the preceding X7R type, but intended for general purpose use. **Temp. Coef.:** +22%, −56% from +10° C to +85° C. **Capacty Tolerance:** M = ±20%; Z = +80%, −20%. **Dissipation Factor:** 3% max. **Ins. Res.:** 10,000 megs or 100 megohm-microfarads, whichever is less. **WVDC:** 50 and 100 volts.

TYPE CAC02Z5U

ize: .100″ dia. x .190″ lg.

Cap., pF	CAC02-Z5U-	WV DC	Cap., pF	CAC02-Z5U-	WV DC	Cap., pF	CAC02-Z5U-	WV DC
1000	**102**	100	3900	**392**	100	15,000	**153**	100
1200	**122**	100	4700	**472**	100	18,000	**183**	100
1500	**152**	100	5600	**562**	100	22,000	**223**	100
1800	**182**	100	6800	**682**	100	27,000	**273**	50
2200	**222**	100	8200	**822**	100	33,000	**333**	50
2700	**272**	100	10,000	**103**	100	39,000	**393**	50
3300	**332**	100	12,000	**123**	100	47,000	**473**	50

TYPE CAC03Z5U

ize: .100″ dia. x .290″ lg.

Cap., pF	CAC03-Z5U-	WV DC	Cap., pF	CAC03-Z5U-	WV DC	Cap., pF	CAC03-Z5U-	WV DC
10,000	**103**	100	27,000	**273**	100	56,000	**563**	50
12,000	**123**	100	33,000	**333**	100	68,000	**683**	50
15,000	**153**	100	39,000	**393**	100	82,000	**823**	50
18,000	**183**	100	47,000	**473**	100	100,000	**104**	50
22,000	**223**	100	56,000	**563**	100	120,000	**124**	50

TYPE CAC04Z5U

ize: .145″ dia. x .290″ lg.

Cap., pF	CAC04-Z5U-	WV DC	Cap., pF	CAC04-Z5U-	WV DC	Cap., pF	CAC04-Z5U-	WV DC
68,000	**683**	100	120,000	**124**	100	220,000	**224**	50
82,000	**823**	100	120,000	**124**	50	270,000	**274**	50
100,000	**104**	100	150,000	**154**	50			
100,000	**104**	50	180,000	**184**	50			

TYPE CAC05Z5U

Size: .150″ dia. x .400″ lg.

Cap. pF	CAC 05-Z5U-	WV DC	Cap. pF	CAC 05-Z5U-	WV DC	Cap. pF	CAC 05-Z5U-	WV DC
100,000	**104**	100	220,000	**224**	100	390,000	**394**	50
120,000	**124**	100	270,000	**274**	100	470,000	**474**	50
150,000	**154**	100	270,000	**274**	50	....	....	....
180,000	**184**	100	330,000	**334**	50	....	....	....

PRICING

Series No.	Cap. Range pF	WV DC V.	Tolerance ± %	Net Each, Lots of				
				1-24	25-49	50-99	100-499	500-999
CAC02-X7R-	10–6800	100	10	**$0.58**	**$0.42**	**$0.33**	**$0.30**	**$0.26**
			20	**.53**	**.38**	**.30**	**.27**	**.23**
	5700–10,000	50	10	**.61**	**.44**	**.34**	**.31**	**.27**
			20	**.55**	**.40**	**.31**	**.28**	**.24**
	11,000–18,000	50	10	**.68**	**.50**	**.39**	**.35**	**.30**
			20	**.62**	**.45**	**.35**	**.32**	**.27**
	19,000–22,000	50	10	**.82**	**.60**	**.47**	**.42**	**.36**
			20	**.74**	**.54**	**.42**	**.38**	**.33**
CAC03-X7R-	5600–15,000	100	10	**.64**	**.46**	**.36**	**.32**	**.28**
			20	**.58**	**.42**	**.33**	**.30**	**.25**
	11,000–22,000	50	10	**.84**	**.61**	**.48**	**.43**	**.37**
			20	**.76**	**.55**	**.43**	**.39**	**.33**
	23,000–47,000	50	10	**1.05**	**.76**	**.60**	**.54**	**.46**
			20	**.94**	**.68**	**.53**	**.48**	**.41**
CAC04-X7R-	10,000–47,000	100	10	**1.01**	**.73**	**.57**	**.51**	**.44**
			20	**.91**	**.66**	**.52**	**.46**	**.40**
	47,000–75,000	50	10	**1.13**	**.82**	**.64**	**.57**	**.49**
			20	**1.02**	**.74**	**.58**	**.52**	**.45**
	76,000–100,000	50	10	**1.26**	**.91**	**.71**	**.64**	**.55**
			20	**1.14**	**.83**	**.65**	**.58**	**.50**
CAC05-X7R-	10,000–47,000	100	10	**1.43**	**1.03**	**.81**	**.73**	**.62**
			20	**1.29**	**.94**	**.73**	**.66**	**.57**
	48,000–100,000	100	10	**1.59**	**1.16**	**.91**	**.82**	**.70**
			20	**1.46**	**1.05**	**.82**	**.74**	**.64**
CAC05-X7R-	48,000–100,000	50	10	**1.52**	**1.10**	**.86**	**.78**	**.67**
			20	**1.38**	**1.00**	**.78**	**.70**	**.60**
	110,000–180,000	50	10	**1.79**	**1.30**	**1.02**	**.91**	**.79**
			20	**1.63**	**1.18**	**.92**	**.83**	**.71**
	190,000–270,000	50	10	**2.17**	**1.57**	**1.23**	**1.11**	**.95**
			20	**1.96**	**1.42**	**1.11**	**1.00**	**.86**
CAC02-Z5U-	1000–22,000	100	20	**.57**	**.42**	**.32**	**.29**	**.25**
			+80, −20	**.52**	**.38**	**.29**	**.27**	**.23**
	23,000–33,000	50	20	**.67**	**.48**	**.38**	**.34**	**.29**
			+80, −20	**.60**	**.44**	**.34**	**.31**	**.26**
	34,000–47,000	50	20	**.81**	**.58**	**.46**	**.41**	**.35**
			+80, −20	**.73**	**.53**	**.41**	**.37**	**.32**
CAC03-Z5U-	10,000–33,000	100	20	**.64**	**.46**	**.36**	**.32**	**.28**
			+80, −20	**.58**	**.42**	**.33**	**.29**	**.25**
	34,000–56,000	100	20	**.70**	**.51**	**.40**	**.36**	**.31**
			+80, −20	**.63**	**.46**	**.36**	**.32**	**.28**
	57,000–68,000	50	20	**.76**	**.55**	**.43**	**.39**	**.33**
			+80, −20	**.68**	**.50**	**.39**	**.35**	**.30**
	69,000–120,000	50	20	**.85**	**.61**	**.48**	**.43**	**.37**
			+80, −20	**.77**	**.56**	**.43**	**.39**	**.34**
CAC04-Z5U-	68,000–120,000	100	20	**1.00**	**.72**	**.56**	**.51**	**.44**
			+80, −20	**.90**	**.65**	**.51**	**.46**	**.39**
	100,000–180,000	50	20	**1.15**	**.83**	**.65**	**.58**	**.50**
			+80, −20	**1.04**	**.75**	**.59**	**.53**	**.46**
	190,000–270,000	50	20	**1.30**	**.94**	**.74**	**.66**	**.57**
			+80, −20	**1.18**	**.85**	**.67**	**.60**	**.52**
CAC05-Z5U-	100,000–180,000	100	20	**1.40**	**1.02**	**.79**	**.71**	**.61**
			+80, −20	**1.27**	**.92**	**.72**	**.65**	**.55**
	190,000–220,000	100	20	**1.56**	**1.13**	**.89**	**.80**	**.68**
			+80, −20	**1.48**	**1.03**	**.80**	**.72**	**.62**
	270,000–390,000	50	20	**1.74**	**1.26**	**.99**	**.89**	**.76**
			+80, −20	**1.58**	**1.14**	**.89**	**.81**	**.69**
	400,000–470,000	50	20	**2.17**	**1.57**	**1.23**	**1.11**	**.95**
			+80, −20	**1.96**	**1.42**	**1.11**	**1.00**	**.86**

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CORNING® CERAMIC AND TANTALUM CAPACITORS

TYPE CAC CERAMIC CAPACITORS (CONTINUED)
TYPE CAC__COG

Miniature, conformally coated, axial lead, ceramic capacitors, designed for high volume commercial and industrial applications requiring ultra stable performance. Especially suited for automatic insertion. **Capacity Tolerance:** C, ±0.25%; D, ±0.5%; F, ±1%; G, ±2%; J, ±5%; K, ±10%; M, ±20%. **Temp. Characteristic:** COG—±30 ppm/°C from −55° C to +125° C. **Dissipation Factor:** 0.1% max. at 1 kHz. **Insulation Resistance:** 100,000 megohms. **Dielectric Strength:** 2.5 x rated voltage for 1 to 5 seconds. **WVDC:** 50 or 100 volts, depending on capacity value.

TYPE CAC02COG

Size: .100″ dia. x .170″ L.

Cap. pF	CAC02-COG-	Cap. pF	CAC02-COG-	Cap. pF	CAC02-COG-	Cap. pF	CAC02-COG-
1.0	**010**	9.1	**9R1**	43	**430**	200	**201**
1.5	**1R5**	10	**100**	47	**470**	220	**221**
2.2	**2R2**	11	**110**	51	**510**	240	**241**
2.7	**2R7**	12	**120**	56	**560**	270	**271**
3.0	**030**	13	**130**	62	**620**	300	**301**
3.3	**3R3**	15	**150**	68	**680**	330	**331**
3.6	**3R6**	16	**160**	75	**750**	360	**361**
3.9	**3R9**	18	**180**	82	**820**	390	**391**
4.3	**4R3**	20	**200**	91	**910**	430	**431**
4.7	**4R7**	22	**220**	100	**101**	470	**471**
5.1	**5R1**	24	**240**	110	**111**	510	**511**
5.6	**5R6**	27	**270**	120	**121**	560	**561**
6.2	**6R2**	30	**300**	130	**131**	620	**621**
6.8	**6R8**	33	**330**	150	**151**	680	**681**
7.5	**7R5**	36	**360**	160	**161**	750	**741**
8.2	**8R2**	39	**390**	180	**181**		

TYPE CAC03COG

Size: .100″ dia. x .260″ L.

430	**431**	680	**681**	1100	**112**	1600	**162**
470	**471**	750	**751**	1200	**122**	1800	**182**
510	**511**	820	**821**	1300	**132**	2000	**202**
560	**561**	910	**911**	1500	**152**	2200	**222**
620	**621**	1000	**102**				

TYPE CAC04COG

Size: .150″ dia. x .270″ L.

1100	**112**	1600	**162**	2400	**242**	3600	**362**
1200	**122**	1800	**182**	2700	**272**	3900	**392**
1300	**132**	2000	**202**	3000	**302**	4300	**432**
1500	**152**	2200	**222**	3300	**332**	4700	**472**

TYPE CAC05COG

Size: .150″ dia. x .400″ L.

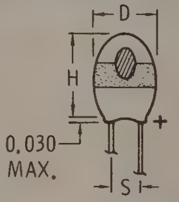
2400	**242**	3600	**362**	5100	**512**	7500	**752**
2700	**272**	3900	**392**	5600	**562**	8200	**822**
3000	**302**	4300	**432**	6200	**622**	9100	**912**
3300	**332**	4700	**472**	6800	**682**	10,000	**103**

PRICING

Series No.	Cap. Range, pF	WV DC, V.	Tolerance, ±	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
CAC02-C0G-	1–5.1	100	0.25 pF	**$1.19**	**$0.87**	**$0.68**	**$0.61**	**$0.52**
			0.5 pF	**1.14**	**.83**	**.65**	**.58**	**.50**
	5.6–12	100	0.25 pF	**1.19**	**.87**	**.68**	**.61**	**.52**
			5%	**1.14**	**.83**	**.65**	**.58**	**.50**
			10%	**1.03**	**.75**	**.59**	**.53**	**.45**
	13–100	100	5%	**1.16**	**.85**	**.66**	**.59**	**.51**
			10%	**.74**	**.54**	**.42**	**.38**	**.32**
			20%	**.68**	**.50**	**.39**	**.35**	**.30**
	110–390	100	5%	**1.27**	**.93**	**.72**	**.65**	**.56**
			10%	**.82**	**.59**	**.47**	**.42**	**.36**
			20%	**.77**	**.56**	**.44**	**.39**	**.34**
	430–750	50	5%	**1.37**	**1.00**	**.78**	**.70**	**.60**
			10%	**.87**	**.64**	**.49**	**.45**	**.38**
			20%	**.82**	**.59**	**.47**	**.42**	**.36**
CAC03-C0G-	330–1,000	100	5%	**1.37**	**1.00**	**.78**	**.70**	**.60**
			10%	**.87**	**.64**	**.49**	**.45**	**.38**
			20%	**.82**	**.59**	**.47**	**.42**	**.31**
	1,100–2,200	50	5%	**1.48**	**1.08**	**.84**	**.76**	**.65**
			10%	**.92**	**.68**	**.53**	**.47**	**.41**
			20%	**.87**	**.64**	**.49**	**.45**	**.38**
CAC04-C0G-	1,100–2,200	100	5%	**1.68**	**1.24**	**.96**	**.86**	**.74**
			10%	**.99**	**.73**	**.57**	**.51**	**.44**
			20%	**.95**	**.69**	**.54**	**.49**	**.42**
	2,400–4,700	50	5%	**1.93**	**.141**	**1.10**	**.98**	**.85**
			10%	**1.16**	**.85**	**.66**	**.59**	**.51**
			20%	**1.06**	**.77**	**.60**	**.54**	**.46**
CAC05-C0G-	2,400–4,700	100	5%	**3.22**	**2.35**	**1.83**	**1.65**	**1.41**
			10%	**1.99**	**1.47**	**1.14**	**1.03**	**.88**
			20%	**1.79**	**1.31**	**1.02**	**.92**	**.79**
	5,100–10,000	50	5%	**3.62**	**2.64**	**2.06**	**1.85**	**1.59**
			10%	**2.27**	**1.66**	**1.29**	**1.16**	**.99**
			20%	**2.03**	**1.49**	**1.16**	**1.04**	**.89**

MD SERIES SOLID TANTALUM CAPACITORS

Subminiature Minidip® solid tantalum capacitors for general filtering, coupling, by-passing and non-critical RC timing applications to +85° C without voltage derating. Capacitance measured at +25° C, 120 Hz on a polarized capacity bridge with a max. polarizing voltage of 2.2 VDC and a max. AC signal of 1 volt rms. **Tolerance:** ±20% standard; ±10% available. **Temperature Range:** −55° C to +85° C. **Surge Voltage:** At +85° C and at 60 second intervals, capacitors withstand 1000 30-second applications of 130% rated WVDC. Solder coated high-purity nickel wire leads; suitable for soldering or welding.



Note: With part oriented as shown, positive lead is on the right.

DIMENSIONS

Case Size	Dimensions (In.) H Max.	D Max.	S	Lead Length (In.) ±0.125 Anode	Cathode	Lead Dia. (In.) ±0.002
MD2	0.175	0.095	0.050	1.625	1.375	0.010
MD3	0.210	0.110	0.050	1.625	1.375	0.010
MD4	0.260	0.125	0.050	1.625	1.375	0.010
MD5	0.260	0.150	0.100	1.625	1.375	0.010
MD6	0.280	0.175	0.125	1.625	1.375	0.016

PRICING

Designation CGW	WV DC V.	Tolerance ±%	Net Each, Lots of 1-49	50-99	100-499	500-999
MD2	2–35	10	**$0.69**	**$0.50**	**$0.42**	**$0.30**
		20	**.63**	**.45**	**.38**	**.27**
MD3	2–35	10	**.71**	**.51**	**.43**	**.305**
		20	**.65**	**.46**	**.39**	**.275**
MD4	2–35	10	**.72**	**.52**	**.45**	**.31**
		20	**.67**	**.47**	**.40**	**.28**
MD5	2–35	10	**.80**	**.57**	**.48**	**.35**
		20	**.73**	**.52**	**.44**	**.31**
MD6	2–35	10	**.983**	**.706**	**.593**	**.413**
		20	**.892**	**.641**	**.538**	**.375**

ORDERING INFORMATION

Cap. μF	Part Number*	WV DC	Cap. μF	Part Number*	WV DC
2.2	**MD2-002-225-20**	2	0.33	**MD2-015-334-20**	15
4.7	**MD3-002-475-20**	2	0.68	**MD3-015-684-20**	15
10	**MD4-002-106-20**	2	1.5	**MD4-015-155-20**	15
22	**MD5-002-226-20**	2	3.3	**MD5-015-335-20**	15
68	**MD6-002-686-20**	2	10	**MD6-015-106-20**	15
1.5	**MD2-003-155-20**	3	0.15	**MD2-020-154-20**	20
3.3	**MD3-003-335-20**	3	0.22	**MD2-020-224-20**	20
6.8	**MD4-003-685-20**	3	0.33	**MD3-020-334-20**	20
15	**MD5-003-156-20**	3	0.47	**MD3-020-474-20**	20
47	**MD6-003-476-20**	3	0.68	**MD4-020-684-20**	20
1	**MD2-004-105-20**	4	1	**MD4-020-105-20**	20
2.2	**MD3-004-225-20**	4	1.5	**MD5-020-155-20**	20
4.7	**MD4-004-475-20**	4	2.2	**MD5-020-225-20**	20
10	**MD5-004-106-20**	4	6.8	**MD6-020-685-20**	20
33	**MD6-004-336-20**	4	0.1	**MD2-035-104-20**	35
0.68	**MD2-006-684-20**	6	0.15	**MD3-035-154-20**	35
1.5	**MD3-006-155-20**	6	0.22	**MD3-035-224-20**	35
3.3	**MD4-006-335-20**	6	0.33	**MD4-035-334-20**	35
6.8	**MD5-006-685-20**	6	0.47	**MD4-035-474-20**	35
22	**MD6-006-226-20**	6	0.68	**MD5-035-684-20**	35
0.47	**MD2-010-474-20**	10	1	**MD5-035-105-20**	35
1	**MD3-010-105-20**	10	1.5	**MD5-035-155-20**	35
2.2	**MD4-010-225-20**	10	2.2	**MD6-035-225-20**	35
4.7	**MD5-010-475-20**	10	3.3	**MD6-035-335-20**	35
15	**MD6-010-156-20**	10	4.7	**MD6-035-475-20**	35

*MD prefix in part number indicates case size. e.g., **MD2, MD3,** etc. Suffix **20** indicates ±20% tolerance. For ±10%, substitute **10** for **20.**

CORNING® Glass Capacitors

TYPE CYR GLASS CAPACITORS

Fused monolithic construction provides excellent electrical performance, environmental immunity, stability and retraceability. Meets MIL-C-23269 requirements. **WVDC:** 300 V and 500 V standard; **Types CRY10** thru **CRY30** also available in 100 WVDC rating with S failure rate level. **Temp. Range:** −55° C to +125° C.

Temp. Coefficient: +140, ±25 ppm/°C; max. deviation, 5 ppm. **Failure Rate Level:** L, 2/%1000 hrs.; M, 1%/1000 hrs.; S, .001%/1000 hrs. (available only in 100 WVDC rating). To specify failure rate level, add appropriate code number before value/tolerance suffix in part number; **2**—L, **3**—M, **7**—S. eg.., CRY10-2001.

TYPE CYR10

Axial lead—.078″ th. x .172″ w. x .344″ lg.

Cap., pF	Part No. Suffixes			Cap., pF	Part No. Suffixes		
	±.25pF	±.5pF	±5%		±1%	±2%	±5%
0.5	-001			22		-045	-046
1.0	-002			24		-047	-048
1.5	-003			27	-049	-050	-051
2.2	-004	-005		30	-052	-053	-054
2.7	-006			33	-055	-056	-057
3.0	-007	-008		36	-058	-059	-060
3.3	-009			39	-061	-062	-063
3.6	-010	-011		43	-064	-065	-066
3.9	-012			47	-067	-068	-069
4.3	-013	-014		51	-070	-071	-072
4.7	-015			56	-073	-074	-075
5.1	-016			62	-076	-077	-078
5.6	-017		-018	68	-079	-080	-081
6.2	-019		-020	75	-082	-083	-084
6.8	-021		-022	82	-085	-086	-087
7.5	-023		-024	91	-088	-089	-090
8.2	-025		-026	100	-091	-092	-093
9.1	-027		-028	110	-094	-095	-096
10	-029		-030	120	-097	-098	-099
11	-031		-032	130	-100	-101	-102
12	-033		-034	150	-103	-104	-105
	±1%	±2%	±5%	160	-106	-107	-108
				180	-109	-110	-111
13		-035	-036	200	-112	-113	-114
15		-037	-038	220*	-115	-116	-117
16		-039	-040	240*	-118	-119	-120
18		-041	-042	270*	-121	-122	-123
20		-043	-044	300*	-124	-125	-126

TYPE CYR15

Axial lead—.109″ th. x .266″ w. x .469″ lg.

Cap., pF	Part No. Suffixes			Cap., pF	Part No. Suffixes		
	±1%	±2%	±5%		±1%	±2%	±5%
220	-001	-002	-003	560*	-031	-032	-033
240	-004	-005	-006	620*	-034	-035	-036
270	-007	-008	-009	680*	-037	-038	-039
300	-010	-011	-012	750*	-040	-041	-042
330	-013	-014	-015	820*	-043	-044	-045
360	-016	-017	-018	910*	-046	-047	-048
390	-019	-020	-021	1000*	-049	-050	-051
430	-022	-023	-024	1100*	-052	-053	-054
470	-025	-026	-027	1200*	-055	-056	-057
510	-028	-029	-030				

TYPE CYR20

Axial lead—.141″ th. x .422″ w. x .734″ lg.

Cap., pF	Part No. Suffixes			Cap., pF	Part No. Suffixes		
	±1%	±2%	±5%		±1%	±2%	±5%
560	-001	-002	-003	1800	-037	-038	-039
620	-004	-005	-006	2000	-040	-041	-042
680	-007	-008	-009	2200	-043	-044	-045
750	-010	-011	-012	2400	-046	-047	-048
820	-013	-014	-015	2700	-049	-050	-051
910	-016	-017	-018	3000	-052	-053	-054
1000	-019	-020	-021	3300	-055	-056	-057
1100	-022	-023	-024	3600*	-058	-059	-060
1200	-025	-026	-027	3900*	-061	-062	-063
1300	-028	-029	-030	4300*	-064	-065	-066
1500	-031	-032	-033	4700*	-067	-068	-069
1600	-034	-035	-036	5100*	-070	-071	-072

TYPE CYR30

Axial lead—.141″ th. x .750″ w. x .766″ lg.

Cap., pF	Part No. Suffixes			Cap., pF	Part No. Suffixes		
	±1%	±2%	±5%		±1%	±2%	±5%
3600	-001	-002	-003	6200	-019	-020	-021
3900	-004	-005	-006	6800*	-022	-023	-024
4300	-007	-008	-009	7500*	-025	-026	-027
4700	-010	-011	-012	8200*	-028	-029	-030
5100	-013	-014	-015	9100*	-031	-032	-033
5600	-016	-017	-018	10,000*	-034	-035	-036

*300 V; all others 500 VDC.

Series No.	Cap. Range pF	Toler-ance ±	Net Each, Lots of					
			1-49	50-99	100-249	250-499	500-999	1000-Up
"L" FAILURE RATE								
CYR10-	0.5–12	.25 pF	$6.11	$5.31	$4.24	$3.84	$2.96	$1.97
		.5 pF	4.33	3.77	3.00	2.73	2.02	1.40
	5.6–12	5%	4.33	3.77	3.00	2.73	2.02	1.40
	13–24	.25 pF	7.63	6.66	5.30	4.81	3.58	2.46
		.5 pF	5.67	4.93	3.93	3.56	2.65	1.83
		2%	5.67	4.93	3.93	3.56	2.65	1.83
		5%	4.33	3.77	3.00	2.73	2.02	1.40
	25–300	1%	7.63	6.66	5.30	4.81	3.58	2.46
		2%	5.67	4.93	3.93	3.56	2.65	1.83
		5%	4.87	4.25	3.38	3.07	2.28	1.57

Series No.	Cap. Range pF	Toler-ance ±	Net Each, Lots of					
			1-49	50-99	100-249	250-499	500-999	1000-Up
"L" FAILURE RATE LEVEL (Continued)								
CYR15-	220–430	1%	$ 6.54	$ 5.70	$ 4.54	$ 4.11	$ 3.06	$ 2.11
		2%	5.67	4.93	3.93	3.56	2.65	1.83
		5%	4.87	4.25	3.38	3.07	2.28	1.57
	440–1200	1%	9.17	7.99	6.36	5.76	4.29	2.96
		2%	7.74	6.74	5.37	4.87	3.62	2.50
		5%	5.32	4.63	3.69	3.34	2.49	1.72
CYR20-	560–910	1%	11.32	9.86	7.85	7.12	5.29	3.65
		2%	8.87	7.72	6.15	5.58	4.15	2.86
		5%	6.58	5.73	4.57	4.14	3.08	2.12
	920–2400	1%	11.87	10.34	8.23	7.47	5.56	3.83
		2%	9.68	8.44	6.72	6.09	4.53	3.12
		5%	7.23	6.29	5.02	4.54	3.38	2.33
	2500–3000	1%	14.97	13.04	10.38	9.42	7.01	4.83
		2%	12.65	11.02	8.78	7.95	5.92	4.08
		5%	9.34	8.13	6.48	5.87	4.37	3.01
	3100–5100	1%	18.28	15.92	12.67	11.50	8.55	5.90
		2%	15.41	13.42	10.69	9.69	7.21	4.97
		5%	11.43	9.96	7.92	7.18	5.35	3.69
CYR30-	3600–4300	1%	25.07	21.84	17.38	15.76	11.73	8.09
		2%	20.56	17.91	14.26	12.94	9.61	6.63
		5%	15.14	13.19	10.51	9.53	7.08	4.88
	4400–5600	1%	27.72	24.15	19.23	17.44	12.97	8.94
		2%	24.39	21.24	16.91	15.33	11.41	7.87
		5%	18.04	15.71	12.51	11.35	8.44	5.82
	5700–8200	1%	28.37	24.71	19.68	17.84	13.27	9.15
		2%	25.88	22.28	17.74	16.09	11.97	8.25
		5%	18.96	16.51	13.15	11.92	8.87	6.12
	8300–10000	1%	30.42	26.49	21.10	19.13	14.22	9.81
		2%	27.56	24.00	19.11	17.34	12.89	8.89
		5%	20.30	17.68	14.07	12.76	9.49	6.55
"M" FAILURE RATE LEVEL								
CYR10-	0.5–2.2	.25 pF	$ 9.47	$ 8.25	$ 6.57	$ 5.96	$ 4.43	$ 3.06
		.5 pF	8.14	7.10	5.64	5.13	3.81	2.63
	2.7–12	.25 pF	9.08	7.90	6.29	5.70	4.24	2.93
		.5 pF	7.54	6.56	5.23	4.73	3.52	2.43
	5.6–12	5%	7.54	6.56	5.23	4.73	3.52	2.43
	13–24	.25 pF	10.12	8.81	7.02	6.37	4.73	3.27
		.5 pF	9.08	7.90	6.29	5.70	4.24	2.93
		2%	9.08	7.90	6.29	5.70	4.24	2.93
		5%	7.54	6.56	5.23	4.73	3.52	2.43
	25–300	1%	10.12	8.81	7.02	6.37	4.73	3.27
		2%	9.08	7.90	6.29	5.70	4.24	2.93
		5%	7.54	6.56	5.23	4.73	3.52	2.43
CYR15-	220–430	1%	10.12	8.81	7.02	6.37	4.73	3.27
		2%	9.08	7.90	6.29	5.70	4.24	2.93
		5%	7.54	6.56	5.23	4.73	3.52	2.43
	440–1200	1%	10.98	9.56	7.61	6.90	5.13	3.54
		2%	9.68	8.43	6.71	6.08	4.52	3.12
		5%	7.94	6.92	5.51	4.99	3.71	2.56
CYR20-	560–910	1%	12.99	11.31	9.01	8.16	6.07	4.19
		2%	11.14	9.70	7.73	7.01	5.21	3.60
		5%	8.69	7.57	6.03	5.47	4.06	2.81
	920–2400	1%	13.94	12.14	9.67	8.77	6.52	4.50
		2%	11.97	10.42	8.29	7.52	5.59	3.86
		5%	9.31	8.11	6.45	5.85	4.36	3.00
	2500–3000	1%	17.42	15.17	12.08	10.96	8.14	5.62
		2%	14.94	13.00	10.35	9.39	6.99	4.82
		5%	11.45	9.98	7.94	7.21	5.36	3.70
	3100–5100	1%	20.69	18.02	14.36	13.01	9.68	6.68
		2%	17.66	15.38	12.24	11.11	8.26	5.70
		5%	13.50	11.76	9.36	8.49	6.31	4.36
CYR30-	3600–4300	1%	27.41	23.87	19.01	17.25	12.82	8.84
		2%	22.78	19.83	15.80	14.32	10.65	7.35
		5%	17.23	14.99	11.94	10.82	8.05	5.56
	4400–5600	1%	30.72	26.75	21.31	19.32	14.37	9.91
		2%	26.52	23.11	18.39	16.69	12.41	8.56
		5%	20.04	17.46	13.90	12.61	9.37	6.47
	5700–8200	1%	31.33	27.29	21.73	19.71	14.65	10.11
		2%	27.72	24.15	19.22	17.44	12.96	8.94
		5%	20.97	18.26	14.54	13.19	9.80	6.77
	8300–10000	1%	32.69	28.48	22.67	20.57	15.29	10.55
		2%	29.49	25.69	20.45	18.55	13.79	9.52
		5%	22.26	19.39	15.43	14.00	10.41	7.18

CONTINUED ON NEXT PAGE

CORNING® Glass Capacitors

Series No.	Cap. Range pF	Toler-ance ±	Net Each, Lots of					
			1-49	50-99	100-249	250-499	500-999	1000-Up
“S” FAILURE RATE LEVEL (100 WVDC ONLY)								
CYR10-	.5–2.2	.25pF	$10.33	$ 9.00	$ 7.16	$ 6.49	$ 4.83	$ 3.33
		.5pF	8.87	7.72	6.15	5.58	4.00	2.86
	2.7–12	.25pF	9.55	8.32	6.62	6.01	4.47	3.18
		.5pF	8.22	7.15	5.70	5.16	3.84	2.65
	5.6–12	5%	8.22	7.15	5.70	5.16	3.84	2.65
	13–24	2%	9.55	8.32	6.62	6.01	4.47	3.18
		5%	8.22	7.15	5.70	5.16	3.84	2.65
	25–300	1%	11.01	9.59	7.63	6.92	5.15	3.55
		2%	9.55	8.32	6.62	6.01	4.47	3.18
		5%	8.22	7.15	5.70	5.16	3.84	2.65
CYR15-	220–430	1%	11.01	9.59	7.63	6.92	5.15	3.55
		2%	9.55	8.32	6.62	6.01	4.47	3.18
		5%	8.22	7.15	5.70	5.16	3.84	2.65
	440–1200	1%	11.97	10.42	8.29	7.52	5.60	3.86
		2%	10.53	9.17	7.30	6.62	4.93	3.40
		5%	8.66	7.54	6.01	5.45	4.05	2.79
CYR20-	560–910	1%	14.15	12.32	9.81	8.90	6.61	4.57
		2%	12.13	10.57	8.42	7.63	5.68	3.92
		5%	9.44	8.22	6.55	5.94	4.41	3.05
CYR20-	920–2400	1%	15.17	13.21	10.52	9.54	7.10	4.90
		2%	13.02	11.34	9.03	8.18	6.08	4.20
		5%	10.12	8.81	7.02	6.37	4.73	3.27
	2500–3000	1%	18.95	16.51	13.15	11.92	8.87	6.12
		2%	16.26	14.16	11.28	10.23	7.60	5.25
		5%	12.47	10.87	8.65	7.84	5.83	4.03
	3100–5100	1%	22.54	19.62	15.63	14.17	10.54	7.27
		2%	19.23	16.74	13.33	12.09	8.99	6.20
		5%	14.70	12.79	10.19	9.24	6.86	4.74
CYR30-	3600–4300	1%	29.87	26.02	20.71	18.79	13.97	9.64
		2%	24.82	21.62	17.22	15.69	11.61	8.01
		5%	18.76	16.34	13.00	11.79	8.77	6.05
	4400–5600	1%	33.48	29.16	23.22	21.05	15.65	10.80
		2%	28.91	25.18	20.05	18.18	13.52	9.33
		5%	21.86	19.03	15.16	13.74	10.22	7.05
	5700–8200	1%	34.13	29.72	23.67	21.46	15.96	11.01
		2%	30.21	26.31	20.94	19.00	14.12	9.75
		5%	22.85	19.90	15.84	14.37	10.68	7.37
	8300–10,000	1%	35.63	31.03	24.71	22.41	16.67	11.50
		2%	32.12	27.97	22.28	20.23	15.02	10.36
		5%	24.24	21.11	16.81	15.25	11.33	7.82

TYPE CYR51

Radial lead—.115″ th. x .200″ w. x .300″ lg. WVDC: 300 volts.

Cap., pF	Part No. Suffixes			Cap., pF	Part No. Suffixes		
	±.25pF	±.5pF	±5%		±1%	±2%	±5%
1.0	-001			33	-058	-059	-060
1.5	-002			36	-061	-062	-063
2.2	-003			39	-064	-065	-066
2.7	-004			43	-067	-068	-069
3.0	-005			47	-070	-071	-072
3.3	-006			51	-073	-074	-075
3.6	-007			56	-076	-077	-078
3.9	-008			62	-079	-080	-081
4.3	-009			68	-082	-083	-084
4.7	-010			75	-085	-086	-087
5.1	-011		-012	82	-088	-089	-090
5.6	-013		-014	91	-091	-092	-093
6.2	-015		-016	100	-094	-095	-096
6.8	-017		-018	110	-097	-098	-099
7.5	-019		-020	120	-100	-101	-102
8.2	-021		-022	130	-103	-104	-105
9.1	-023		-024	150	-106	-107	-108
10	-025		-026	160	-109	-110	-111
11	-027		-028	180	-112	-113	-114
12	-029		-030	200	-115	-116	-117
13	-031	-032	-033	220	-118	-119	-120
15	-034	-035	-036	240	-121	-122	-123
16	-037	-038	-039	270	-124	-125	-126
18	-040	-041	-042	300	-127	-128	-129
20	-043	-044	-045	330	-130	-131	-132
22	-046	-047	-048	360	-133	-134	-135
24	-049	-050	-051	390	-136	-137	-138
	±1%	±2%	±5%	430	-139	-140	-141
				470	-142	-143	-144
27	-052	-053	-054	510	-145	-146	-147
30	-055	-056	-057	560	-148	-149	-150

TYPE CYR52

Radial lead—.115″ th. x .300″ w. x .300″ lg. WVDC: 300 volts.

Cap., pF	Part No. Suffixes			Cap., pF	Part No. Suffixes		
	±1%	±2%	±5%		±1%	±2%	±5%
620	-201	-202	-203	820	-210	-211	-212
680	-204	-205	-206	910	-213	-214	-215
750	-207	-208	-209	1000	-216	-217	-218

TYPE CYR53

Radial lead—.115″ th. x .300″ w. x .500″ lg. WVDC: 300 volts.

Cap., pF	Part No. Suffixes			Cap., pF	Part No. Suffixes		
	±1%	±2%	±5%		±1%	±2%	±5%
1100	-301	-302	-303	1800	-316	-317	-318
1200	-304	-305	-306	2000	-319	-320	-321
1300	-307	-308	-309	2200	-322	-323	-324
1500	-310	-311	-312	2400	-325	-326	-327
1600	-313	-314	-315				

Series No.	Cap. Range pF	Toler-ance ±	Net Each, Lots of					
			1-49	50-99	100-249	250-499	500-999	1000-Up
“L” FAILURE RATE LEVEL								
CYR51-	1–5	.25pF	$ 8.05	$ 7.01	$ 5.58	$ 5.06	$ 3.76	$ 2.60
	5.1–24	.25pF	8.05	7.01	5.58	5.06	3.76	2.60
		5%	5.80	4.30	4.03	3.65	2.72	1.87
	13–24	2%	7.00	6.09	4.85	4.40	3.27	2.26
	25–100	1%	8.05	7.01	5.58	5.06	3.76	2.60
		2%	7.00	6.09	4.85	4.40	3.27	2.26
		5%	5.80	4.30	4.03	3.65	2.72	1.87
	110–270	1%	8.18	7.13	5.68	5.15	3.83	2.64
		2%	7.84	6.83	5.45	4.94	3.67	2.53
		5%	6.27	5.47	4.36	3.95	2.94	2.02
	280–560	1%	9.92	8.65	6.89	6.24	4.64	3.20
		2%	8.28	7.22	5.74	5.21	3.87	2.67
		5%	6.69	5.82	4.63	4.20	3.12	2.16
CYR52-	620–1000	1%	14.05	12.23	9.75	8.83	6.57	4.53
		2%	12.14	10.57	8.42	7.63	5.68	3.92
		5%	8.93	7.78	6.19	5.62	4.18	2.88
CYR53-	1100–1500	1%	14.87	12.95	10.31	9.35	6.95	4.80
		2%	12.55	10.93	8.70	7.90	5.87	4.05
		5%	8.93	7.78	6.19	5.62	4.18	2.88
	1600–1800	1%	16.47	14.34	11.42	10.36	7.70	5.31
		2%	13.88	12.08	9.63	8.73	6.49	4.48
		5%	10.36	9.03	7.19	6.52	4.85	3.34
	1900–2400	1%	17.97	15.65	12.46	11.31	8.40	5.80
		2%	15.07	13.12	10.45	9.48	7.05	4.86
		5%	11.09	9.66	7.69	6.97	5.18	3.58
“M” FAILURE RATE LEVEL								
CYR51-	1–5	.25pF	10.10	8.79	7.00	6.35	4.72	3.26
	5.1–24	.25pF	10.10	8.79	7.00	6.35	4.72	3.26
		5%	7.44	6.48	5.16	4.68	3.48	2.40
	13–24	2%	9.00	7.84	6.25	5.67	4.21	2.90
	25–100	1%	10.10	8.79	7.00	6.35	4.72	3.26
		2%	9.00	7.84	6.25	5.67	4.21	2.90
		5%	7.44	6.48	5.16	4.68	3.48	2.40
	110–270	1%	10.20	8.88	7.07	6.41	4.77	3.29
		2%	9.45	8.23	6.56	5.94	4.42	3.05
		5%	7.68	6.69	5.32	4.83	3.59	2.48
	280–560	1%	11.15	9.71	7.73	7.02	5.21	3.60
		2%	9.92	8.65	6.89	6.24	4.64	3.20
		5%	8.02	6.99	5.56	4.05	3.75	2.59
CYR52-	620–1000	1%	15.28	13.31	10.59	9.61	7.15	4.93
		2%	13.37	11.64	9.27	8.40	6.25	4.31
		5%	10.16	8.86	7.05	6.39	4.75	3.28
CYR53-	1100–1500	1%	16.47	14.34	11.42	10.36	7.70	5.31
		2%	14.19	12.35	9.83	8.92	6.63	4.58
		5%	10.57	9.21	7.34	6.66	4.95	3.41
	1600–1800	1%	18.11	15.77	12.56	11.39	8.47	5.84
		2%	16.24	14.14	11.25	10.21	7.59	5.24
		5%	12.00	10.45	8.33	7.55	5.61	3.87
	1900–2400	1%	19.61	17.08	13.60	12.33	9.17	6.33
		2%	16.74	14.59	11.62	10.53	7.83	5.40
		5%	14.05	12.23	9.75	8.83	6.57	4.10

OUR STOCKS ARE ALWAYS KEPT COMPLETE AND UP-TO-DATE.

ASK FOR INFORMATION ON ANY NEW OR UNLISTED PRODUCTS.

CORNING® Glass-K™ Ceramic Capacitors

MINIATURE GLASS-K™ CERAMIC CAPACITORS

Smaller capacitance values suitable for more critical circuit functions. **Temp. Range:** −55° C to +125° C. **Ins. Res.:** 100,000 megs or 1,000 megs-μF, whichever is less. **Dissipation Factor:** Stability characteristic T less than 1%; U less than 1.5%; V less than 3%. **WVDC:** 50 V. **Size:** CYK01, 0.100″ dia. x 0.250″ lg.; CYK02, 0.140″ dia. x 0.250″ lg. **Note:** Prices apply to standard capacitance decade values only; non-standard value prices on request.

TYPE CYK01

Corning No. CYK01-	Cap., pF	Tolerance*	Stability Char.	Net Each, Lots of 1-24	25-99	100-499	500-999	1000 Up
BT271	270	J	T	$4.30	$3.97	$3.18	$2.39	$1.58
		K	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT301	300	J	T	4.30	3.97	3.18	2.39	1.58
		K	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT331	330	J	T	4.30	3.97	3.18	2.39	1.58
		K	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT361	360	J†	T	4.30	3.97	3.18	2.39	1.58
		K†	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT391	390	J	T	4.30	3.97	3.18	2.39	1.58
		K	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT471	470	J	T	4.30	3.97	3.18	2.39	1.58
		K	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT511	510	J†	T	4.30	3.97	3.18	2.39	1.58
		K†	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT561	560	J	T	4.30	3.97	3.18	2.39	1.58
		K	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT621	620	J†	T	4.30	3.97	3.18	2.39	1.58
		K†	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT681	680	J	T	4.30	3.97	3.18	2.39	1.58
		K	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT751	750	J†	T	4.30	3.97	3.18	2.39	1.58
		K†	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT821	820	J	T	4.30	3.97	3.18	2.39	1.58
		K	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT102	1000	J	T	4.30	3.97	3.18	2.39	1.58
		K	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT122	1200	J	T	4.30	3.97	3.18	2.39	1.58
		K	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT152	1500	J	T	4.30	3.97	3.18	2.39	1.58
		K	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT182	1800	J	T	4.30	3.97	3.18	2.39	1.58
		K	T	3.06	2.84	2.27	1.69	1.13
		M†	T	2.75	2.56	2.03	1.55	1.02
BT222	2200	J	T	4.73	4.38	3.50	2.52	1.75
		K	T	3.38	3.13	2.51	1.90	1.26
		M†	T	3.02	2.78	2.23	1.68	1.12
BT272	2700	J	T	4.73	4.38	3.50	2.52	1.75
		K	T	3.38	3.13	2.51	1.90	1.26
		M†	T	3.02	2.78	2.23	1.68	1.12
BT332	3300	J	T	4.73	4.38	3.50	2.52	1.75
		K	T	3.38	3.13	2.51	1.90	1.26
		M†	T	3.02	2.78	2.23	1.68	1.12
BT392	3900	J	T	4.73	4.38	3.50	2.52	1.75
		K	T	3.38	3.13	2.51	1.90	1.26
		M†	T	3.02	2.78	2.23	1.68	1.12
BT472	4700	J	T	4.73	4.38	3.50	2.52	1.75
		K	T	3.38	3.13	2.51	1.90	1.26
		M†	T	3.02	2.78	2.23	1.68	1.12
BT562	5600	J	T	4.73	4.38	3.50	2.52	1.75
		K	T	3.38	3.13	2.51	1.90	1.26
		M†	T	3.02	2.78	2.23	1.68	1.12
BT682	6800	J	T	4.73	4.38	3.50	2.52	1.75
		K	T	3.38	3.13	2.51	1.90	1.26
		M†	T	3.02	2.78	2.23	1.68	1.12
BT822	8200	J	T	4.73	4.38	3.50	2.52	1.75
		K	T	3.38	3.13	2.51	1.90	1.26
		M†	T	3.02	2.78	2.23	1.68	1.12
BT103	10,000	J	T	5.36	4.97	3.97	2.98	1.99
		K	T	3.84	3.56	2.84	2.12	1.40
		M†	T	3.41	3.18	2.54	1.91	1.27
BU123	12,000	K	U	6.07	5.63	4.51	3.38	2.24
		M	U	5.40	4.99	4.01	3.00	2.00
BU153	15,000	K	U	6.07	5.63	4.51	3.38	2.24
		M	U	5.40	4.99	4.01	3.00	2.00
BU183	18,000	K	U	6.07	5.63	4.51	3.38	2.24
		M	U	5.40	4.99	4.01	3.00	2.00
BU203	20,000	K	U	6.07	5.63	4.51	3.38	2.24
		M	U	5.40	4.99	4.01	3.00	2.00
BV223	22,000	K	V	6.74	6.25	4.99	3.74	2.51
		M	V	6.04	5.59	4.45	3.35	2.23
BV273	27,000	K	V	6.74	6.25	4.99	3.74	2.51
		M	V	6.04	5.59	4.45	3.35	2.23
BV333	33,000	K	V	6.74	6.25	4.99	3.74	2.51
		M	V	6.04	5.59	4.45	3.35	2.23
BV393	39,000	K	V	6.74	6.25	4.99	3.74	2.51
		M	V	6.04	5.59	4.45	3.35	2.23
BV473	47,000	K	V	6.74	6.25	4.99	3.74	2.51
		M	V	6.04	5.59	4.45	3.35	2.23
BV513	51,000	K	V	6.74	6.25	4.99	3.74	2.51
		M	V	6.04	5.59	4.45	3.35	2.23

*For desired tolerance, add **J** (±5%), **K** (±10%), or **M** (±20%) to Part No. †Not normally stocked; available on special order.

TYPE CYK02

Corning No. CYK02-	Cap., pF	Tolerance*	Stability Char.	Net Each, Lots of 1-24	25-99	100-499	500-999	1000 Up
BT123	12,000	J†	T	$9.13	$8.46	$6.77	$5.08	$3.38
		K	T	6.54	6.05	4.85	3.62	2.41
		M	T	5.80	5.39	4.31	3.24	2.14
BT153	15,000	J†	T	9.13	8.46	6.77	5.08	3.38
		K	T	6.54	6.05	4.85	3.62	2.41
		M	T	5.80	5.39	4.31	3.24	2.14
BT183	18,000	J†	T	9.13	8.46	6.77	5.08	3.38
		K	T	6.54	6.05	4.85	3.62	2.41
		M	T	5.80	5.39	4.31	3.24	2.14
BT203	20,000	J†	T	9.13	8.46	6.77	5.08	3.38
		K	T	6.54	6.05	4.85	3.62	2.41
		M	T	5.80	5.39	4.31	3.24	2.14
BU223	22,000	K	U	6.54	6.05	4.85	3.62	2.41
		M	U	5.80	5.39	4.31	3.24	2.14
BU273	27,000	K	U	6.54	6.05	4.85	3.62	2.41
		M	U	5.80	5.39	4.31	3.24	2.14
BU333	33,000	K	U	6.54	6.05	4.85	3.62	2.41
		M	U	5.80	5.39	4.31	3.24	2.14
BU393	39,000	K	U	6.54	6.05	4.85	3.62	2.41
		M	U	5.80	5.39	4.31	3.24	2.14
BV563	56,000	K	V	6.52	5.96	4.33	3.25	2.18
		M	V	5.23	4.86	3.88	2.90	1.93
BV683	68,000	K	V	6.52	5.96	4.33	3.25	2.18
		M	V	5.23	4.86	3.88	2.90	1.93
BV823	82,000	K	V	6.52	5.96	4.33	3.25	2.18
		M	V	5.23	4.86	3.88	2.90	1.93
BV104	100,000	K	V	9.00	8.26	6.00	4.51	3.00
		M	V	8.00	7.33	5.33	4.01	2.66

*For desired tolerance, add **J** (±5%), **K** (±10%), or **M** (±20%) to Part No. †Not normally stocked; available on special order.

MINIATURE BX CAPACITORS

Performance characteristics in accordance with MIL-C-11015. Exclusive glass-ceramic dielectric and unique manufacturing process assure true monolithic structure. Used in bypass, filter and coupling circuits, R-C networks; point of use filtering; suited for automatic insertion. **Temperature Range:** −55° C to +125° C. **Insulation Resistance:** 100,000 megohms or 1,000 megohm-microfarads, whichever is greater. **Dissipation Factor:** 2.5% max. **WVDC:** 50 and 100V. **Size:** CK12, .160″ lg. x .090″ dia.; CK13, .250″ lg. x .090″ dia.; CK14, .390″ lg. x .140″ dia. **Tolerance:** Suffix K, ±10%; M, ±20%.

TYPE CK12

Cap., pF	CK12 BX-	Cap., pF	CK12 BX-	Cap., pF	CK12 BX-	Cap., pF	CK12 BX-
10	**100K,M**	68	**680K,M**	470	**471K,M**	3300	**332K,M**
12	**120K**	82	**820K**	560	**561K**	3900	**392K**
15	**150K,M**	100	**101K,M**	680	**681K,M**	4700	**472K,M**
18	**180K**	120	**121K**	820	**821K**	5600*	**562K**
22	**220K,M**	150	**151K,M**	1000	**102K,M**	6800*	**682K,M**
27	**270K**	180	**181K**	1200	**122K**	8200*	**822K**
33	**330K,M**	220	**221K,M**	1500	**152K,M**	10000*	**103K,M**
39	**390K**	270	**271K**	1800	**182K**		
47	**470K,M**	330	**331K,M**	2200	**222K,M**		
56	**560K**	390	**391K**	2700	**272K**		

*50 VDC; all others 100 VDC.

TYPE CK13

Cap., pF	CK13 BX-	Cap., pF	CK13 BX-	Cap., pF	CK13 BX-	Cap., pF	CK13 BR-
5600*	**562**	10,000*	**103**	18,000	**183**	27,000	**273**
6800*	**682**	12,000	**123**	22,000	**223**	33,000	**333**
8200*	**882**	15,000	**153**			39,000	**393**
						47,000	**473**

*100 VDC; all others 50 VDC.

TYPE CK14

Cap., pF	CK14 BX-	Cap., pF	CK14 BX-	Cap., pF	CK14 BR-	Cap., pF	CK14 BR-
12,000	**123**	27,000	**273**	56,000	**563**	120,000	**124**
15,000	**153**	33,000	**333**	68,000	**683**	150,000	**154**
18,000	**183**	39,000	**393**	82,000	**823**	180,000	**184**
22,000	**223**	47,000	**473**	100,000	**104**	220,000	**224**
						270,000	**274**

PRICING FOR CK TYPES

Capacitance pF	Tolerance ±	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999	1000-Up
CK12							
10–	10%	$0.65	$0.47	$0.37	$0.33	$0.29	$0.246
5600	20%	.59	.43	.34	.30	.26	.224
5700–	10%	.67	.49	.38	.34	.29	.253
10,000	20%	.62	.45	.35	.32	.27	.233
CK13							
5600–	10%	.67	.49	.38	.35	.30	.256
10,000	20%	.63	.45	.35	.32	.27	.236
11,000–	10%	.90	.65	.51	.46	.39	.338
22,000	20%	.81	.59	.46	.41	.35	.305
27,000–	10%	1.13	.82	.64	.57	.49	.425
47,000	20%	1.02	.74	.58	.52	.45	.384
CK14							
12,000–	10%	1.31	.95	.74	.67	.58	.496
27,000	20%	1.19	.86	.67	.61	.52	.448
28,000–	10%	1.52	1.10	.86	.78	.67	.574
47,000	20%	1.37	.99	.78	.70	.60	.517
56,000–	10%	1.69	1.23	.96	.86	.74	.638
100,000	20%	1.52	1.00	.86	.775	.67	.574
120,000–	10%	2.85	2.08	1.62	1.46	1.25	1.08
270,000	20%	2.64	1.91	1.48	1.33	1.15	.99

CORNING® Glass Capacitors

CYFM GLASS CAPACITORS

Fusion-sealed, environment-proof capacitors have glass-to-metal seals at leads. Foil and glass element is frozen inside glass. Meet or exceed MIL-C-11272B requirements. Subjected to moisture resistance conditions of MIL-STD-202A, Method 106A for 1200 hours without failure or degradation. **WVDC:** 300 and 500 V, −55° C to +125° C. **Temperature Coefficient:** +140 (±25) ppm/° C at 100 kHz. Varies from +115 ppm/° C at −55° C to +165 ppm/° C at +125° C. Max. deviation, 5 ppm. Drift less than 0.1% or 0.1 pF, whichever is greater. **Tolerance:** Standard, ±5% or ±0.25 pF, whichever is greater; ±10%, ±2% and ±1% on request.

TYPE CYFM10

Size, Min.-Max.: .2969″–.3906″ lg. x .1406″–.2031″ w. x .0469″–.1093″ thick.

No. CYFM-10C-	Cap., pF	Net Each, Lots of				
		1-49	50-99	100-249	250-499	500-999‡
0R5C†	0.5	$5.90	$5.14	$4.09	$3.71	$2.76
1R0C†	1.0	5.90	5.14	4.09	3.71	2.76
1R5C†	1.5	5.90	5.14	4.09	3.71	2.76
2R2C†	2.2	5.90	5.14	4.09	3.71	2.76
2R7C†	2.7	5.90	5.14	4.09	3.71	2.76
3R0C†	3.0	5.90	5.14	4.09	3.71	2.76
3R3C†	3.3	5.90	5.14	4.09	3.71	2.76
3R6C†	3.6	5.90	5.14	4.09	3.71	2.76
3R9C†	3.9	5.90	5.14	4.09	3.71	2.76
4R3C†	4.3	5.90	5.14	4.09	3.71	2.76
4R7C†	4.7	5.90	5.14	4.09	3.71	2.76
5R1C†	5.1	5.90	5.14	4.09	3.71	2.76
5R6C†	5.6	5.90	5.14	4.09	3.71	2.76
6R2C†	6.2	5.90	5.14	4.09	3.71	2.76
6R8C†	6.8	5.90	5.14	4.09	3.71	2.76
7R5C†	7.5	5.90	5.14	4.09	3.71	2.76
8R2C†	8.2	5.90	5.14	4.09	3.71	2.76
9R1C†	9.1	5.90	5.14	4.09	3.71	2.76
100C†	10	5.90	5.14	4.09	3.71	2.76
110C†	11	5.90	5.14	4.09	3.71	2.76
120C†	12	5.90	5.14	4.09	3.71	2.76
130J	13	2.26	1.96	1.56	1.41	1.06
150J	15	2.26	1.96	1.56	1.41	1.06
160J	16	2.26	1.96	1.56	1.41	1.06
180J	18	2.26	1.96	1.56	1.41	1.06
200J	20	2.26	1.96	1.56	1.41	1.06
220J	22	2.26	1.96	1.56	1.41	1.06
240J	24	2.26	1.96	1.56	1.41	1.06
270J	27	2.26	1.96	1.56	1.41	1.06
300J	30	2.26	1.96	1.56	1.41	1.06
330J	33	2.26	1.96	1.56	1.41	1.06
360J	36	2.26	1.96	1.56	1.41	1.06
390J	39	2.26	1.96	1.56	1.41	1.06
430J	43	2.26	1.96	1.56	1.41	1.06
470J	47	2.26	1.96	1.56	1.41	1.06
510J	51	2.26	1.96	1.56	1.41	1.06
560J	56	2.26	1.96	1.56	1.41	1.06
620J	62	2.26	1.96	1.56	1.41	1.06
680J	68	2.26	1.96	1.56	1.41	1.06
750J	75	2.26	1.96	1.56	1.41	1.06
820J	82	2.26	1.96	1.56	1.41	1.06
910J	91	2.26	1.96	1.56	1.41	1.06
101J	100	4.71	4.10	3.27	2.96	2.20
111J	110	4.71	4.10	3.27	2.96	2.20
121J	120	4.71	4.10	3.27	2.96	2.20
131J	130	4.71	4.10	3.27	2.96	2.20
151J	150	4.71	4.10	3.27	2.96	2.20
161J	160	4.71	4.10	3.27	2.96	2.20
181J	180	4.71	4.10	3.27	2.96	2.20
201J	200	4.71	4.10	3.27	2.96	2.20
221J*	220	4.71	4.10	3.27	2.96	2.20
241J*	240	4.71	4.10	3.27	2.96	2.20
271J*	270	4.71	4.10	3.27	2.96	2.20
301J*	300	4.71	4.10	3.27	2.96	2.20

TYPE CYFM15

Use prefix CYFM-15-C; Size, Min.-Max.: .4219″–.5156″ lg. x .2344″–.2968″ w. x .0625″–.1562″ thick.

No. CYFM-15C-	Cap., pF	Net Each, Lots of				
		1-49	50-99	100-249	250-499	500-999‡
221J	220	$2.83	$2.46	$1.96	$1.78	$1.32
241J	240	2.83	2.46	1.96	1.78	1.32
271J	270	2.83	2.46	1.96	1.78	1.32
301J	300	2.83	2.46	1.96	1.78	1.32
331J	330	2.83	2.46	1.96	1.78	1.32
361J	360	2.83	2.46	1.96	1.78	1.32
391J	390	2.83	2.46	1.96	1.78	1.32
431J	430	2.83	2.46	1.96	1.78	1.32
471J	470	3.88	3.39	2.70	2.44	1.82
511J	510	3.88	3.39	2.70	2.44	1.82
561J*	560	3.88	3.39	2.70	2.44	1.82
621J*	620	3.88	3.39	2.70	2.44	1.82
681J*	680	3.88	3.39	2.70	2.44	1.82
751J*	750	3.88	3.39	2.70	2.44	1.82
821J*	820	3.88	3.39	2.70	2.44	1.82
911J*	910	3.88	3.39	2.70	2.44	1.82
102J*	1000	3.88	3.39	2.70	2.44	1.82
112J*	1100	4.95	4.31	3.43	3.11	2.31
122J*	1200	4.95	4.31	3.43	3.11	2.31

*300 WVDC. †Tolerance ±0.25 pF; all others ±5%. ‡1000 Up prices on request.

TYPE TYO GLASS CAPACITORS

Upright flush mounting in printed circuits with minimum rocking; or, point-to-point wiring. Glass dielectric and foil fused to form single element with high stability. Gold-plated 1¼″ Dumet leads spaced 0.2″. General performance to MIL-C-11272B. **WVDC:** 300 V, −55° C to +125° C. **Temperature Coefficient:** +140 (±25) ppm/° C at 100 kHz. Varies from +115 ppm/° C at −55° C to +165 ppm/° C at +125° C. Maximum deviation at any temperature, 5 ppm. Drift less than 0.1% or 0.1 pF, whichever is greater. **Tol.:** Suffix **J,** ±5%; **K,** ±10% and **C,** ±0.25 pF; ±20%, ±2%, ±1% on request.

TYPE TY06

Size: .300″ lg. x .200″ w. x .115″ thick. Weight, 0.3–0.4 gram.

Corn. No. CY06-	Cap., pF	Net Each, Lots of				
		1-49	50-99	100-249	250-499	500-999§
1R0C	1.0	$5.86	$5.10	$4.07	$3.69	$2.74
1R5C	1.5	5.86	5.10	4.07	3.69	2.74
2R2C	2.2	5.86	5.10	4.07	3.69	2.74
2R7C	2.7	5.63	4.91	3.91	3.54	2.63
3R0C	3.0	5.63	4.91	3.91	3.54	2.63
3R3C	3.3	5.63	4.91	3.91	3.54	2.63
3R6C	3.6	5.63	4.91	3.91	3.54	2.63
3R9C	3.9	5.63	4.91	3.91	3.54	2.63
4R3C	4.3	5.63	4.91	3.91	3.54	2.63
4R7C	4.7	5.42	4.72	3.76	3.41	2.54
5R1J	5.1	4.81	4.19	3.33	3.03	2.24
5R6J	5.6	4.81	4.19	3.33	3.03	2.24
6R2J	6.2	4.81	4.19	3.33	3.03	2.24
6R8J	6.8	4.81	4.19	3.33	3.03	2.24
7R5J	7.5	4.71	4.10	3.27	2.96	2.20
8R2J	8.2	4.71	4.10	3.27	2.96	2.20
9R1J	9.1	4.71	4.10	3.27	2.96	2.20
100J	10	2.91	2.54	2.02	1.83	1.36
100K	10	2.54	2.21	1.76	1.60	1.19
110J	11	2.91	2.54	2.02	1.83	1.36
110K	11	2.54	2.21	1.76	1.60	1.19
120J	12	2.91	2.54	2.02	1.83	1.36
120K	12	2.54	2.21	1.76	1.60	1.19
130J	13	3.07	2.67	2.13	1.93	1.43
130K	13	2.26	1.97	1.57	1.42	1.06
150J	15	3.07	2.67	2.13	1.93	1.43
150K	15	2.26	1.97	1.57	1.42	1.06
160J	16	3.07	2.67	2.13	1.93	1.43
160K	16	2.26	1.97	1.57	1.42	1.06
180J	18	3.07	2.67	2.13	1.93	1.43
180K	18	2.26	1.97	1.57	1.42	1.06
200J	20	3.07	2.67	2.13	1.93	1.43
200K	20	2.26	1.97	1.57	1.42	1.06
220J	22	3.07	2.67	2.13	1.93	1.43
220K	22	2.26	1.97	1.57	1.42	1.06
240J	24	3.07	2.67	2.13	1.93	1.43
240K	24	2.26	1.97	1.57	1.42	1.06
270J	27	3.13	2.73	2.17	1.97	1.46
270K	27	2.33	2.03	1.61	1.46	1.09
300J	30	3.13	2.73	2.17	1.97	1.46
300K	30	2.33	2.03	1.61	1.46	1.09

TYPE CYFM20

Size, Min.-Max.: .6719″–.7968″ lg. x .3750″–.4687″ w. x .0938″–.1875″ thick.

No. CYFM-20C-	Cap., pF	Net Each, Lots of				
		1-49	50-99	100-249	250-499	500-999‡
561J	560	$4.13	$3.60	$2.86	$2.60	$1.93
621J	620	4.13	3.60	2.86	2.60	1.93
681J	680	4.13	3.60	2.86	2.60	1.93
751J	750	4.13	3.60	2.86	2.60	1.93
821J	820	4.13	3.60	2.86	2.60	1.93
911J	910	4.13	3.60	2.86	2.60	1.93
102J	1000	4.13	3.60	2.86	2.60	1.93
112J	1100	4.13	3.60	2.86	2.60	1.93
122J	1200	5.67	4.93	3.93	3.56	2.65
132J	1300	5.67	4.93	3.93	3.56	2.65
152J	1500	5.67	4.93	3.93	3.56	2.65
162J	1600	5.67	4.93	3.93	3.56	2.65
182J	1800	5.67	4.93	3.93	3.56	2.65
202J	2000	5.67	4.93	3.93	3.56	2.65
222J	2200	5.67	4.93	3.93	3.56	2.65
242J	2400	5.67	4.93	3.93	3.56	2.65
272J	2700	5.67	4.93	3.93	3.56	2.65
302J	3000	5.67	4.93	3.93	3.56	2.65
332J	3300	7.23	6.29	5.02	4.54	3.38
362J	3600	7.23	6.29	5.02	4.54	3.38
392J*	3900	7.23	6.29	5.02	4.54	3.38
432J*	4300	7.23	6.29	5.02	4.54	3.38
472J*	4700	7.23	6.29	5.02	4.54	3.38
512J*	5100	7.23	6.29	5.02	4.54	3.38

TYPE CYFM30

Size, Min.-Max.: .7032″–.8281″ lg. x .6719″–.8281″ w. x .0938″–.1875″ thick.

No. CYFM-30C-	Cap., pF	Net Each, Lots of				
		1-49	50-99	100-249	250-499	500-999‡
362J	3600	$7.71	$6.71	$5.35	$4.85	$3.61
392J	3900	7.71	6.71	5.35	4.85	3.61
432J	4300	7.71	6.71	5.35	4.85	3.61
472J	4700	7.71	6.71	5.35	4.85	3.61
512J	5100	7.71	6.71	5.35	4.85	3.61
562J	5600	7.71	6.71	5.35	4.85	3.61
622J	6200	7.71	6.71	5.35	4.85	3.61
682J	6800	8.56	7.46	5.94	5.38	4.00
752J*	7500	8.56	7.46	5.94	5.38	4.00
822J*	8200	10.26	8.94	7.12	6.46	4.80
912J*	9100	10.26	8.94	7.12	6.46	4.80
103J*	10000	10.26	8.94	7.12	6.46	4.80

TYPE TY06 (CONTINUED)

Corn. No. CY06-	Cap., pF	Net Each, Lots of				
		1-49	50-99	100-249	250-499	500-999§
330J	33	$3.13	$2.73	$2.17	$1.97	$1.46
330K	33	2.33	2.03	1.61	1.46	1.09
360J	36	3.13	2.73	2.17	1.97	1.46
360K	36	2.33	2.03	1.61	1.46	1.09
390J	39	3.13	2.73	2.17	1.97	1.46
390K	39	2.33	2.03	1.61	1.46	1.09
430J	43	3.13	2.73	2.17	1.97	1.46
430K	43	2.33	2.03	1.61	1.46	1.09
470J	47	3.13	2.73	2.17	1.97	1.46
470K	47	2.33	2.03	1.61	1.46	1.09
510J	51	3.13	2.73	2.17	1.97	1.46
510K	51	2.33	2.03	1.61	1.46	1.09
560J	56	3.13	2.73	2.17	1.97	1.46
560K	56	2.33	2.03	1.61	1.46	1.09
620J	62	3.13	2.73	2.17	1.97	1.46
620K	62	2.33	2.03	1.61	1.46	1.09
680J	68	3.13	2.73	2.17	1.97	1.46
680K	68	2.33	2.03	1.61	1.46	1.09
750J	75	3.13	2.73	2.17	1.97	1.46
750K	75	2.33	2.03	1.61	1.46	1.09
820J	82	3.13	2.73	2.17	1.97	1.46
820K	82	2.33	2.03	1.61	1.46	1.09
910J	91	3.13	2.73	2.17	1.97	1.46
910K	91	2.33	2.03	1.61	1.46	1.09
101J	100	3.13	2.73	2.17	1.97	1.46
101K	100	2.33	2.03	1.61	1.46	1.09
111J	110	3.60	3.13	2.49	2.26	1.68
111K	110	2.67	2.32	1.85	1.68	1.25
121J	120	3.60	3.13	2.49	2.26	1.68
121K	120	2.67	2.32	1.85	1.68	1.25
131J	130	3.60	3.13	2.49	2.26	1.68
131K	130	2.67	2.32	1.85	1.68	1.25
151J	150	3.60	3.13	2.49	2.26	1.68
151K	150	2.67	2.32	1.85	1.68	1.25
161J	160	3.60	3.13	2.49	2.26	1.68
161K	160	2.67	2.32	1.85	1.68	1.25
181J	180	3.60	3.13	2.49	2.26	1.68
181K	180	2.67	2.32	1.85	1.68	1.25
201J	200	3.60	3.13	2.49	2.26	1.68
201K	200	2.67	2.32	1.85	1.68	1.25
221J	220	3.60	3.13	2.49	2.26	1.68
221K	220	2.67	2.32	1.85	1.68	1.25
241J	240	3.60	3.13	2.49	2.26	1.68
241K	240	2.67	2.32	1.85	1.68	1.25
271J	270	3.60	3.13	2.49	2.26	1.68
271K	270	2.67	2.32	1.85	1.68	1.25
301J	300	3.60	3.13	2.49	2.26	1.68
301K	300	2.67	2.32	1.85	1.68	1.25
331J	330	3.60	3.13	2.49	2.26	1.68
331K	330	2.67	2.32	1.85	1.68	1.25
361J	360	3.60	3.13	2.49	2.26	1.68
361K	360	2.67	2.32	1.85	1.68	1.25
391J	390	3.60	3.13	2.49	2.26	1.68
391K	390	2.67	2.32	1.85	1.68	1.25
431J	430	3.60	3.13	2.49	2.26	1.68
431K	430	2.67	2.32	1.85	1.68	1.25
471J	470	3.60	3.13	2.49	2.26	1.68
471K	470	2.67	2.32	1.85	1.68	1.25
511J	510	3.60	3.13	2.49	2.26	1.68
511K	510	2.67	2.32	1.85	1.68	1.25
561J	560	3.60	3.13	2.49	2.26	1.68
561K	560	2.67	2.32	1.85	1.68	1.25

TYPE TY07

Use prefix TY07-C; .300″ lg. x .300″ w. x .115″ thick. Weight, 0.4–0.5 gram.

621J	620	$3.78	$3.29	$2.62	$2.38	$1.77
621K	620	2.82	2.46	1.96	1.77	1.32
681J	680	3.78	3.29	2.62	2.38	1.77
681K	680	2.82	2.46	1.96	1.77	1.32
751J	750	3.78	3.29	2.62	2.38	1.77
751K	750	2.82	2.46	1.96	1.77	1.32
821J	820	3.78	3.29	2.62	2.38	1.77
821K	820	2.82	2.46	1.96	1.77	1.32
911J	910	4.09	3.56	2.84	2.57	1.91
911K	910	3.04	2.65	2.11	1.91	1.42
102J	1000	4.09	3.56	2.84	2.57	1.91
102K	1000	3.04	2.65	2.11	1.91	1.42

TYPE TY08

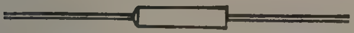
Use prefix TY08-; .500″ lg. x .300″ w. x .115″ thick. Weight, 0.7–0.8 gram.

112J	1100	$4.68	$4.08	$3.25	$2.94	$2.19
122J	1200	4.68	4.08	3.25	2.94	2.19
132J	1300	4.68	4.08	3.25	2.94	2.19
152J	1500	4.68	4.08	3.25	2.94	2.19
162J	1600	5.77	5.02	4.00	3.63	2.70
182J	1800	5.77	5.02	4.00	3.63	2.70
202J	2000	5.77	5.02	4.00	3.63	2.70
222J	2200	7.13	6.21	4.95	4.49	3.34
242J	2400	7.13	6.21	4.95	4.49	3.34

§1000–4999 prices on request.

GENERAL ELECTRIC Film Type Capacitors

LECTROFILM®-B TUBULAR CAPACITORS



Very small size, high reliability, wide temperature range (−55° to +125° C). Extended foil construction with excellent resistance to humidity, vibration and shock. Wound with high-purity foil and closely controlled capacitor-grade polyester film dielectric; these compact rolls are wrapped with tape and ends sealed with epoxy resin. Lightweight, non-metallic case; welded lead construction (1⅝″ long minimum) for strong, positive-contact terminals. Withstand voltage of 250% of rated DC voltage applied for 1 second without momentary or intermittent arcing, breakdown, etc. **Tolerance:** ±10%; ±5% available on request.

80 VOLTS DC AT 85° C (40 V AT 125° C)

GE No.	Cap., µF	Size, Inches Dia. x L.	Net Each, Lots of				
			1-24	25-49	50-99	100-499	500-999
AE12R102K	.0010	.153 x .406	$0.414	$0.304	$0.235	$0.179	$0.166
AE12R122K	.0012	.153 x .406	.414	.304	.235	.179	.166
AE12R152K	.0015	.153 x .406	.414	.304	.235	.179	.166
AE12R182K	.0018	.153 x .406	.414	.304	.235	.179	.166
AE12R222K	.0022	.153 x .406	.414	.304	.235	.179	.166
AE12R272K	.0027	.153 x .406	.414	.304	.235	.179	.166
AE12R332K	.0033	.153 x .406	.414	.304	.235	.179	.166
AE12R392K	.0039	.153 x .406	.414	.304	.235	.179	.166
AE12R472K	.0047	.153 x .406	.414	.304	.235	.179	.166
AE13R562K	.0056	.185 x .450	.414	.304	.235	.179	.166
AE13R682K	.0068	.185 x .450	.414	.304	.235	.179	.166
AE13R822K	.0082	.185 x .450	.414	.304	.235	.179	.166
AE13R103K	.010	.185 x .450	.414	.304	.235	.179	.166
AE15R123K	.012	.185 x .530	.417	.306	.236	.181	.167
AE15R153K	.015	.185 x .530	.447	.328	.253	.194	.179
AE15R183K	.018	.185 x .530	.453	.332	.257	.196	.181
AE15R223K	.022	.185 x .530	.459	.337	.26	.199	.184
AE15R273K	.027	.229 x .530	.465	.341	.264	.202	.186
AE15R333K	.033	.229 x .530	.474	.348	.269	.205	.19
AE17R393K	.039	.229 x .594	.483	.354	.274	.209	.193
AE17R473K	.047	.229 x .594	.495	.363	.281	.215	.198
AE17R563K	.056	.250 x .594	.513	.376	.291	.222	.205
AE17R683K	.068	.250 x .594	.537	.394	.304	.233	.215
AE17R823K	.082	.315 x .594	.558	.409	.316	.242	.223
AE17R104K	.10	.315 x .594	.573	.42	.325	.248	.229
AE22R124K	.12	.315 x .719	.678	.497	.384	.294	.271
AE22R154K	.15	.315 x .719	.723	.53	41	.313	.289
AE22R184K	.18	.343 x .719	.801	.587	.454	.347	.32
AE22R224K	.22	.343 x .719	.879	.645	.498	.381	.352
AE28R274K	.27	.343 x .969	.939	.689	.532	.407	.376
AE29R334K	.33	.343 x .969	.993	.728	.563	.43	.397
AE36R394K	.39	.343 x 1.22	1.053	.772	.597	.456	.421
AE36R474K	.47	.343 x 1.22	1.107	.812	.627	.48	.443

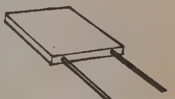
200 VOLTS DC AT 85° C (100 V AT 125° C)

GE No.	Cap., µF	Size, Inches Dia. x L.	Net Each, Lots of				
			1-24	25-49	50-99	100-499	500-999
AE12C102K	.0010	.153 x .406	$0.345	$0.253	$0.196	$0.15	$0.138
AE12C122K	.0012	.153 x .406	.345	.253	.196	.15	.138
AE12C152K	.0015	.153 x .406	.345	.253	.196	.15	.138
AE12C182K	.0018	.185 x .406	.345	.253	.196	.15	.138
AE12C222K	.0022	.185 x .406	.345	.253	.196	.15	.138
AE12C272K	.0027	.185 x .406	.345	.253	.196	.15	.138
AE12C332K	.0033	.185 x .406	.345	.253	.196	.15	.138
AE13C392K	.0039	.185 x .450	.345	.253	.196	.15	.138
AE13C472K	.0047	.185 x .450	.345	.253	.196	.15	.138
AE13C562K	.0056	.185 x .450	.345	.253	.196	.15	.138
AE13C682K	.0068	.185 x .450	.345	.253	.196	.15	.138
AE13C822K	.0082	.185 x .450	.345	.253	.196	.15	.138
AE13C103K	.010	.185 x .450	.345	.253	.196	.15	.138
AE14C123K	.012	.229 x .530	.366	.268	.207	.159	.146
AE14C153K	.015	.229 x .530	.372	.273	.211	.161	.149
AE17C183K	.018	.229 x .594	.378	.277	.214	.164	.151
AE17C223K	.022	.229 x .594	.384	.282	.218	.166	.154
AE17C273K	.027	.250 x .594	.393	.288	.223	.17	.157
AE17C333K	.033	.250 x .594	.402	.295	.228	.174	.161
AE17C393K	.039	.315 x .594	.411	.301	.233	.178	.164
AE17C473K	.047	.315 x .594	.429	.315	.243	.186	.172
AE22C563K	.056	.315 x .719	.444	.326	.252	.192	.178
AE22C683K	.068	.315 x .719	.465	.341	.264	.202	.186
AE22C823K	.082	.328 x .719	.489	.359	.277	.212	.196
AE22C104K	.10	.328 x .719	.513	.376	.291	.222	.205
AE28C124K	.12	.343 x .969	.537	.394	.304	.233	.215
AE28C154K	.15	.343 x .969	.612	.449	.347	.265	.245
AE36C184K	.18	.343 x 1.22	.648	.475	.367	.281	.259
AE36C224K	.22	.343 x 1.22	.687	.504	.389	.298	.275

WRITE FOR PRICES ON ±5% TOLERANCE LECTROFILM®-B TUBULAR CAPACITORS

MICRO-FLAT LECTROFILM®-B CAPACITORS

Lectrofilm®-B capacitors ideal for transistorized printed circuit board applications where high density packaging is required. Made of high-purity aluminum foil with capacitor-grade polyester film dielectric, housed in preformed epoxy case with welded radial leads precisely spaced in 0.100″ increments. Extensively used in instrumentation, communications, computers and other applications where small size is needed. Temperature range, −55° to +125° C. Rated 50 volts DC at 85° C; 25 volts DC at 125° C. Insulation resistance, 10,000 megohm-microfarads at 25° C, not to exceed 100,000 megohms; 1000 megohm-microfarads at 85° C, not to exceed 10,000 megohms. **Tolerance:** ±10% or ±5%. Also available with tolerance of ±20% or ±3%; write for complete pricing information.

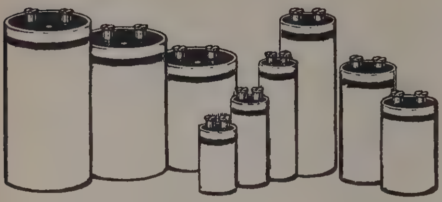


Cap., µF	Size, Inches W. x H. x D.	Tolerance ±10%						Tolerance ±5%					
		GE Type Number	Net Each, Lots of					GE Type Number	Net Each, Lots of				
			1-24	25-49	50-99	100-499	500-999		1-24	25-49	50-99	100-499	500-999
.0010	.375 x .265 x .105	65F10AA102	$0.855	$0.627	$0.485	$0.371	$0.342	65F10AC102	$1.155	$0.847	$0.655	$0.501	$0.462
.0012	.375 x .265 x .105	65F10AA122	.855	.627	.485	.371	.342	65F10AC122	1.155	.847	.655	.501	.462
.0015	.375 x .265 x .105	65F10AA152	.855	.627	.485	.371	.342	65F10AC152	1.155	.847	.655	.501	.462
.0018	.375 x .265 x .105	65F10AA182	.855	.627	.485	.371	.342	65F10AC182	1.155	.847	.655	.501	.462
.0022	.375 x .265 x .105	65F10AA222	.855	.627	.485	.371	.342	65F10AC222	1.155	.847	.655	.501	.462
.0027	.375 x .265 x .105	65F10AA272	.855	.627	.485	.371	.342	65F10AC272	1.155	.847	.655	.501	.462
.0033	.375 x .265 x .105	65F10AA332	.855	.627	.485	.371	.341	65F10AC332	1.155	.847	.655	.501	.462
.0039	.375 x .265 x .105	65F10AA392	.855	.627	.485	.371	.342	65F10AC392	1.155	.847	.655	.501	.462
.0047	.375 x .265 x .105	65F10AA472	.855	.627	.485	.371	.342	65F10AC472	1.155	.847	.655	.501	.462
.0056	.375 x .265 x .105	65F10AA562	.855	.627	.485	.371	.342	65F10AC562	1.155	.847	.655	.501	.462
.0068	.375 x .265 x .105	65F10AA682	.855	.627	.485	.371	.342	65F10AC682	1.155	.847	.655	.501	.462
.0082	.375 x .265 x .105	65F10AA822	.855	.627	.485	.371	.342	65F10AC822	1.155	.847	.655	.501	.462
.010	.375 x .265 x .105	65F10AA103	.855	.627	.485	.371	.342	65F10AC103	1.155	.847	.655	.501	.426
.012	.375 x .350 x .135	65F11AA123	.903	.662	.512	.391	.361	65F11AC123	1.218	.893	.69	.528	.487
.015	.375 x .350 x .135	65F11AA153	.903	.662	.512	.391	.361	65F11AC153	1.218	.893	.69	.528	.487
.018	.375 x .350 x .135	65F11AA183	.903	.662	.512	.391	.361	65F11AC183	1.218	.893	.69	.528	.487
.022	.375 x .350 x .135	65F11AA223	.903	.662	.512	.391	.361	65F11AC223	1.218	.893	.69	.528	.487
.027	.375 x .350 x .135	65F11AA273	.903	.662	.512	.391	.361	65F11AC273	1.218	.893	.69	.528	.487
.033	.375 x .350 x .135	65F11AA333	.903	.662	.512	.391	.361	65F11AC333	1.218	.893	.69	.528	.487
.039	.475 x .375 x .175	65F12AA393	.96	.704	.544	.416	.384	65F12AC393	1.296	.95	.734	.562	.518
.047	.475 x .375 x .175	65F12AA473	.96	.704	.544	.416	.384	65F12AC473	1.296	.95	.734	.562	.518
.056	.475 x .375 x .175	65F12AA563	.96	.704	.544	.416	.384	65F12AC563	1.296	.95	.734	.562	.518
.068	.475 x .375 x .175	65F12AA683	.96	.704	.544	.416	.384	65F12AC683	1.296	.95	.734	.562	.518
.082	.475 x .465 x .175	65F13AA823	.999	.733	.566	.433	.40	65F13AC823	1.35	.99	.765	.585	.54
.10	.475 x .465 x .175	65F13AA104	.999	.733	.566	.433	.40	65F13AC104	1.35	.99	.765	.585	.54
.12	.585 x .610 x .205	65F15AA124	1.05	.77	.595	.455	.42	65F15AC124	1.419	1.041	.804	.615	.568
.15	.585 x .610 x .205	65F15AA154	1.05	.77	.595	.455	.42	65F15AC154	1.419	1.041	.804	.615	.568
.18	.585 x .610 x .205	65F15AA184	1.05	.77	.595	.455	.42	65F15AC184	1.419	1.041	.804	.615	.568
.22	.585 x .610 x .205	65F15AA224	1.05	.77	.595	.455	.42	65F15AC224	1.419	1.041	.804	.615	.568
.27	.685 x .670 x .205	65F16AA274	1.245	.913	.706	.54	.498	65F16AC274	1.68	1.232	.952	.728	.672
.33	.685 x .670 x .205	65F16AA334	1.245	.913	.706	.54	.498	65F16AC334	1.68	1.232	.952	.728	.672
.39	.885 x .705 x .205	65F17AA394	1.41	1.034	.799	.611	.564	65F17AC394	1.905	1.397	1.08	.826	.762
.47	.885 x .705 x .205	65F17AA474	1.41	1.034	.799	.611	.564	65F17AC474	1.905	1.397	1.08	.826	.762
.56	.885 x .725 x .260	65F18AA564	1.65	1.21	.935	.715	.66	65F18AC564	2.229	1.635	1.263	.966	.892
.68	.885 x .725 x .260	65F18AA684	1.65	1.21	.935	.715	.66	65F18AC684	2.229	1.635	1.263	.966	.892
.82	.985 x .890 x .260	65F19AA824	2.001	1.467	1.134	.867	.80	65F19AC824	2.70	1.98	1.53	1.17	1.08
1.0	.985 x .890 x .260	65F19AA105	2.001	1.467	1.134	.867	.80	65F19AC105	2.70	1.98	1.53	1.17	1.08
1.2	1.785 x .875 x .305	65F20AA125	2.529	1.855	1.433	1.096	1.012	65F20AC125	3.414	2.504	1.935	1.479	1.366
1.5	1.785 x .875 x .305	65F20AA155	2.529	1.855	1.433	1.096	1.012	65F20AC155	3.414	2.504	1.935	1.479	1.366

LARGER QUANTITY PRICES AVAILABLE ON REQUEST

GENERAL ELECTRIC Computer Grade Capacitors

SERIES 86F ALUMINUM COMPUTER GRADE CAPACITORS



Compared to older designs, 86F units provide up to 70% more capacitance and 100% higher ripple current rating for a given size. **Temp. Range:** −40° C to +85° C. Suffix **M** designates units with polymeric insulating sleeve. For units with sleeve and bracket, change suffix M to **L** (e.g., 86F101**L**). And, add to net **$0.09** each for codes A, B, and C; **$0.11** for code D; **$0.13** for code E; **$0.18** for code F; **$0.22** for codes G, H, and J.

*COMPUTER GRADE CASE SIZES

Sizes are given with insulated case.

Code	Size, Inches Dia. x Lgth.	Code	Size, Inches Dia. x Lgth.
A	1.385 x 2.140	F	2.510 x 4.140
B	1.385 x 3.140	G	3.010 x 4.140
C	1.385 x 4.140	H	3.010 x 5.640
D	1.760 x 4.140	J	3.010 x 8.640
E	2.010 x 4.140		

GE No.	Cap., μF	WV DC	Size *	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
86F101M	9,400	5	A	$ 4.12	$ 3.20	$ 2.56	$ 1.60	$ 1.50
86F102M	18,800	5	B	5.02	3.90	3.12	1.95	1.83
86F103M	28,200	5	C	5.96	4.63	3.70	2.31	2.16
86F104M	45,000	5	D	7.60	5.90	4.72	2.95	2.76
86F105M	61,000	5	E	9.18	7.13	5.70	3.56	3.33
86F106M	100,000	5	F	12.98	10.08	8.06	5.04	4.72
86F107M	150,000	5	G	17.87	13.88	11.10	6.94	6.49
86F108M	230,000	5	H	25.73	19.98	15.98	9.99	9.35
86F109M	370,000	5	J	39.45	30.63	24.50	15.31	14.33
86F110M	6,000	10	A	3.96	3.08	2.46	1.54	1.44
86F111M	12,000	10	B	4.77	3.70	2.96	1.85	1.73
86F112M	18,000	10	C	5.57	4.33	3.46	2.16	2.02
86F113M	29,000	10	D	7.05	5.48	4.38	2.74	2.56
86F114M	39,000	10	E	8.40	6.53	5.22	3.26	3.05
86F115M	66,000	10	F	12.01	9.33	7.46	4.66	4.36
86F116M	100,000	10	G	16.58	12.88	10.30	6.44	6.03
86F117M	150,000	10	H	23.31	18.10	14.48	9.05	8.47
86F118M	240,000	10	J	35.42	27.50	22.00	13.75	12.87
86F119M	4,600	15	A	3.86	3.00	2.40	1.50	1.40
86F120M	9,200	15	B	4.67	3.63	2.90	1.81	1.70
86F121M	13,800	15	C	5.44	4.23	3.38	2.11	1.98
86F122M	22,000	15	D	6.86	5.33	4.26	2.66	2.49
86F123M	31,000	15	E	8.40	6.53	5.22	3.26	3.05
86F124M	51,000	15	F	11.82	9.18	7.34	4.59	4.29
86F125M	76,000	15	G	16.10	12.50	10.00	6.25	5.85
86F126M	110,000	15	H	21.93	17.03	13.62	8.51	7.97
86F127M	180,000	15	J	33.94	26.35	21.08	13.18	12.33
86F128M	3,600	20	A	3.99	3.10	2.48	1.55	1.45
86F129M	7,200	20	B	4.89	3.80	3.04	1.90	1.78
86F130M	10,800	20	C	5.80	4.50	3.60	2.25	2.11
86F131M	17,500	20	D	7.50	5.83	4.66	2.91	2.73
86F132M	23,900	20	E	9.11	7.08	5.66	3.54	3.31
86F133M	40,000	20	F	13.17	10.23	8.18	5.11	4.79
86F134M	60,000	20	G	18.19	14.13	11.30	7.06	6.61
86F135M	90,000	20	H	25.76	20.00	16.00	10.00	9.36
86F136M	145,000	20	J	39.61	30.75	24.60	15.38	14.39
86F137M	2,900	25	A	3.96	3.08	2.46	1.54	1.44
86F138M	5,800	25	B	4.80	3.73	2.98	1.86	1.74
86F139M	8,700	25	C	5.64	4.38	3.50	2.19	2.05
86F140M	14,000	25	D	7.18	5.58	4.46	2.79	2.61
86F141M	19,000	25	E	8.63	6.70	5.36	3.35	3.14
86F142M	32,000	25	F	12.40	9.63	7.70	4.81	4.50
86F143M	48,000	25	G	17.03	13.23	10.58	6.61	6.19
86F144M	72,000	25	H	23.96	18.60	14.88	9.30	8.70
86F145M	115,000	25	J	36.42	28.28	22.62	14.14	13.23
86F146M	2,600	30	A	3.96	3.08	2.46	1.54	1.44
86F147M	5,200	30	B	4.86	3.78	3.02	1.89	1.77
86F148M	7,800	30	C	5.73	4.45	3.56	2.23	2.08
86F149M	12,500	30	D	7.34	5.70	4.56	2.85	2.67
86F150M	17,000	30	E	8.86	6.88	5.50	3.44	3.22
86F151M	28,500	30	F	12.75	9.90	7.92	4.95	4.63
86F152M	43,000	30	G	17.68	13.73	10.98	6.86	6.42
86F153M	64,000	30	H	24.79	19.25	15.40	9.63	9.01
86F154M	100,000	30	J	37.03	28.75	23.00	14.38	13.46
86F155M	2,000	40	A	4.41	3.43	2.74	1.71	1.60
86F156M	4,000	40	B	5.22	4.05	3.24	2.03	1.90
86F157M	6,000	40	C	5.99	4.65	3.72	2.83	2.18
86F158M	9,400	40	D	7.34	5.70	4.56	2.85	2.67
86F159M	12,900	40	E	8.76	6.80	5.44	3.40	3.18
86F160M	21,500	40	F	12.17	9.45	7.56	4.73	4.42
86F161M	32,000	40	G	16.36	12.70	10.16	6.35	5.94
86F162M	48,000	40	H	22.77	17.68	14.14	8.84	8.27
86F163M	78,000	40	J	34.71	26.95	21.56	13.48	12.61
86F164M	1,400	50	A	3.99	3.10	2.48	1.55	1.45
86F165M	2,800	50	B	4.86	3.78	3.02	1.89	1.77
86F166M	4,200	50	C	5.70	4.43	3.54	2.21	2.07
86F167M	6,800	50	D	7.28	5.65	4.52	2.83	2.64
86F168M	9,300	50	E	8.79	6.83	5.46	3.41	3.19
86F169M	15,600	50	F	12.62	9.80	7.84	4.90	4.59
86F170M	23,200	50	G	17.23	13.38	10.70	6.69	6.26
86F171M	34,800	50	H	24.28	18.85	15.08	9.43	8.82
86F172M	56,000	50	J	37.13	28.83	23.06	14.41	13.49
86F173M	950	75	A	4.77	3.70	2.96	1.85	1.73
86F174M	1,900	75	B	5.73	4.45	3.56	2.23	2.08
86F175M	2,800	75	C	$ 6.63	$ 5.15	$ 4.12	$ 2.58	$ 2.41
86F176M	4,500	75	D	8.31	6.45	5.16	3.23	3.02
86F177M	6,200	75	E	10.01	7.78	6.22	3.89	3.64
86F178M	10,400	75	F	14.20	11.03	8.82	5.51	5.16
86F179M	15,600	75	G	19.42	15.08	12.06	7.54	7.06
86F180M	23,400	75	H	27.18	21.10	16.88	10.55	9.87
86F181M	37,600	75	J	41.34	32.10	25.68	16.05	15.02
86F182M	470	100	A	4.44	3.45	2.76	1.73	1.61
86F183M	940	100	B	5.38	4.18	3.34	2.09	1.95
86F184M	1,400	100	C	6.31	4.90	3.92	2.45	2.29
86F185M	2,200	100	D	7.92	6.15	4.92	3.08	2.88
86F186M	3,100	100	E	9.76	7.58	6.06	3.79	3.55
86F187M	5,200	100	F	14.01	10.88	8.70	5.44	5.09
86F188M	7,700	100	G	19.06	14.80	11.84	7.40	6.93
86F189M	11,600	100	H	26.95	20.93	16.74	10.46	9.79
86F190M	18,700	100	J	41.34	32.10	25.68	16.05	15.02
86F191M	300	150	A	4.83	3.75	3.00	1.88	1.76
86F192M	600	150	B	5.80	4.50	3.60	2.25	2.11
86F193M	900	150	C	6.76	5.25	4.20	2.63	2.46
86F194M	1,400	150	D	8.40	6.53	5.22	3.26	3.05
86F195M	1,900	150	E	10.01	7.78	6.22	3.89	3.64
86F196M	3,300	150	F	14.52	11.28	9.02	5.64	5.28
86F197M	4,900	150	G	19.71	15.30	12.24	7.65	7.16
86F198M	7,300	150	H	27.47	21.33	17.06	10.66	9.98
86F199M	11,900	150	J	42.34	32.88	26.30	16.44	15.39
86F200M	220	200	A	5.57	4.33	3.46	2.16	2.02
86F201M	440	200	B	6.70	5.20	4.16	2.60	2.43
86F202M	660	200	C	7.86	6.10	4.88	3.05	2.85
86F203M	1,000	200	D	9.63	7.48	5.98	3.74	3.50
86F204M	1,400	200	E	11.72	9.10	7.28	4.55	4.26
86F205M	2,400	200	F	16.94	13.15	10.52	6.58	6.15
86F206M	3,600	200	G	23.18	18.00	14.40	9.00	8.42
86F207M	5,400	200	H	32.59	25.30	20.24	12.65	11.84
86F208M	170	250	A	5.64	4.38	3.50	2.19	2.05
86F209M	340	250	B	6.73	5.23	4.18	2.61	2.45
86F210M	500	250	C	7.79	6.05	4.84	3.03	2.83
86F211M	800	250	D	9.76	7.58	6.06	3.79	3.55
86F212M	1,100	250	E	11.72	9.10	7.28	4.55	4.26
86F213M	1,900	250	F	16.97	13.18	10.54	6.59	6.17
86F214M	2,900	250	G	23.54	18.28	14.62	9.14	8.55
86F215M	4,300	250	H	32.75	25.43	20.34	12.71	11.90
86F216M	130	300	A	5.92	4.60	3.68	2.30	2.15
86F217M	260	300	B	7.15	5.55	4.44	2.78	2.60
86F218M	400	300	C	8.44	6.55	5.24	3.28	3.07
86F219M	650	300	D	10.79	8.38	6.70	4.19	3.92
86F220M	900	300	E	13.14	10.20	8.16	5.10	4.77
86F221M	1,500	300	F	18.77	14.58	11.66	7.29	6.82
86F222M	2,200	300	G	25.34	19.68	15.74	9.84	9.21
86F223M	3,300	300	H	35.65	27.68	22.14	13.84	12.95
86F224M	120	350	A	6.05	4.70	3.76	2.35	2.20
86F225M	240	350	B	7.47	5.80	4.64	2.90	2.71
86F226M	360	350	C	8.89	6.90	5.52	3.45	3.23
86F227M	550	350	D	11.11	8.63	6.90	4.31	4.04
86F228M	750	350	E	13.46	10.45	8.36	5.23	4.89
86F229M	1,300	350	F	19.93	15.48	12.38	7.74	7.24
86F230M	1,900	350	G	27.02	20.98	16.78	10.49	9.82
86F231M	2,900	350	H	38.77	30.10	24.08	15.05	14.09
86F232M	90	400	A	5.73	4.45	3.56	2.23	2.08
86F233M	180	400	B	7.21	5.60	4.48	2.80	2.62
86F234M	270	400	C	8.69	6.75	5.40	3.38	3.16
86F235M	420	400	D	11.14	8.65	6.92	4.33	4.05
86F236M	600	400	E	14.10	10.95	8.76	5.48	5.12
86F237M	1,000	400	F	20.64	16.03	12.82	8.01	7.50
86F238M	1,400	400	G	27.21	21.13	16.90	10.56	9.89
86F239M	2,200	400	H	40.35	31.33	25.06	15.66	14.66
86F240M	75	450	A	5.60	4.35	3.48	2.18	2.04
86F241M	150	450	B	7.28	5.65	4.52	2.83	2.64
86F242M	225	450	C	8.95	6.95	5.56	3.48	3.25
86F243M	370	450	D	12.20	9.48	7.58	4.74	4.43
86F244M	500	450	E	15.10	11.73	9.38	5.86	5.49
86F245M	850	450	F	22.93	17.80	14.24	8.90	8.33
86F246M	1,250	450	G	31.85	24.73	19.78	12.36	11.57
86F247M	1,900	450	H	46.37	36.00	28.80	18.00	16.85

HIGH-CAPACITY (13,000 TO 540,000 μF AT 5 WVDC; 850 TO 34,000 μF AT 100 WVDC) AND OTHER ADVANCED-CAPABILITY CAPACITORS ALSO AVAILABLE. SEE ANOTHER GE PAGE.

GENERAL ELECTRIC Computer Grade Capacitors

SERIES 86F500 HIGH CAPACITANCE COMPUTER GRADE CAPACITORS

Similar in construction and performance to standard Series 86F computer grade capacitors, but with even higher capacitance values (up to 540,000 μF at 5 WVDC). Temperature range, −40° to +65° C; to 85° C with proper derating. Offer high ripple current capability, low equivalent series resistance and long life. Case insulation is standard PVC; screw-type terminal inserts.

Sealed by rubber gasket recessed in molded phenolic cover. Suffix **M** designates units with polymeric insulating sleeve. For units with sleeve and bracket, change suffix M to **L** (e.g., 86F501**L**). And, add to net **$0.09** each for size codes A, B and C; **$0.11** for code D; **$0.13** for code E; **$0.18** for code F; **$0.22** for codes G, H and J.

GE No.	Cap., μF	WV DC	Size *	Net Each, Lots of 1-9	10-14	25-49	50-99	100-249
86F501M	13000	5	A	$ 4.48	$ 3.48	$ 2.78	$ 1.74	$ 1.63
86F502M	27000	5	B	5.83	4.53	3.62	2.26	2.12
86F503M	40000	5	C	7.12	5.53	4.42	2.76	2.59
86F504M	64000	5	D	9.47	7.35	5.88	3.68	3.44
86F505M	90000	5	E	12.01	9.33	7.46	4.66	4.36
86F506M	150000	5	F	17.87	13.88	11.10	6.94	6.49
86F507M	220000	5	G	24.73	19.20	15.36	9.60	8.99
86F508M	332000	5	H	35.52	27.58	22.06	13.79	12.91
86F509M	540000	5	J	56.09	43.55	34.84	21.78	20.38
86F510M	9000	10	A	4.38	3.40	2.72	1.70	1.59
86F511M	18000	10	B	5.57	4.33	3.46	2.16	2.02
86F512M	27000	10	C	6.79	5.28	4.22	2.64	2.47
86F513M	43000	10	D	8.92	6.93	5.54	3.46	3.24
86F514M	59000	10	E	11.08	8.60	6.88	4.30	4.02
86F515M	100000	10	F	16.58	12.88	10.30	6.44	6.03
86F516M	150000	10	G	23.31	18.10	14.48	9.05	8.47
86F517M	225000	10	H	33.39	25.93	20.74	12.96	12.13
86F518M	370000	10	J	52.87	41.05	32.84	20.53	19.21
86F519M	7500	15	A	4.38	3.40	2.72	1.70	1.59
86F520M	15000	15	B	5.67	4.40	3.52	2.20	2.06
86F521M	23000	15	C	7.02	5.45	4.36	2.73	2.55
86F522M	36000	15	D	9.27	7.20	5.76	3.60	3.37
86F523M	50000	15	E	11.66	9.05	7.24	4.53	4.24
86F524M	83000	15	F	17.32	13.45	10.76	6.73	6.29
86F525M	120000	15	G	23.67	18.38	14.70	9.19	8.60
86F526M	185000	15	H	34.78	27.00	21.60	13.50	12.64
86F527M	300000	15	J	54.48	42.30	33.84	21.15	19.80
86F528M	5800	20	A	4.54	3.53	2.82	1.76	1.65
86F529M	11700	20	B	6.02	4.68	3.74	2.34	2.19
86F530M	17600	20	C	7.53	5.85	4.68	2.93	2.74
86F531M	27000	20	D	9.89	7.68	6.14	3.84	3.59
86F532M	38000	20	E	12.65	9.83	7.86	4.91	4.60
86F533M	64000	20	F	19.19	14.90	11.92	7.45	6.97
86F534M	95000	20	G	27.02	20.98	16.78	10.49	9.82
86F535M	140000	20	H	38.35	29.78	23.82	14.89	13.93
86F536M	230000	20	J	60.99	47.35	37.88	23.68	22.16
86F537M	4500	25	A	4.41	3.43	2.74	1.71	1.60
86F538M	9000	25	B	5.73	4.45	3.56	2.23	2.08
86F539M	13500	25	C	7.02	5.45	4.36	2.73	2.55
86F540M	22000	25	D	9.50	7.38	5.90	3.69	3.45
86F541M	30000	25	E	11.82	9.18	7.34	4.59	4.29
86F542M	50000	25	F	17.61	13.68	10.94	6.84	6.40
86F543M	75000	25	G	24.83	19.28	15.42	9.64	9.02
86F544M	110000	25	H	34.97	27.15	21.72	13.58	12.71
86F545M	180000	25	J	55.22	42.88	34.30	21.44	20.07

GE No.	Cap., μF	WV DC	Size *	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
86F546M	4000	30	A	$ 4.44	$ 3.45	$ 2.76	$ 1.73	$ 1.61
86F547M	8000	30	B	5.80	4.50	3.60	2.25	2.11
86F548M	12000	30	C	7.15	5.55	4.44	2.78	2.60
86F549M	19000	30	D	9.53	7.40	5.92	3.70	3.46
86F550M	26000	30	E	11.91	9.25	7.40	4.63	4.33
86F551M	44000	30	F	18.03	14.00	11.20	7.00	6.55
86F552M	65000	30	G	25.15	19.53	15.62	9.76	9.14
86F553M	100000	30	H	37.03	28.75	23.00	14.38	13.46
86F554M	160000	30	J	57.38	44.55	35.64	22.28	20.85
86F555M	2900	40	A	4.77	3.70	2.96	1.85	1.73
86F556M	5800	40	B	5.92	4.60	3.68	2.30	2.15
86F557M	8700	40	C	7.08	5.50	4.40	2.75	2.57
86F558M	14000	40	D	9.18	7.13	5.70	3.56	3.33
86F559M	19000	40	E	11.17	8.68	6.94	4.34	4.06
86F560M	32000	40	F	16.36	12.70	10.16	6.35	5.94
86F561M	48000	40	G	22.77	17.68	14.14	8.84	8.27
86F562M	71000	40	H	31,91	24.78	19.82	12.39	11.59
86F563M	115000	40	J	49.46	38.40	30.72	19.20	17.97
86F564M	2400	50	A	4.60	3.58	2.86	1.79	1.67
86F565M	4900	50	B	6.12	4.75	3.80	2.38	2.22
86F566M	7300	50	C	7.60	5.90	4.72	2.95	2.76
86F567M	11000	50	D	9.82	7.63	6.10	3.81	3.57
86F568M	16000	50	E	12.85	9.98	7.98	4.99	4.67
86F569M	26000	50	F	18.93	14.70	11.76	7.35	6.88
86F570M	40000	50	G	27.43	21.30	17.04	10.65	9.97
86F572M	97000	50	J	61.99	48.13	38.50	24.06	22.52
86F573M	1400	75	A	5.22	4.05	3.24	2.03	1.90
86F574M	2900	75	B	6.73	5.23	4.18	2.61	2.45
86F575M	4400	75	C	8.21	6.38	5.10	3.19	2.98
86F576M	7300	75	D	11.11	8.63	6.90	4.31	4.04
86F577M	10000	75	E	13.81	10.73	8.58	5.36	5.02
86F578M	16800	75	F	20.61	16.00	12.80	8.00	7.49
86F579M	24000	75	G	27.79	21.58	17.26	10.79	10.10
86F580M	36000	75	H	39.77	30.88	24.70	15.44	14.45
86F581M	58000	75	J	61.73	47.93	38.34	23.96	22.43
86F582M	850	100	A	5.18	4.03	3.22	2.01	1.88
86F583M	1700	100	B	6.92	5.38	4.30	2.69	2.52
86F584M	2600	100	C	8.73	6.78	5.42	3.39	3.17
86F585M	4200	100	D	11.98	9.30	7.44	4.65	4.35
86F586M	5800	100	E	15.23	11.83	9.46	5.91	5.53
86F587M	9800	100	F	23.31	18.10	14.48	9.05	8.47
86F588M	14000	100	G	31.81	24.70	19.76	12.35	11.56
86F589M	21000	100	H	45.98	35.70	28.56	17.85	16.71
86F590M	34000	100	J	72.32	56.15	44.92	28.08	26.28

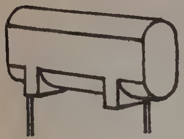
*See preceding page (Series 86F) for case sizes.

LECTROFILM®-B COMPUTER GRADE EXTENDED FOIL TUBULAR CAPACITORS

For commercial and industrial applications where long life, small size and low cost are important. Ideal for transistorized circuits. Offer high insulation resistance and low dissipation factor over temperature range of −55° to +125° C. **Voltage Rating:** 200 VDC at 85° C; also available rated 100 VDC at same prices, to order change 6th character B to **A**, e.g., 61F15**A**A562, sizes slightly different (100 VDC capacitors not available in capacities under .0056 μF).

Cap., μF	Dia. x L., Inches	±10% Tolerance GE Type Number	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999	1000 Up	±5% Tolerance GE Type Number	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999	1000 Up
.0010	.200 x .450	61F10BA102	$0.348	$0.255	$0.197	$0.151	$0.139	$0.116	61F10BC102	$0.471	$0.345	$0.267	$0.204	$0.188	$0.157
.0012	.200 x .450	61F10BA122	.348	.255	.197	.151	.139	.116	61F10BC122	.471	.345	.267	.204	.188	.157
.0015	.200 x .450	61F10BA152	.348	.255	.197	.151	.139	.116	61F10BC152	.471	.345	.267	.204	.188	.157
.0018	.200 x .450	61F10BA182	.348	.255	.197	.151	.139	.116	61F10BC182	.471	.345	.267	.204	.188	.157
.0022	.200 x .450	61F10BA222	.348	.255	.197	.151	.139	.116	61F10BC222	.471	.345	.267	.204	.188	.157
.0027	.200 x .450	61F10BA272	.348	.255	.197	.151	.139	.116	61F10BC272	.471	.345	.267	.204	.188	.157
.0033	.200 x .450	61F10BA332	.348	.255	.187	.151	.139	.116	61F10BC332	.471	.345	.267	.204	.188	.157
.0039	.200 x .450	61F10BA392	.348	.255	.197	.151	.139	.116	61F10BC392	.471	.345	.267	.204	.188	.157
.0047	.200 x .450	61F10BA472	.348	.255	.197	.151	.139	.116	61F10BC472	.471	.345	.267	.204	.188	.157
.0056	.188 x .750	61F15BA562	.348	.255	.197	.151	.139	.116	61F15BC562	.471	.345	.267	.204	.188	.157
.0068	.188 x .750	61F15BA682	.348	.255	.197	.151	.139	.116	61F15BC682	.471	.345	.267	.204	.188	.157
.0082	.188 x .750	61F15BA822	.348	.255	.197	.151	.139	.116	61F15BC822	.471	.345	.267	.204	.188	.157
.010	.188 x .750	61F15BA103	.348	.255	.197	.151	.139	.116	61F15BC103	.471	.345	.267	.204	.188	.157
.012	.219 x .750	61F17BA123	.357	.262	.202	.155	.143	.119	61F17BC123	.483	.354	.274	.209	.193	.161
.015	.219 x .750	61F17BA153	.357	.262	.202	.155	.143	.119	61F17BC153	.483	.354	.274	.209	.193	.161
.018	.250 x .750	61F19BA183	.393	.288	.223	.170	.157	.131	61F19BC183	.531	.389	.301	.23	.212	.177
.022	.250 x .750	61F19BA223	.393	.288	.223	.170	.157	.131	61F19BC223	.531	.389	.301	.23	.212	.177
.027	.265 x .875	61F22BA273	.414	.304	.235	.179	.166	.138	61F22BC273	.558	.409	.316	.242	.223	.186
.033	.265 x .875	61F22BA333	.414	.304	.235	.179	.166	.138	61F22BC333	.558	.409	.316	.242	.223	.186
.039	.281 x .875	61F23BA393	.420	.308	.238	.182	.168	.140	61F23BC393	.567	.416	.321	.246	.227	.189
.047	.281 x .875	61F23BA473	.420	.308	.238	.182	.168	.140	61F23BC473	.567	.416	.321	.246	.227	.189
.056	.328 x .875	61F24BA563	.438	.321	.248	.190	.175	.146	61F24BC563	.591	.433	.335	.256	.236	.197
.068	.328 x .875	61F24BA683	.438	.321	.248	.190	.175	.146	61F24BC683	.591	.433	.335	.256	.236	.197
.082	.375 x 1.09	61F29BA823	.468	.343	.265	.203	.187	.156	61F29BC823	.633	.464	.359	.274	.253	.211
.10	.375 x 1.09	61F29BA104	.468	.343	.265	.203	.187	.156	61F29BC104	.633	.464	.359	.274	.253	.211
.12	.436 x 1.09	61F34BA124	.513	.376	.291	.222	.205	.171	61F34BC124	.693	.508	.393	.30	.277	.231
.15	.436 x 1.09	61F34BA154	.513	.376	.291	.222	.205	.171	61F34BC154	.693	.508	.393	.30	.277	.231
.18	.436 x 1.25	61F38BA184	.579	.425	.328	.251	.232	.193	61F38BC184	.783	.574	.444	.339	.313	.261
.22	.436 x 1.25	61F38BA224	.579	.425	.328	.251	.232	.193	61F38BC224	.783	.574	.444	.339	.313	.261
.27	.562 x 1.25	61F42BA274	.684	.502	.388	.296	.274	.228	61F42BC274	.924	.678	.524	.40	.37	.308
.33	.562 x 1.25	61F42BA334	.684	.502	.388	.296	.274	.228	61F42BC334	.924	.678	.524	.40	.37	.308
.39	.578 x 1.59	61F47BA394	.810	.594	.459	.351	.324	.270	61F47BC394	1.095	.803	.621	.475	.438	.365
.47	.578 x 1.59	61F47BA474	.810	.594	.459	.351	.324	.270	61F47BC474	1.095	.803	.621	.475	.438	.365
.56	.630 x 1.72	61F60BA564	1.005	.737	.570	.436	.402	.335	61F60BC564	1.356	.994	.768	.588	.542	.452
.68	.630 x 1.72	61F60BA684	1.005	.737	.570	.436	.402	.335	61F60BC684	1.356	.994	.768	.588	.542	.452
.82	.750 x 1.90	61F66BA824	1.302	.955	.738	.564	.521	.434	61F66BC824	1.758	1.289	.996	.762	.703	.586
1.00	.750 x 1.90	61F66BA105	1.302	.955	.738	.564	.521	.434	61F66BC105	1.758	1.289	.996	.762	.703	.586
1.50	.750 x 1.90	61F66BA155	1.413	1.036	.801	.612	.565	.471	61F66BC155	1.908	1.399	1.081	.827	.763	.636

GENERAL ELECTRIC "Black Hawk" Film Capacitors



Ideal for printed circuit board applications in test and measurement, control, communications and consumer products. Has rugged epoxy molded case with mounting feet and radial leads, 1½" long minimum. **Temperature Range:** −55° C to +125° C, with proper derating above 85° C. **Tolerance:** ±10%.

***CASE SIZES**

Code *	Max. Size, Inches			Code *	Max. Size, Inches		
	Lgth.	Ht.	Thick.		Lgth.	Ht.	Thick.
A	.500	.471	.234	E	1.130	.569	.328
C	.800	.475	.244	F	1.130	.732	.480
D	.800	.531	.291				

GE No.	Cap., µF	WV DC	Size *	Net Each, Lots of				
				1-24	25-49	50-99	100-499	500-999
75F1R5A102	.0010	50	A	$0.348	$0.255	$0.197	$0.151	$0.139
75F1R5A122	.0012	50	A	.348	.25	.197	.151	.139
75F1R5A152	.0015	50	A	.348	.25	.197	.151	.139
75F1R5A182	.0018	50	A	.348	.25	.197	.151	.139
75F1R5A222	.0022	50	A	.348	.25	.197	.151	.139
75F1R5A272	.0027	50	A	.348	.25	.197	.151	.139
75F1R5A332	.0033	50	A	.348	.25	.197	.151	.139
75F1R5A392	.0039	50	A	.348	.25	.197	.151	.139
75F1R5A472	.0047	50	A	.348	.25	.197	.151	.139
75F1R5A562	.0056	50	A	.348	.25	.197	.151	.139
75F1R5A682	.0068	50	A	.348	.25	.197	.151	.139
75F1R5A822	.0082	50	A	.348	.25	.197	.151	.139
75F1R5A103	.010	50	A	.348	.25	.197	.151	.139
75F1R5A123	.012	50	A	.348	.25	.197	.151	.139
75F1R5A153	.015	50	A	.348	.25	.197	.151	.139
75F1R5A183	.018	50	A	.348	.25	.197	.151	.139
75F1R5A223	.022	50	A	.348	.25	.197	.151	.139
75F1R5A273	.027	50	A	.348	.25	.197	.151	.139
75F1R5A333	.033	50	A	.348	.25	.197	.151	.139
75F1R5A393	.039	50	A	.348	.25	.197	.151	.139
75F1R5A473	.047	50	A	.348	.25	.197	.151	.139
75F1R5A563	.056	50	A	.348	.25	.197	.151	.139
75F3R5A683	.068	50	C	.414	.304	.235	.179	.166
75F3R5A823	.082	50	C	.414	.304	.235	.179	.166
75F3R5A104	.10	50	C	.414	.304	.235	.179	.166
75F3R5A124	.12	50	C	.414	.304	.235	.179	.166
75F3R5A154	.15	50	C	.414	.304	.235	.179	.166
75F3R5A184	.18	50	C	.414	.304	.235	.179	.166
75F4R5A224	.22	50	D	.531	.389	.301	.23	.212
75F4R5A274	.27	50	D	.531	.389	.301	.23	.212
75F4R5A334	.33	50	D	.531	.389	.301	.23	.212
75F6R5A394	.39	50	E	.759	.557	.43	.329	.304
75F6R5A474	.47	50	E	.759	.557	.43	.329	.304
75F6R5A564	.56	50	E	.759	.557	.43	.329	.304
75F6R5A684	.68	50	E	.759	.557	.43	.329	.304
75F7R5A824	.82	50	F	1.197	.878	.678	.519	.479
75F7R5A105	1.00	50	F	1.197	.878	.678	.519	.479
75F1R1A102	.0010	100	A	.348	.255	.197	.151	.139
75F1R1A122	.0012	100	A	.348	.255	.197	.151	.139
75F1R1A152	.0015	100	A	.348	.255	.197	.151	.139
75F1R1A182	.0018	100	A	.348	.255	.197	.151	.139
75F1R1A222	.0022	100	A	.348	.255	.197	.151	.139
75F1R1A272	.0027	100	A	.348	.255	.197	.151	.139
75F1R1A332	.0033	100	A	.348	.255	.197	.151	.139
75F1R1A392	.0039	100	A	.348	.255	.197	.151	.139
75F1R1A472	.0047	100	A	.348	.255	.197	.151	.139
75F1R1A562	.0056	100	A	.348	.255	.197	.151	.139
75F1R1A682	.0068	100	A	.348	.255	.197	.151	.139
75F1R1A822	.0082	100	A	.348	.255	.197	.151	.139
75F1R1A103	.010	100	A	.348	.255	.197	.151	.139
75F1R1A123	.012	100	A	.348	.255	.197	.151	.139
75F1R1A153	.015	100	A	.348	.255	.197	.151	.139
75F1R1A183	.018	100	A	.348	.255	.197	.151	.139
75F1R1A223	.022	100	A	.348	.255	.197	.151	.139
75F1R1A273	.027	100	A	.348	.255	.197	.151	.139
75F3R1A333	.033	100	C	.414	.304	.235	.179	.166
75F3R1A393	.039	100	C	.414	.304	.235	.179	.166
75F3R1A473	.047	100	C	.414	.304	.235	.179	.166
75F3R1A563	.056	100	C	.414	.304	.235	.179	.166
75F3R1A683	.068	100	C	.414	.304	.235	.179	.166
75F3R1A823	.082	100	C	.414	.304	.235	.179	.166
75F3R1A104	.10	100	C	.414	.304	.235	.179	.166
75F4R1A124	.12	100	D	.471	.345	.267	.204	.188
75F4R1A154	.15	100	D	.471	.345	.267	.204	.188
75F6R1A184	.18	100	E	.630	.462	.357	.273	.252
75F6R1A224	.22	100	E	.630	.462	.357	.273	.252
75F6R1A274	.27	100	E	.630	.462	.357	.273	.252
75F6R1A334	.33	100	E	.630	.462	.357	.273	.252
75F7R1A394	.39	100	F	.810	.594	.459	.351	.324
75F7R1A474	.47	100	F	.810	.594	.459	.351	.324
75F7R1A564	.56	100	F	.810	.594	.459	.351	.324
75F7R1A684	.68	100	F	.810	.594	.459	.351	.324
75F1R2A102	.0010	200	A	.348	.255	.197	.151	.139
75F1R2A122	.0012	200	A	.348	.255	.197	.151	.139
75F1R2A152	.0015	200	A	.348	.255	.197	.151	.139
75F1R2A182	.0018	200	A	.348	.255	.197	.151	.139
75F1R2A222	.0022	200	A	.348	.255	.197	.151	.139
75F1R2A272	.0027	200	A	.348	.255	.197	.151	.139
75F1R2A332	.0033	200	A	.348	.255	.197	.151	.139
75F1R2A392	.0039	200	A	.348	.255	.197	.151	.139
75F1R2A472	.0047	200	A	.348	.255	.197	.151	.139
75F1R2A562	.0056	200	A	$0.348	$0.255	$0.197	$0.151	$0.139
75F1R2A682	.0068	200	A	.348	.255	.197	.151	.139
75F1R2A822	.0082	200	A	.348	.255	.197	.151	.139
75F1R2A103	.010	200	A	.348	.255	.197	.151	.139
75F1R2A123	.012	200	A	.348	.255	.197	.151	.139
75F1R2A153	.015	200	A	.348	.255	.197	.151	.139
75F1R2A183	.018	200	A	.348	.255	.197	.151	.139
75F1R2A223	.022	200	A	.348	.255	.197	.151	.139
75F1R2A273	.027	200	A	.348	.255	.197	.151	.139
75F3R2A333	.033	200	C	.414	.304	.235	.179	.166
75F3R2A393	.039	200	C	.414	.304	.235	.179	.166
75F3R2A473	.047	200	C	.414	.304	.235	.179	.166
75F3R2A563	.056	200	C	.414	.304	.235	.179	.166
75F3R2A683	.068	200	C	.414	.304	.235	.179	.166
75F3R2A823	.082	200	C	.414	.304	.235	.179	.166
75F3R2A104	.10	200	C	.414	.304	.235	.179	.166
75F4R2A124	.12	200	D	.471	.345	.267	.204	.188
75F4R2A154	.15	200	D	.471	.345	.267	.204	.188
75F6R2A184	.18	200	E	.630	.462	.357	.273	.252
75F6R2A224	.22	200	E	.630	.462	.357	.273	.252
75F6R2A274	.27	200	E	.630	.462	.357	.273	.252
75F6R2A334	.33	200	E	.630	.462	.357	.273	.252
75F7R2A394	.39	200	F	.810	.594	.459	.351	.324
75F7R2A474	.47	200	F	.810	.594	.459	.315	.324
75F7R2A564	.56	200	F	.810	.594	.459	.351	.324
75F7R2A684	.68	200	F	.810	.594	.459	.351	.324
75F1R4A102	.0010	400	A	.348	.255	.197	.151	.139
75F1R4A122	.0012	400	A	.348	.255	.197	.151	.139
75F1R4A152	.0015	400	A	.348	.255	.197	.151	.139
75F1R4A182	.0018	400	A	.348	.255	.197	.151	.139
75F1R4A222	.0022	400	A	.348	.255	.197	.151	.139
75F1R4A272	.0027	400	A	.348	.255	.197	.151	.139
75F1R4A332	.0033	400	A	.348	.255	.197	.151	.139
75F1R4A392	.0039	400	A	.348	.255	.197	.151	.139
75F1R4A472	.0047	400	A	.348	.255	.197	.151	.139
75F1R4A562	.0056	400	A	.348	.255	.197	.151	.139
75F1R4A682	.0068	400	A	.348	.255	.197	.151	.139
75F1R4A822	.0082	400	A	.348	.255	.197	.151	.139
75F3R4A103	.010	400	C	.414	.304	.235	.179	.166
75F3R4A123	.012	400	C	.414	.304	.235	.179	.166
75F3R4A153	.015	400	C	.414	.304	.235	.179	.166
75F3R4A183	.018	400	C	.414	.304	.235	.179	.166
75F3R4A223	.022	400	C	.414	.304	.235	.179	.166
75F3R4A273	.027	400	C	.414	.304	.235	.179	.166
75F4R4A333	.033	400	D	.471	.345	.267	.204	.188
75F4R4A393	.039	400	D	.471	.345	.267	.204	.188
75F4R4A473	.047	400	D	.471	.345	.267	.204	.188
75F6R4A563	.056	400	E	.630	.462	.357	.273	.252
75F6R4A683	.068	400	E	.630	.462	.357	.273	.252
75F6R4A823	.082	400	E	.630	.462	.357	.273	.252
75F6R4A104	.10	400	E	.630	.462	.357	.273	.252
75F7R4A124	.12	400	F	.810	.594	.459	.351	.324
75F7R4A154	.15	400	F	.810	.594	.459	.351	.324
75F7R4A184	.18	400	F	.810	.594	.459	.351	.324
75F7R4A224	.22	400	F	.810	.594	.459	.351	.324
75F1R6A102	.0010	600	A	.348	.255	.197	.151	.139
75F1R6A122	.0012	600	A	.348	.255	.197	.151	.139
75F1R6A152	.0015	600	A	.348	.255	.197	.151	.139
75F1R6A182	.0018	600	A	.348	.255	.197	.151	.139
75F1R6A222	.0022	600	A	.348	.255	.197	.151	.139
75F1R6A272	.0027	600	A	.348	.255	.197	.151	.139
75F1R6A332	.0033	600	A	.348	.255	.197	.151	.139
75F1R6A392	.0039	600	A	.348	.255	.197	.151	.139
75F3R6A472	.0047	600	C	.414	.304	.235	.179	.166
75F3R6A562	.0056	600	C	.414	.304	.235	.179	.166
75F3R6A682	.0068	600	C	.414	.304	.235	.179	.166
75F3R6A822	.0082	600	C	.414	.304	.235	.179	.166
75F3R6A103	.010	600	C	.414	.304	.235	.179	.166
75F3R6A123	.012	600	C	.414	.304	.235	.179	.166
75F4R6A153	.015	600	D	.471	.345	.267	.204	.188
75F4R6A183	.018	600	D	.471	.345	.267	.204	.188
75F4R6A223	.022	600	D	.471	.345	.267	.204	.188
75F6R6A273	.027	600	E	.630	.462	.357	.273	.252
75F6R6A333	.033	600	E	.630	.462	.357	.273	.252
75F6R6A393	.039	600	E	.630	.462	.357	.273	.252
75F6R6A473	.047	600	E	.630	.462	.357	.273	.252
75F7R6A563	.056	600	F	.810	.594	.459	.351	.324
75F7R6A683	.068	600	F	.810	.594	.459	.351	.324
75F7R6A823	.082	600	F	.810	.594	.459	.351	.324
75F7R6A104	.10	600	F	.810	.594	.459	.351	.324

LARGER QUANTITY PRICES AVAILABLE ON REQUEST

"BLACK HAWK" FILM CAPACITORS ARE ALSO AVAILABLE WITH TOLERANCE

OF ±20% OR ±5%. WRITE FOR COMPLETE PRICE INFORMATION

Air Variable Capacitors

Sub-miniature air variable capacitors are available in a variety of sizes, mounting configurations and section types. Rotors and stators are precision machined from one piece of solid brass for outstanding stability, uniformity and freedom from moisture entrapment. Offer high Q, typically 2000 at 150 MHz; exceptionally low temperature coefficient: Type T plus 30 ± 15 ppm/° C; Type V plus 45 ± 15 ppm/° C. Silver-plated metal parts. Type T ceramic is 95% alumina grade L-624 or better; type V ceramic is steatite grade L-423 or better.

TYPE "T" AIR VARIABLE CAPACITORS

Designed to meet or exceed EIA-RS 2-4 and MIL-STD.202C methods 204A and 201A. Offer excellent retrace characteristics. **Temperature Coefficient:** +30 ± 15 ppm/° C.

VERTICALLY TUNED

PC MOUNT

E. F. Johnson Number	Nominal pF Max.	Nominal pF Min.	Length, Inches	Net Each
187-0103-005	5.4	1.3	.36	$1.62
187-0106-005	11.0	1.7	.47	1.62
187-0109-005	15.7	1.9	.58	1.62

STRIPLINE MOUNT

E. F. Johnson Number	Nominal pF Max.	Nominal pF Min.	Length, Inches	Net Each
187-0103-175	5.4	1.3	.36	$2.02
187-0106-175	11.0	1.7	.47	2.02
187-0109-175	15.7	1.9	.58	2.02

HORIZONTALLY TUNED

PC MOUNT

E. F. Johnson Number	Nominal pF Max.	Nominal pF Min.	Length, Inches	Net Each
187-0303-105	5.4	1.3	.36	$1.79
187-0306-105	11.0	1.7	.47	1.79
187-0309-105	15.7	1.9	.58	1.79

STRIPLINE MOUNT

E. F. Johnson Number	Nominal pF Max.	Nominal pF Min.	Length, Inches	Net Each
187-0103-165	5.4	1.3	.36	$1.85
187-0106-165	11.0	1.7	.47	1.85
187-0109-165	15.7	1.9	.58	1.85

NOTE: Type "T" air variable capacitors are also available with minimum of 4 plates to maximum of 20 plates on special orders.

TYPE "U" CAPACITORS

Temperature Coefficient: +45 ± 15 ppm/° C. Silver plated metal parts. Steatite grade L-423 or better. **Air Gap:** .010".

TWO-HOLE MOUNTING—SINGLE SECTION

E. F. Johnson Number	Nominal pF Max.	Nominal pF Min.	Plates	Length ± 1/32"	Net Each
189-0501-004	4.2	1.2	4	27/64"	$1.46
189-0502-004	6.7	1.3	6	15/32"	1.46
189-0503-004	9.2	1.4	8	33/64"	1.46
189-0504-004	11.6	1.5	10	9/16"	1.46
189-0505-004	14.1	1.7	12	39/64"	1.46
189-0506-004	16.7	1.8	14	43/64"	1.46
189-0507-004*	19.3	2.0	16	23/32"	1.46
189-0508-004*	21.9	2.2	18	49/64"	1.46
189-0509-004*	24.5	2.4	20	13/16"	1.46

PRINTED CIRCUIT MOUNTING—VERTICAL TYPE

E. F. Johnson Number	Nominal pF Max.	Nominal pF Min.	Plates	Length ± 1/32"	Net Each
189-0501-005	4.2	1.2	4	27/64"	$1.32
189-0502-005	6.7	1.3	6	15/32"	1.32
189-0503-005	9.2	1.4	8	33/64"	1.32
189-0504-005	11.6	1.5	10	9/16"	1.32
189-0505-005	14.1	1.7	12	39/64"	1.32
189-0506-005	16.7	1.8	14	43/64"	1.32
189-0507-005*	19.3	2.0	16	23/32"	1.32
189-0508-005*	21.9	2.2	18	49/64"	1.32
189-0509-005*	24.5	2.4	20	13/16"	1.32

*Peak withstanding voltage, 500 volts; all others, 650 volts.

TYPE "V" CAPACITORS

High capacity in small space. Exceptionally uniform delta C and voltage characteristics. High torque, 2.5 to 10 oz.-in. Slotted rotor or shaft extension for convenient adjustment. **Air Gap:** .010". **Peak Voltage Breakdown:** 650 volts.

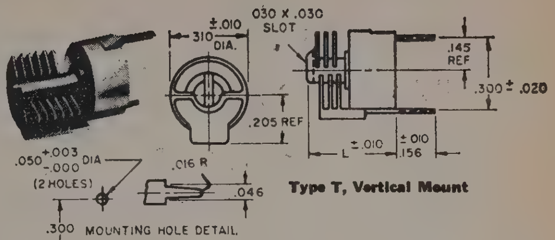
PRINTED CIRCUIT TYPES—SINGLE SECTION

E. F. Johnson No.	Nominal Cap. pF per sec Max.	Nominal Cap. pF per sec Min.	Plates per Section	L. ± 1/32"	Net Each
193-0004-005	13	1.4	8	37/64"	$2.38
193-0006-005	20	1.7	12	11/16"	2.38
193-0008-005	27	2.0	16	25/32"	2.38
193-0010-005	34	2.2	20	57/64"	2.38

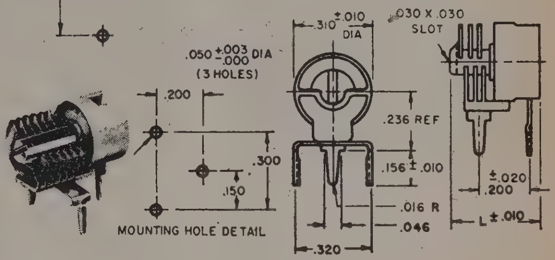
PANEL MOUNT TYPES—SINGLE SECTION

E. F. Johnson No.	Nominal Cap. pF per sec Max.	Nominal Cap. pF per sec Min.	Plates per Section	L. ± 1/32"	Net Each
193-0004-001	13	1.4	8	35/64"	$3.36
193-0006-001	20	1.7	12	21/32"	3.36
193-0008-001	27	2.0	16	3/4"	3.36
193-0010-001	34	2.2	20	55/64"	3.36

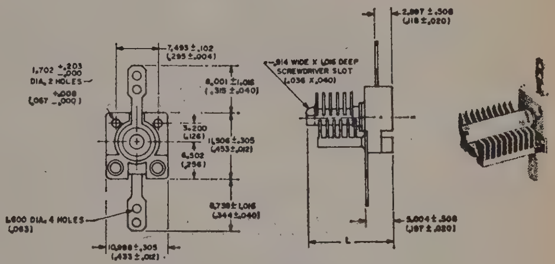
Capacitors with 0.016" air gap available on special order.


±.010
.310
DIA.
.030 X .030
SLOT
.145
REF
.300 ± .020
.205 REF
L ±.010
±.010
.156
.050 +.003 -.000 DIA
(2 HOLES)
.016 R
.046
.300
MOUNTING HOLE DETAIL

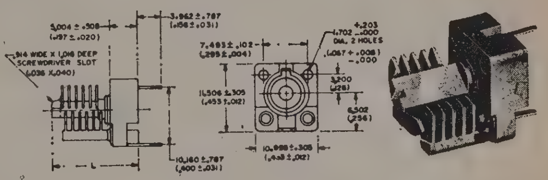
Type T, Vertical Mount


.310 ±.010
DIA
.030 X .030
SLOT
.050 +.003 -.000 DIA
(3 HOLES)
.200
.236 REF
.300
.156 ±.010
.150
±.020
.200
.016 R
.046
MOUNTING HOLE DETAIL
.320
L ±.010

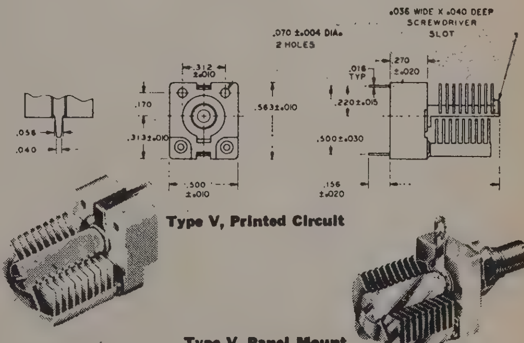
Type T, Horizontal Mount


7,493 ± .102
(.295 ± .004)
1,702 +.203 -.000
DIA, 2 HOLES
.914 WIDE X 1,016 DEEP
SCREWDRIVER SLOT
(.036 X .040)
8,001 ± 1,016
(.315 ± .040)
5,200
(.126)
11,506 ± .305
(.453 ± .012)
6,502
(.256)
8,738 ± 1,016
(.344 ± .040)
1,600 DIA, 4 HOLES
(.063)
10,998 ± .305
(.433 ± .012)
5,004 ± .508
(.197 ± .020)
L

Type U, 2-Hole Mount

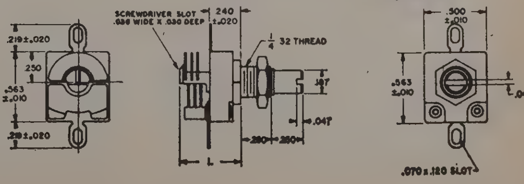

5,004 ± .508
(.197 ± .020)
3,962 ± .787
(.156 ± .031)
.914 WIDE X 1,016 DEEP
SCREWDRIVER SLOT
(.036 X .040)
7,493 ± .102
(.295 ± .004)
1,702 +.203 -.000
DIA. 2 HOLES
11,506 ± .305
(.453 ± .012)
3,200
(.126)
6,502
(.256)
10,160 ± .787
(.400 ± .031)
10,998 ± .305
(.433 ± .012)
L

Type U, PC Mount


.036 WIDE X .040 DEEP
SCREWDRIVER
SLOT
.070 ±.004 DIA.
2 HOLES
.312 ±.010
.170
.563 ±.010
.313 ±.010
.036
.040
.300 ±.010
.016 TYP
.270 ±.020
.220 ±.015
.500 ±.030
.156 ±.020

Type V, Printed Circuit

Type V, Panel Mount


.219 ±.020
.250
.563 ±.010
.219 ±.020
SCREWDRIVER SLOT
.036 WIDE X .030 DEEP
.240 ±.020
1/4 32 THREAD
.187
.047
.280
.250
L
.300 ±.010
.563 ±.010
.047
.070 x .120 SLOT

KEMET® Tantalum Capacitors

CATALOG NUMBERING SYSTEM

T	110	A	105	K	050	A	S —	C	Specification
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ	Ⓗ	Ⓘ	(when necessary)

Ⓐ = **Tantalum**

Ⓑ = **Series**
110-Polar Solid Tantalum
(Formerly J Series)
212-CSR13

Ⓒ = **Case Size**
A
B
C
D

Ⓓ = **Picofarad Code**
First Two digits represent significant figures.
3rd digit specifies no. of zeros to follow

Ⓔ = **Cap Tolerance**
M = ±20%
J = ±5%

Ⓕ = Voltage at 85° C

Ⓖ = **Failure Rate**
A = not applicable
L = 2%/k hrs.
M = 1%/k hrs.
P = 0.1%/k hrs.
R = 0.01%/k hrs.
S = 0.001%/k hrs.

Ⓗ = **Lead Material**
S *SOLDER COATED NICKEL
F BARE NICKEL
G GOLD PLATED NICKEL
C Copper Weld
D Dumet (Gold)
I Alloy 180 (Bare)
*Standard

Ⓘ = C100 — Uninsulated Capacitors
Other — As Applicable
(all capacitors are sleeved unless specified.)
C-7000—Ruling per EIA Spec. RS-296

MAXIMUM CASE SIZE RATING CHART—SOLID TANTALUM CAPACITORS

	T110 SERIES (J)				CSR13 (T212)				T120 SERIES (Z)			
	Maximum µF per Case Size				Maximum µF per Case Size				Maximum µF per Case Size			
Volts	**A**	**B**	**C**	**D**	**A**	**B**	**C**	**D**	**A**	**B**	**C**	**D**
6	6.8	56	180	330	6.8	56	180	330	3.3	22	....	....
10	4.7	39	120	220	4.7	39	120	220	2.2	18	....	....
15	3.3	22	68	150	3.3	22	68	150	1.5	8.2	....	....
20	2.2	15	47	100	2.2	15	47	100	1.0	6.8	....	....
25	....	....	....	....	....	....	....	....	....	....	....	....
30	....	....	....	....	....	....	....	....	....	....	....	....
35	1.0	6.8	22	47	....	6.8	22	47	.47	2.7	....	....
50	1.0	4.7	18	22	1.0	4.7	18	22	.27	1.8	....	....
60	.68	3.9	12	22	....	....	....	....	....	....	....	....
75	.68	3.9	10	15	.68	3.9	10	15	.18	1.2	....	....
100	.56	2.7	6.8	10	.56	2.7	....	....	.12	.82	....	....
125	.33	2.2	6.8	10	....	....	....	....	.10	.68	....	....

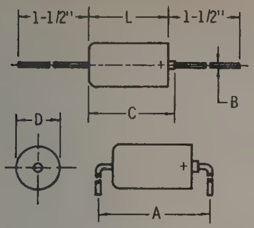
	T140 SERIES (A)				T310 SERIES (C)				T320 SERIES (D)			
	Maximum µF per Case Size				Maximum µF per Case Size				Maximum µF per Case Size			
Volts	**A**	**B**	**C**	**D**	**A**	**B**	**C**	**D**	**A**	**B**	**C**	**D**
6	12	100	470	1000	6.8	56	180	330	12	33	68	....
10	8.2	82	270	560	4.7	39	120	220	6.8	22	47	....
15	5.6	39	180	330	3.3	22	68	150	3.9	15	33	....
20	3.9	27	120	180	2.2	15	47	100	2.7	10	22	....
25	....	....	....	....	....	....	....	....	2.2	6.8	15	....
30	2.7	18	68	100	....	....	....	....	....	....	....	....
35	1.8	10	47	68	1.0	6.8	22	47	1.2	4.7	10	....
50	1.5	6.8	27	39	1.0	4.7	18	22	1.0	2.2	5.6	....
60	1.0	5.6	22	33	....	....	....	....	....	....	....	....
75	....	....	....	....	....	....	....	....	....	....	....	....
100	....	....	....	....	....	....	....	....	....	....	....	....
125	....	....	....	....	....	....	....	....	....	....	....	....

	T330 SERIES (P)				T362 SERIES (E)				T368 SERIES (E)			
	Maximum µF per Case Size				Maximum µF per Case Size				Maximum µF per Case Size			
Volts	**A**	**B**	**C**	**D**	**A**	**B**	**C**	**D**	**A**	**B**	**C**	**D**
6	22	22	68	220	6.8	68	150	330	6.8	68	150	330
10	15	15	39	150	4.7	33	100	220	4.7	33	100	220
15	8.2	8.2	27	82	3.3	22	68	150	3.3	22	68	150
20	6.8	....	....	....	2.2	15	47	100	2.2	15	47	100
25	4.7	4.7	15	47	1.5	10	33	68	1.5	10	33	68
30	....	....	....	....	....	....	....	....	....	....	....	....
35	2.7	3.3	10	33	1.0	6.8	22	47	1.0	6.8	22	47
50	1.5	2.2	5.6	18	1.0	4.7	15	22	1.0	4.7	15	22
60	....	....	....	....	....	....	....	....	....	....	....	....
75	....	....	....	....	....	....	....	....	....	....	....	....
100	....	....	....	....	....	....	....	....	....	....	....	....
125	....	....	....	....	....	....	....	....	....	....	....	....

KEMET®

SIZE SPECIFICATIONS FOR TANTALUM CAPACITORS

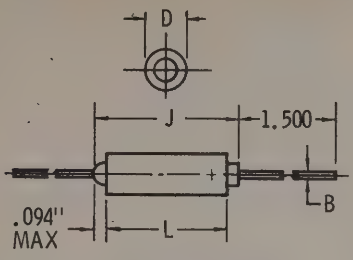
T110 SERIES (J)


1-1/2"
L
1-1/2"
C
B
D
A
+

Case Size	Dimensions, Inches				Max. Wt. Gms.
	A	B	D*	L*	
A	0.5	.020	.125	.250	0.57
B	0.7	.020	.175	.438	1.41
C	1.0	.020	.279	.650	5.0
D	1.1	.020	.341	.750	8.5

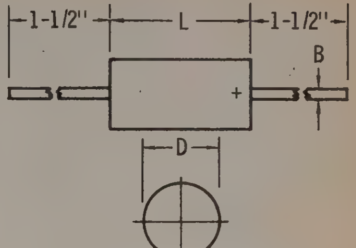
*Insulating sleeve adds .010″ to diam. and .036″ to length.

CSR13 (T212)


D
J
1.500
+
B
.094"
MAX
L

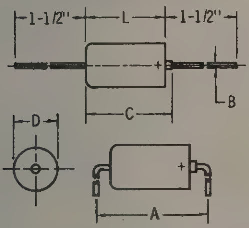
Case Size	Dimensions, Inches			
	L	D	B	J
A	.286	.135	.020	.422
B	.474	.185	.020	.610
C	.686	.289	.025	.822
D	.786	.351	.025	.922

T120 SERIES (Z)



Case Size	Dimensions, Inches				
		Plain		Insulated	
	B	D	L	D	L
A	.016	.085	.250	.090	.265
B	.016	.127	.375	.138	.390

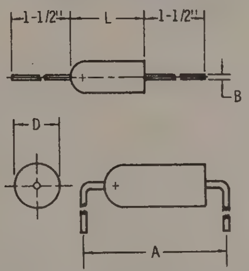
T140 SERIES (A)


1-1/2"
L
1-1/2"
C
B
D
A
+

Case Size	Dimensions, Inches				Max. Wt. Gms.
	A	B	D*	L*	
A	0.5	.020	.125	.250	0.57
B	0.7	.020	.175	.438	1.41
C	1.0	.020	.279	.650	5.0
D	1.1	.020	.341	.750	8.5

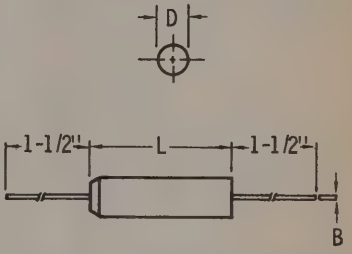
*Insulating sleeve adds .010″ to diam. and .036″ to length.

T310 SERIES (C)


1-1/2"
L
1-1/2"
B
D
+
A

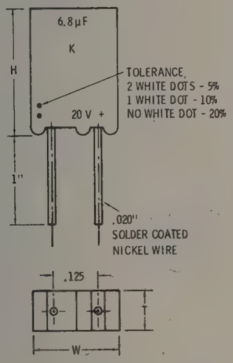
Case Size	Dimensions, Inches			
	A	D	L	B
A	0.6	.138	.390	.025
B	0.8	.190	.562	.025
C	1.0	.300	.710	.025
D	1.1	.365	.875	.025

T320 SERIES (D)

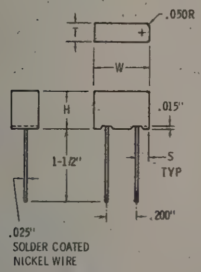


Case Size	Dimensions, Inches		
	B	D	L
A	.020	.100	.290
B	.020	.170	.340
C	.020	.190	.530

T330 SERIES (P)


6.8μF
K
H
TOLERANCE,
2 WHITE DOTS - 5%
1 WHITE DOT - 10%
NO WHITE DOT - 20%
20 V +
1"
.020"
SOLDER COATED
NICKEL WIRE
.125
W

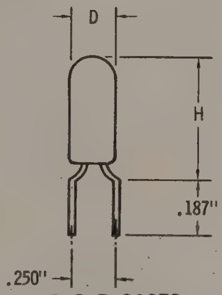
A CASE


T
.050R
+
W
H
.015"
1-1/2"
S
TYP
.200"
.025"
SOLDER COATED
NICKEL WIRE

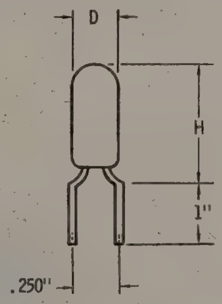
B, C, & D CASES

Case Size	Dimensions, Inches		
	H	W	T
A	.345	.230	.105
B	.225	.285	.170
C	.325	.360	.170
D	.375	.600	.195

T362 SERIES (E)



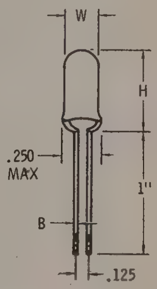
A & B CASES

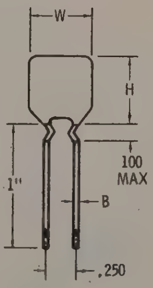


C & D CASES

Case Size	Dimensions, Inches		
	D (Diam.)	H	B
A	.175	.350	.025
B	.250	.500	.025
C	.360	.650	.025
D	.400	.750	.025

T 368 SERIES (E)


W
H
.250
MAX
1"
B
.125


W
H
100
MAX
1"
B
.250

Case Size	Dimensions, Inches			
	H	W	T	B
A	.350	.175	.175	.020
B	.500	.250	.250	.020
C	.440	.450	.250	.025
D	.660	.600	.275	.025

KEMET® Monolithic Ceramic Capacitors

CATALOG NUMBERING SYSTEM (LEADED MOLDED CAPACITORS ONLY)

C	052	K	102	K	2	X	1	C	A
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ	Ⓗ	Ⓘ	Ⓙ

Ⓐ—**Ceramic**

Ⓑ—**Size code**
(See below)

Ⓒ—**Specification**

Current
- C—Commercial
- E—Kemet established reliability
- T—MIL-C-39014B/sheets 1C, 2E & 5C
- K—MIL-C-11015D
- G—MIL-C-20

Obsolete
- B—MIL-C-39014
- R—MIL-C-39014A
- P—MIL-C-39014B/sheets 1B, 2D & 5B
- J—MIL-C-11015C

Ⓓ—**Capacitance code**
Expressed in picofarads (mmf). First 2 digits are significant figures. Third digit is no. of zeroes following.

Ⓔ—**Capacitance tolerance**

Standard
- J—±5%
- K—±10%
- M—±20%
- Z—+80 −20%

Others
- B—±0.1pF
- C—±0.25pF
- D—±0.5%
- F—±1%
- G—±2%
- H—±3%
- P—G.M.V.
- X—Other

Ⓕ—**Working voltage**
- 1—100 V
- 2—200 V
- 3—25 V
- 5—50 V
- 7—75 V
- 0—Other

Ⓖ — **Dielectric**
(See below)

Ⓗ—**Special Requirements**
- 1—Not applicable (std.)
- 2—Customer specification for special requirements

Ⓘ—**Lead material**

Material	MIL-Std. 1276 Equiv.
C—Solder coated copper	C (Std.)
D—Gold Dumet	D
S—Solder coated nickel	N-3
G—Gold coated nickel	N-2
Z—Other	None

Ⓙ—**Failure rate**
- A—Not applicable (Std.)
- L—2.0%
- M—1.0%
- P—0.1%
- R—0.01%
- S—0.001%

SIZE CODES

RADIAL LEAD

Size Code	Equivalent Military Styles	Dimensions—Inches Length	Width	Thickness	Lead Diameter
052	CK05, CKR05, CC05, CCR05	0.190	0.190	0.090	0.025
062	CK06, CKR06, CC06, CCR06	0.290	0.290	0.090	0.025
512	CC07, CCR07	0.490	0.490	0.140	0.025
522	CC08, CCR08	0.490	0.490	0.240	0.025

AXIAL LEAD

Size Code	Equivalent Military Styles	Dimensions—Inches Length	Diameter	Lead Diameter
114	CK12, CKR11, CC75, CCR75	0.160	0.090	0.016
116*	CK12, CKR11	0.160	0.090	0.016
122*	CKR12	0.250	0.090	0.025
124	CK13, CKR12, CC76, CCR76	0.250	0.090	0.016
126*	CK13, CKR12	0.250	0.090	0.016
192	CK14, CKR14, CC77, CCR77	0.390	0.140	0.025

AXIAL LEAD (CONT'D)

Size Code	Equivalent Military Styles	Dimensions—Inches Length	Diameter	Lead Diameter
202	CK15, CKR15, CC78, CCR78	0.500	0.250	0.025
222	CK16, CKR16, CC79, CCR79	0.690	0.350	0.025

*These wire specifications are moving toward obsolescence and are not preferred.

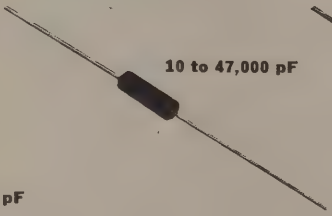
DIELECTRIC

Kemet Designator	Military Equivalent	EIA Equivalent	Capacitance change w/Temp. Temp. Range, C	Measured Without DC Bias Voltage	Measured With Bias (Rated Voltage)
G (Ultrastable)	NPO, CG, BP	C0G	−55 +125	±30 ppm/°C	±30 ppm/°C
R (Stable)	BR	X7R	−55 +125	±15%	+15, −40%
X (Stable)	BX	X7R	−55 +125	±15%	+15, −40%
U (Gen. Purp.)	—	Z5U	+10 +85	+22, −56%	N/A

CK05, CKR05 (C052 Size)

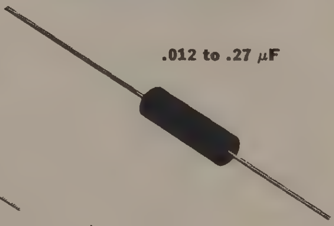
10 to 100,000 pF

CK13, CKR12 (C124 Size)



10 to 47,000 pF

CK14, CKR14 (C192 Size)



.012 to .27 μF

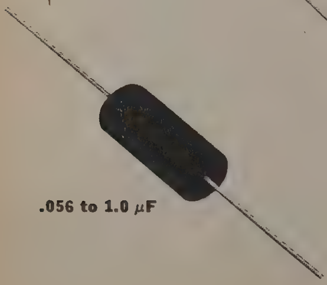
CK06, CKR06 (C062 Size)

1200 pF to 1.0 μF

C512 SIZE

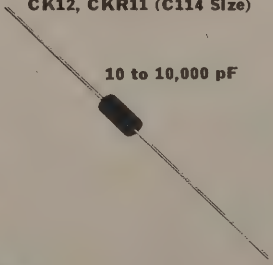
1.0 to 2.2 μF

CK15, CKR15 (C202 Size)



.056 to 1.0 μF

CK12, CKR11 (C114 Size)

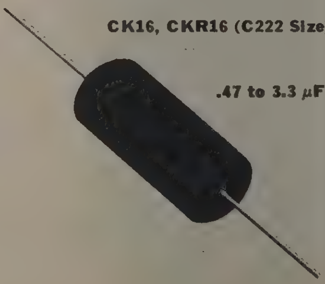


10 to 10,000 pF

C522 SIZE

1.0 to 3.3 μF

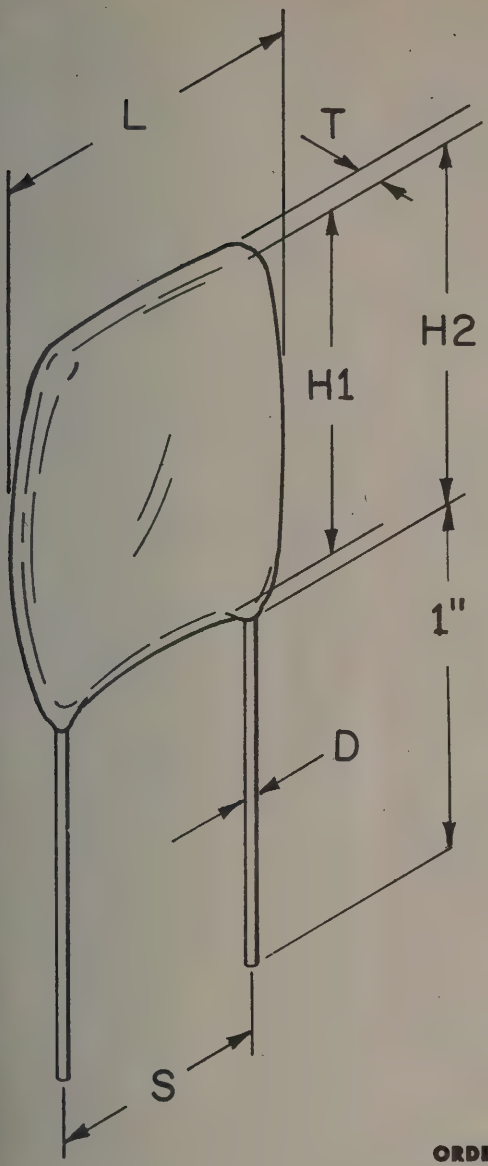
CK16, CKR16 (C222 Size)



.47 to 3.3 μF

PRICES LISTED ARE FOR GUIDANCE ONLY

KEMET® Blue Max Dipped Ceramic Capacitors



The KEMET "Blue Max" is a new product line of maximum range miniature epoxy dipped monolithic Ceramic Capacitors in three dielectrics—C0G Ultra-Stable; X7R Stable and Z5U General Purpose. The six precision case sizes include an extensive selection range of over 350 CV values in a total capacitance range of 2.2 pF to 4.7 μF in 50, 100 and 200 volts. Their reliable performance is built-in through automated manufacture and precision process control techniques that assure uniform dielectric thickness, excellent electrode integrity and electrode-to-termination continuity. Internal construction consists of the same superior monolithic body used in KEMET's high volume molded Military, CK and CKR Capacitor products. Encapsulation consists of a multi-layer moisture and shock resistant epoxy coating, that meets the flame test requirements of Underwriter's Laboratory Standard 492.

Additional CV values, sizes and lead configurations are available on special order.

DIMENSIONS—INCHES

Case Size	L	H_1	H_2	T	S	D & AWG
312	.120	.100	.160	.100	.100	.016 26
315	.150	.150	.210	.100	.100	.016 26
320	.200	.200	.260	.125	.100	.020 24
330	.300	.300	.360	.150	.200	.020 24
340	.400	.400	.460	.150	.200	.020 24
350	.500	.500	.560	.200	.400	.025 22

NOTE: 1 inch = 25.4 Millimeters

"Blue Max" Dipped (C312, C315, C320, C330, C340, C350)

2.2 pf — 4.7 uf

ORDERING INFORMATION

C 320 C 102 M 1 G 5 E A

Ceramic

Case Size
(See Table above)

Specification
C = Commercial

Capacitance, CODE
EXPRESSED IN PICOFARADS (MMF)
FIRST TWO DIGIT—SIGNIFICANT FIGURES
THIRD DIGIT—NUMBER OF ZEROS (Use 9 for 10 thru 9.9 pf. Example: 2.2 pf-229)

Capacitance Tolerance
J = ± 5%
K = ±10%
M = ±20%
P = GMV
Z = +80 −20%
B = ±0.1 pf
C = ±0.25 pf
D = 0.5 pf
F = ±1%
G = ±2%
H = ±3%

Failure Rate
A = Not Applicable

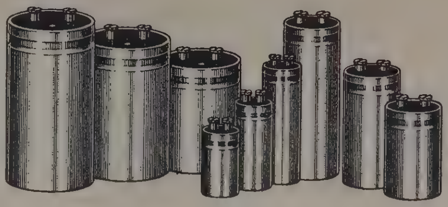
Lead Material
E = Solder Coated Copper-clad steel

Special Requirements
5 = Not Applicable (Standard)
6 = Applicable

Dielectric
EIA Designation
G = C0G (NPO)—Ultrastable
R = X7R—Stable
U = Z5U—General purpose

Voltage
2 = 200
1 = 100
5 = 50

MALLORY Computer Grade Capacitors



Two classes of Computer Grade Capacitors are available: CGS for +65° C operation and CG for +85° C operation. Operating life of both types should exceed 10 years when used within stated parameters. Derating voltage and/or lowering operating temperature will extend life by a large factor. **Temp. Range:** −40° C to +65° (CGS), +85° (CG). **Tolerance:** 0–150 WVDC, −10 +75% (U); 151 WVDC up, −10 +50% (T). For complete specifications, ask for Form 4-64 (CG), 4-80 (CGS). Both classes are supplied with polyester film insulating sleeves and have "High-post" terminals with #10-32 screws. Physical mounting of these capacitors is usually done with Mallory VR clamps. The clamps, however, are not included with the capacitors. Order separately.

85° C COMPUTER GRADE

Mallory No. CG-	Cap., µF	WV DC	Size *	Net Each
63U10B1	6,000	10	B	$ 2.91
752U010R2C	7,500	10	R2C	2.32
14U10H1	10,000	10	H	3.86
1352U10K1	13,500	10	K	4.54
143U010R3C	14,000	10	R3C	2.84
213U010R4C	21,000	10	R4C	3.33
4352U10F1	43,500	10	F	10.09
463U010V4C	46,000	10	V4C	5.20
164U010X5L	160,000	10	X5L	11.45
252U15A1	2,500	15	A	2.41
452U15B1	4,500	15	B	3.17
642U15C1	6,400	15	C	3.29
652U015R2C	6,500	15	R2C	2.32
83U15H1	8,000	15	H	3.74
1052U15K1	10,500	15	K	4.09
113U15J1	11,000	15	J	4.28
123U015R3C	12,000	15	R3C	2.84
143U15D1	14,000	15	D	5.47
183U015R4C	18,000	15	R4C	3.33
213U015U3C	21,000	15	U3C	3.31
273U015V3C	27,000	15	V3C	4.18
343U15F1	34,000	15	F	8.68
403U015V4C	40.000	15	V4C	5.20
533U15G1	53,000	15	G	11.36
144U015X5L	140,000	15	X5L	11.45
152U25A1	1,500	25	A	2.11
282U25B1	2,800	25	B	2.58
332U025R2C	3,300	25	R2C	2.32
382U25C1	3,800	25	C	3.17
452U25H1	4,500	25	H	3.38
63U25K1	6,000	25	K	3.95
632U025R3C	6,300	25	R3C	2.84
852U25D1	8,500	25	D	4.77
922U025R4C	9,200	25	R4C	3.33
103U025U3C	10,000	25	U3C	3.31
133U025V3C	13,000	25	V3C	4.18
1352U25E1	13,500	25	E	7.32
24U25F1	20,000	25	F	8.00
203U025V4C	20,000	25	V4C	5.20
323U025W4C	32,000	25	W4C	7.28
483U025X4C	48,000	25	X4C	8.59
112U35A1	1,100	35	A	2.32
212U35B1	2,100	35	B	2.64
232U035R2C	2,300	35	R2C	2.32
362U35H1	3,600	35	H	3.93
432U035R3C	4,300	35	R3C	2.84
472U35K1	4,700	35	K	4.24
532U35J1	5,300	35	J	4.43
692U35D1	6,900	35	D	5.81
952U035V3C	9,500	35	V3C	4.18
113U35E1	11,000	35	E	7.87
113U035U4C	11,000	35	U4C	4.32
143U035V4C	14,000	35	V4C	5.20
223U035W4C	22,000	35	W4C	7.28
243U35G1	24,000	35	G	9.46
333U035X4C•	33,000	35	X4C	8.59
493U035X5L•	49,000	35	X5L	11.45
82U50A1	800	50	A	2.13
152U50B1	1,500	50	B	2.51
152U050R2C	1,500	50	R2C	2.32
23U50C1	2,000	50	C	2.79
252U50H1	2,500	50	H	3.08
292U050R3C	2,900	50	R3C	2.84
332U50K1	3,300	50	K	3.97
352U50J1	3,500	50	J	4.03
432U050R4C	4,300	50	R4C	3.33
452U50D1	4,500	50	D	4.24
502U050U3C	5,000	50	U3C	3.31
652U050V3C	6,500	50	V3C	4.18
732U50E1	7,300	50	E	6.50
742U050U4C	7,400	50	U4C	4.32
952U050V4C	9,500	50	V4C	5.20
14U50F1	10,000	50	F	13.08
153U050W4C	15,000	50	W4C	$ 7.28
1652U50G1	16,500	50	G	11.23
223U050X4C	22,000	50	X4C	8.59
333U050X5L	33,000	50	X5L	11.45
62U75A1	600	75	A	2.47
801U075R2C	800	75	R2C	2.32
13U75B1	1,000	75	B	2.87
152U75C1	1,500	75	C	3.46
152U075R3C	1,500	75	R3C	2.84
23U75H1	2,000	75	H	3.76
222U075R4C	2,200	75	R4C	3.33
252U75K1	2,500	75	K	4.52
262U75J1	2,600	75	J	4.58
262U075U3C	2,600	75	U3C	3.31
332U075V3C	3,300	75	V3C	4.18
3451U75D1	3,450	75	D	4.92
382U075U4C	3,800	75	U4C	4.32
492U075V4C	4,900	75	V4C	5.20
552U75E1	5,500	75	E	7.83
792U075W4C	7,900	75	W4C	7.28
822U75F1	8,200	75	F	8.85
113U075X4C	11,000	75	X4C	8.59
1252U75G1	12,500	75	G	11.56
173U075X5L	17,000	75	X5L	11.45
42U100A1	400	100	A	2.47
771U100R3C	770	100	R3C	2.83
13U100C1	1,000	100	C	3.34
112U100R4C	1,100	100	R4C	3.33
132U100H1	1,300	100	H	3.65
172U100J1	1,700	100	J	4.05
192U100U4C	1,900	100	U4C	4.32
2251U100D1	2,250	100	D	5.02
252U100V4C	2,500	100	V4C	5.20
362U100E1	3,600	100	E	7.37
402U100W4C	4,000	100	W4C	7.28
592U100X4C	5,900	100	X4C	8.59
832U100G1	8,300	100	G	11.84
2750U150A1	275	150	A	2.00
52U150B1	500	150	B	2.51
72U150C1	700	150	C	2.92
1151U150J1	1,150	150	J	3.88
1551U150D1	1,550	150	D	4.90
252U150E1	2,500	150	E	7.24
362U150F1	3,600	150	F	8.65
562U150G1	5,600	150	G	12.07
181T200A1	180	200	A	2.47
341T200B1	340	200	B	2.95
451T200C1	450	200	C	3.15
551T200H1	550	200	H	3.50
751T200K1	750	200	K	4.03
13T200D1	1,000	200	D	5.51
1651T200E1	1,650	200	E	6.54
2451T200F1	2,450	200	F	8.34
382T200G1	3,800	200	G	14.98
141T250A1	140	250	A	2.95
2750T250B1	275	250	B	3.35
3750T250C1	375	250	C	3.65
62T250K1	600	250	K	4.47
82T250D1	800	250	D	5.78
33T250G1	3,000	250	G	12.41
2250T300B1	225	300	B	3.25
3250T300C1	325	300	C	3.50
5250T300K1	525	300	K	3.99
72T300D1	700	300	D	5.80
262T300G1	2,600	300	G	13.00
12T350A1	100	350	A	2.98
181T350B1	180	350	B	3.34
251T350C1	250	350	C	3.61
42T350K1	400	350	K	4.37
551T350D1	550	350	D	6.23
132T350F1	1,300	350	F	10.49

*Case sizes on following page.

85°C COMPUTER GRADE (CONT.)

Mallory No. CG-	Cap., µF	WV DC	Size *	Net Each
23T350G1	2,000	350	G	$13.00
151T400C1	150	400	C	3.61
3250T400D1	325	400	D	4.64
531T400E1	530	400	E	6.16
41T450A1	40	450	A	2.20
111T450C1	110	450	C	3.35
141T450H1	140	450	H	3.67
241T450D1	240	450	D	4.18

65° C COMPUTER GRADE

Mallory No. CGS-	Cap., µF	WV DC	Size *	Net Each
722U010BB1	7,200	10	BB	$ 3.55
123U010R2C	12,000	10	R2C	4.00
133U010BD1	13,000	10	BD	4.12
203U010BF1	20,000	10	BF	4.85
303U010DD1	30,000	10	DD	6.09
333U010R4C	33,000	10	R4C	6.36
443U010DF1	44,000	10	DF	7.42
763U010V4C	76,000	10	V4C	10.94
164U010FJ1	160,000	10	FJ	19.09
284U010X5R	280,000	10	X5R	31.75
552U015BB1	5,500	15	BB	3.58
892U015R2C	8,900	15	R2C	3.88
103U015BD1	10,000	15	BD	4.09
153U015BF1	15,000	15	BF	4.64
173U015R3C	17,000	15	R3C	5.30
233U015DD1	23,000	15	DD	5.76
253U015R4C	25,000	15	R4C	6.06
343U015DF1	34,000	15	DF	7.36
383U015V3C	38,000	15	V3C	7.85
503U015DI1	50,000	15	DI	9.33
803U015FF1	80,000	15	FF	13.00
833U015V5L	83,000	15	V5L	13.30
104U015FH1	100,000	15	FH	16.18
124U015FJ1	120,000	15	FJ	19.33
214U015X5R	210,000	15	X5R	29.97
302U025BB1	3,000	25	BB	3.55
472U025R2C	4,700	25	R2C	3.70
562U025BD1	5,600	25	BD	4.06
822U025BF1	8,200	25	BF	4.67
892U025R3C	8,900	25	R3C	4.58
123U025DD1	12,000	25	DD	5.58
133U025R4C	13,000	25	R4C	5.61
183U025DF1	18,000	25	DF	7.15
203U025V3C	20,000	25	V3C	7.36
273U025DI1	27,000	25	DI	8.76
293U025V4C	29,000	25	V4C	9.18
433U025FF1	43,000	25	FF	13.42
433U025V5L	43,000	25	V5L	12.21
573U025FH1	57,000	25	FH	15.45
673U025FJ1	67,000	25	FJ	16.79
703U025X4C	70,000	25	X4C	17.91
923U025X5C	92,000	25	X5C	22.15
114U025X5R	110,000	25	X5R	26.12
222U040BB1	2.200	40	BB	3.55
272U040R2C	2,700	40	R2C	3.61
422U040BD1	4,200	40	BD	4.21
512U040R3C	5,100	40	R3C	4 48
622U040BF1	6,200	40	BF	5.00
752U040R4C	7,500	40	R4C	5.54
932U040DD1	9,300	40	DD	6.09
113U040V3C	11,000	40	V3C	6.91
133U040DF1	13,000	40	DF	7.36
173U040V4C	17,000	40	V4C	8.85
203U040DI1	20,000	40	DI	9.36
323U040FF1	32,000	40	FF	14.48
403U040X4C	40,000	40	X4C	16.24
433U040FH1	43,000	40	FH	16.73
503U040FJ1	50,000	40	FJ	19.54
533U040X5C	53,000	40	X5C	21.15
783U040X6L	78,000	40	X6L	26.12
162U050BB1	1,600	50	BB	3.55
222U050R2C	2,200	50	R2C	3.61
292U050BD1	2,900	50	BD	4.12
412U050R3C	4,100	50	R3C	4.42
432U050BF1	4,300	50	BF	4.79
612U050R4C	6,100	50	R4C	5.42
652U050DD1	6,500	50	DD	6.12
962U050DF1	9,600	50	DF	7.39
133U050V4C	13,000	50	4VC	9.15
143U050DI1	14,000	50	DI	9.67
203U050V5L	20,000	50	V5L	12.18
253U050W4C	25,000	50	W4C	14.09
303U050FH1	30,000	50	FH	16.18
333U050X4C	33,000	50	X4C	18.21
353U050FJ1	35,000	50	FJ	19.60
433U050X5C	43,000	50	X5C	21.69
821U075BB1	820	75	BB	3.48
112U075R2C	1,100	75	R2C	3.88
152U075BD1	1,500	75	BD	4.27
212U075R3C	2,100	75	R3C	4.79
232U075BF1	2,300	75	BF	4.88
312U075R4C	3,100	75	R4C	6.09
342U075DD1	3,400	75	DD	6.15
482U075V3C	4,800	75	V3C	7.51
502U075DF1	5,000	75	DF	7.70
712U075V4C	7,100	75	V4C	9.45

65° C capacitors cont'd on following page.

MALLORY Computer Grade Capacitors

65°C COMPUTER GRADE (CONT.)

Mallory No. CGS-	Cap., µF	WV DC	Size *	Net Each
752U075DI1	7,500	75	DI	$ 9.70
123U075FF1	12,000	75	FF	14.67
173U075X4C	17,000	75	X4C	17.97
263U075X5R	26,000	75	X5R	24.42
122U100BD1	1,200	100	BD	4.82
182U100BF1	1,800	100	BF	5.58
402U100DF1	4,000	100	DF	9.76
401U150BB1	400	150	BB	4.09
721U150BD1	720	150	BD	5.03
112U150BF1	1,100	150	BF	6.33
352U150DI1	3,500	150	DI	13.94
742U150FH1	7,400	150	FH	25.24
872U150FJ1	8,700	150	FJ	28.75
201T250BB1	200	250	BB	3.91
381T250BD1	380	250	BD	4.73
551T250BF1	550	250	BF	5.67
851T250DD1	850	250	DD	7.39
122T250DF1	1,200	250	DF	9.21
192T250DI1	1,900	250	DI	12.85
392T250FH1	3,900	250	FH	23.48
131T350BB1	130	350	BB	4.12
251T350BD1	250	350	BD	5.21
801T350DF1	800	350	DF	10.57
302T350FJ1	3,000	350	FJ	30.60
750T450BB1	75	450	BB	4.09
141T450BD1	140	450	BD	5.03
211T450BF1	210	450	BF	6.85
321T450DD1	320	450	DD	8.30
481T450DF1	480	450	DF	10.79
112T450FF1	1,100	450	FF	22.21
152T450FH1	1,500	450	FH	28.91
182T450FJ1	1,800	450	FJ	31.45

*COMPUTER GRADE CASE SIZES

Size includes plastic insulating sleeve.

CG or CGS Case Sizes			Dia. x L., Inches	Mtg. Clamp
A	BB	R2C	1⅜ x 2⅛	VR3†
B	BD	R3C	1⅜ x 3⅛	VR3†
C	BF	R4C	1⅜ x 4⅛	VR3†
H	.....	U3C	1¾ x 3⅛	VR6‡
J	.....	U4C	1¾ x 4⅛	VR6‡
K	DD	V3C	2 x 3⅛	VR8§
D	DF	V4C	2 x 4⅛	VR8§
....	DI	V5L	2 x 5⅝	VR8§
E	.....	W4C	2½ x 4⅛	VR10#
F	FF	X4C	3 x 4⅛	VR12▲
....	FH	X5C	3 x 5⅛	VR12▲
G	.....	X5L	3 x 5⅝	VR12▲
....	FJ	X5R	3 x 5⅞	VR12▲

Net Each: †**$0.37**; ‡**$0.43**; §**$0.48**; #**$0.51**; ▲**$0.58.**

AXIAL LEAD COMPUTER GRADE CAPACITORS

Series TCG axial lead, computer grade capacitor is a small tubular version of the Mallory type CG electrolytic capacitor listed at left and on previous page. All models are vented except 5/16″ and 7/16″ diameter cases. Long life, all welded construction. Has standard PVC insulating sleeve, optional Mylar* sleeve. **Temperature Range:** −40° C to +85° C. **Tolerance:** 3–75 WVDC, −10% +75% (U); 76–450 WVDC, −10% +50% (T).

*Registered DuPont Corp. trademark.

Mallory No. TCG-	Cap., µF	WV DC	Size Code	Net Each
602U006N1L	6,000	6	N1L	$3.42
103U006N2L	10,000	6	N2L	4.12
123U006N2L	12,000	6	N2L	4.36
501U010D1A	500	10	D1A	1.55
102U010D1G	1,000	10	D1G	1.66
162U010D2A	1,600	10	D2A	1.82
252U010N1C	2,500	10	N1C	3.10
272U010N1C	2,700	10	N1C	3.15
502U010N1L	5,000	10	N1L	3.42
552U010N1L	5,500	10	N1L	3.49
103U010L3C	10,000	10	L3C	4.23
700U015B0L	70	15	B0L	1.28
181U015C0P	180	15	C0P	1.39
601U015C1L	600	15	C1L	1.60
122U015D2A	1,200	15	D2A	1.82
252U015G2L	2,500	15	G2L	3.19
292U015G2L	2,900	15	G2L	3.24
402U015N1L	4,000	15	N1L	3.49
412U015N1L	4,100	15	N1L	3.54
632U015L2L	6,300	15	L2L	3.82
802U015N2L	8,000	15	N2L	4.12
822U015N2L	8,200	15	N2L	4.12
103U015N3C	10,000	15	N3C	4.54
121U025D0N	120	25	D0N	1.44
121U025C0S	120	25	C0S	1.44
201U025D1A	200	25	D1A	1.53
231U025D1A	230	25	D1A	1.55
501U025D1N	500	25	D1N	1.76
521U025D1N	520	25	D1N	1.79
102U025N1C	1,000	25	N1C	3.10
112U025J1L	1,100	25	J1L	2.89
222U025J2L	2,200	25	J2L	3.62
232U025J2L	2,300	25	J2L	3.66
402U025L3C	4,000	25	L3C	4.23
412U025L3C	4,100	25	L3C	4.28
250U030B0L	25	30	B0L	1.28
650U030C0P	65	30	C0P	1.39
950U030D0N	95	30	D0N	1.47
151U030D1A	150	30	D1A	1.55
251U030D1G	250	30	D1G	1.66
281U030D1G	280	30	D1G	1.68
501U030D2E	500	30	D2E	1.87
112U030G2L	1,100	30	G2L	3.19
212U030L2L	2,100	30	L2L	3.82
242U030L2L	2,400	30	L2L	3.94
302U030L3C	3,000	30	L3C	$4.23
180U050B0L	18	50	B0L	1.28
500U050C0S	50	50	C0S	1.44
101U050E1G	100	50	E1G	2.46
151U050D1G	150	50	D1G	1.66
251U050G1L	250	50	G1L	1.87
291U050D2E	290	50	D2E	1.92
501U050G2L	500	50	G2L	3.19
601U050G2L	600	50	G2L	3.27
112U050N2C	1,100	50	N2C	3.85
122U050N2C	1,200	50	N2C	3.95
232U050N3C	2,300	50	N3C	4.54
252U050N3L	2,500	50	N3L	4.96
100U075B0N	10	75	B0N	1.34
250U075C0S	25	75	C0S	1.44
400U075C1C	40	75	C1C	1.50
150T100C0P	15	100	C0P	1.39
5R0T150B0N	5	150	B0N	1.34
100T150C0P	10	150	C0P	1.49
250T150E1G	25	150	E1G	2.62
500T150D1N	50	150	D1N	2.67
101T150J1L	100	150	J1L	3.27
111T150J1L	110	150	J1L	3.31
251T150L2C	250	150	L2C	4.04
531T150N3C	530	150	N3C	5.10
561T150N3C	560	150	N3C	5.20
200T250E2C	20	250	E2C	2.97
500T250L1G	50	250	L1G	3.33
101T250L2C	100	250	L2C	4.04
201T250N3C	200	250	N3C	5.10
200T350G1L	20	350	G1L	3.22
300T350G2C	30	350	G2C	3.38
400T350G2L	40	350	G2L	3.46
500T350N1L	50	350	N1L	3.78
600T350N1L	60	350	N1L	3.88
161T350N3L	160	350	N3L	5.59
181T350N3L	180	350	N3L	5.78
5R0T450E1L	5	450	E1L	2.81
100T450G1L	10	450	G1L	3.22
120T450G1L	12	450	G1L	3.27
200T450G2L	20	450	G2L	3.46
500T450N2C	50	450	N2C	4.20
850T450N3C	85	450	N3C	5.25

.328″ TO .453″ DIAMETER CASES

Cases have clear PVC insulating sleeve. Rubber end seal. Vent on .390″ diameter model only. Bare tinned copper leads #20 AWG, .032″ diameter, 2″ long. Cases listed are insulated. For case measurement, uninsulated, deduct .015″ from diameter and length.

Case Code	Insulated Size, Inches	
	Diameter	Length
B0L	.328	.640
B0N	.328	.765
C0P	.390	.828
C0S	.390	.953
C1C	.390	1.140
C1L	.390	1.640
D0N	.453	.765
D1A	.453	1.015
D1G	.453	1.390
D1N	.453	1.765
D2A	.453	2.015
D2E	.453	2.265

.515″ TO 1.015″ DIAMETER CASES

Cases have clear PVC insulating sleeve. Molded plastic cover. All models vented. Bare tinned copper leads #20 AWG, .032″ diameter, 2½″ long, on .515″ and .640″ diameter cases; #18 AWG, .040″ diameter, 2½″ long on all others. Cases listed are insulated. For case measurement, uninsulated, deduct .015″ from diameter and length.

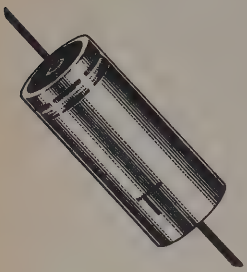
Case Code	Insulated Size, Inches	
	Diameter	Length
E1G	.515	1.390
E2C	.515	2.140
G1L	.640	1.640
G2C	.640	2.140
G2L	.640	2.640
J1L	.765	1.640
J2L	.765	2.640
L1G	.890	1.390
L1L	.890	1.640
L2C	.890	2.140
L2L	.890	2.640
L3C	.890	3.140
N1C	1.015	1.140
N1L	1.015	1.640
N2C	1.015	2.140
N2L	1.015	2.640
N3C	1.015	3.140
N3L	1.015	3.640

Our Stocks are Complete and up to date.

Write for information on new or unlisted items.

MALLORY Electrolytic Capacitors

TT TINY TUBULAR ALUMINUM ELECTROLYTIC CAPACITORS

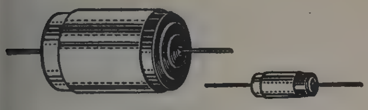


Mallory TT capacitors are made from very high purity aluminum foil, deep-etched to provide maximum capacity per unit of volume. Etched cathode construction assures long, hum-free operation. Utilize all-welded construction; exhibit exceptionally low DCL and ESR. Supplied in aluminum case with insulating sleeve; wire leads 2″ lg. (± ¼″). **Temperature Range:** −55° C to +85° C, 3 to 150-volt units; −30° C to +85° C, all others. **Tolerance:** −10%, +75%, 1-100 WVDC; −10%, +50%, 100 WVDC and up.

Mallory No. TT-	Cap., μF	WV DC	Size, In.* Dia. x L.	Net Each
3X1	1	3	¼ x ⅝	$0.58
3X5	5	3	¼ x ⅝	.58
3X8	8	3	¼ x ⅝	.58
3X20	20	3	¼ x ⅝	.58
3X25	25	3	¼ x ⅝	.58
3X40	40	3	¼ x ⅝	.58
3X50	50	3	¼ x ⅝	.58
3X75A	75	3	¼ x ⅝	.66
3X100A	100	3	⁵⁄₁₆ x ⅝	.66
3X150A	150	3	⁵⁄₁₆ x ⅝	.81
3X200C	200	3	⅜ x ¾	.81
3X250B	250	3	⅜ x ¾	.85
3X300A	300	3	⅜ x ¾	.85
3X400A	400	3	⅜ x ⅞	.88
3X500A	500	3	⅜ x ⅞	.93
3X590	590	3	⅜ x 1	.93
3X1000A	1K	3	½ x 1	.97
3X1500	1.5K	3	⁷⁄₁₆ x 1⅜	.97
3X2500	2.5K	3	⁷⁄₁₆ x 2	1.00
3X3600A	3.6K	3	⅝ x 1⅜	1.03
6X1	1	6	¼ x ⅝	.58
6X2	2	6	¼ x ⅝	.58
6X3	3	6	¼ x ⅝	.58
6X4	4	6	¼ x ⅝	.58
6X5	5	6	¼ x ⅝	.58
6X6	6	6	¼ x ⅝	.58
6X8	8	6	¼ x ⅝	.58
6X10	10	6	¼ x ⅝	.58
6X15	15	6	¼ x ⅝	.58
6X20	20	6	¼ x ⅝	.58
6X25	25	6	¼ x ⅝	.58
6X30	30	6	¼ x ⅝	.58
6X35	35	6	¼ x ⅝	.58
6X40	40	6	¼ x ⅝	.58
6X50A	50	6	¼ x ⅝	.58
6X60B	60	6	¼ x ⅝	.66
6X75A	75	6	¼ x ⅝	.66
6X80B	80	6	¼ x ⅝	.66
6X100A	100	6	⁵⁄₁₆ x ⅝	.81
6X150A	150	6	⁵⁄₁₆ x ⅝	.85
6X200B	200	6	⅜ x ¾	.85
6X250A	250	6	⅜ x ¾	.88
6X300B	300	6	⅜ x ¾	.88
6X400A	400	6	⅜ x 1	.88
6X560	560	6	⅜ x 1⅛	.96
6X1000A	1K	6	½ x 1	1.00
6X1500A	1.5K	6	⁷⁄₁₆ x 1¾	1.03
6X2000A	2K	6	⅝ x 1	1.05
6X3000	3K	6	½ x 2	1.18
10X2	2	10	¼ x ⅝	.58
10X6	6	10	¼ x ⅝	.58
10X10	10	10	¼ x ⅝	.58
10X15	15	10	¼ x ⅝	.58
10X25	25	10	¼ x ⅝	.58
10X30A	30	10	¼ x ⅝	.66
10X40A	40	10	¼ x ⅝	.66
10X50A	50	10	¼ x ⅝	.66
10X60A	60	10	¼ x ⅝	.81
10X100A	100	10	⁵⁄₁₆ x ⅝	.85
10X200A	200	10	⅜ x ¾	.93
10X300	300	10	⅜ x ⅞	.96
10X400	400	10	⅜ x 1	.96
10X500	500	10	⅜ x 1⅛	.96
10X600	600	10	⅜ x 1⅜	.96
10X800	800	10	⁷⁄₁₆ x 1⅜	.97
10X1000B	1K	10	½ x 1¼	1.00
10X1500	1.5K	10	⁷⁄₁₆ x 1¾	1.03
10X2000A	2K	10	⅝ x 1⅜	$1.05
10X2400	2.4K	10	½ x 2	1.21
12X1	1	12	¼ x ⅝	.58
12X2	2	12	¼ x ⅝	.58
12X3	3	12	¼ x ⅝	.58
12X4	4	12	¼ x ⅝	.58
12X5	5	12	¼ x ⅝	.58
12X6	6	12	¼ x ⅝	.58
12X8	8	12	¼ x ⅝	.58
12X10	10	12	¼ x ⅝	.58
12X15	15	12	¼ x ⅝	.58
12X20	20	12	¼ x ⅝	.58
12X25A	25	12	¼ x ⅝	.58
12X35A	35	12	¼ x ⅝	.58
12X50A	50	12	¼ x ⅝	.66
12X75A	75	12	¼ x ¾	.81
12X100A	100	12	⁵⁄₁₆ x ⅝	.85
12X150A	150	12	⁵⁄₁₆ x ¾	.88
12X200A	200	12	⅜ x ¾	.93
12X250A	250	12	⅜ x ⅞	.93
12X450A	450	12	⅜ x 1⅛	.97
12X500	500	12	⁷⁄₁₆ x 1	.97
12X600	600	12	⁷⁄₁₆ x 1⅛	.97
12X800	800	12	⁷⁄₁₆ x 1⅜	1.00
12X1000B	1K	12	½ x 1¼	1.03
12X1500A	1.5K	12	⅝ x 1⅛	1.05
12X2000A	2K	12	⅝ x 1⅜	1.21
15X1	1	15	¼ x ⅝	.58
15X2	2	15	¼ x ⅝	.58
15X3	3	15	¼ x ⅝	.58
15X4	4	15	¼ x ⅝	.58
15X5	5	15	¼ x ⅝	.58
15X6	6	15	¼ x ⅝	.58
15X8	8	15	¼ x ⅝	.58
15X10	10	15	¼ x ⅝	.58
15X15	15	15	¼ x ⅝	.58
15X20A	20	15	¼ x ⅝	.58
15X25A	25	15	¼ x ⅝	.58
15X30A	30	15	¼ x ⅝	.66
15X35B	35	15	¼ x ⅝	.66
15X40B	40	15	¼ x ⅝	.66
15X50A	50	15	¼ x ⅝	.66
15X75A	75	15	¼ x ¾	.81
15X100A	100	15	⁵⁄₁₆ x ⅝	.85
15X150A	150	15	⁵⁄₁₆ x ¾	.88
15X200A	200	15	⅜ x ¾	.93
15X260A	260	15	⅜ x ⅞	.93
15X350A	350	15	⅜ x 1⅛	.96
15X400	400	15	⅜ x 1⅛	.97
15X500	500	15	⅜ x 1⅜	.97
15X600	600	15	⅜ x 1½	.97
15X800	800	15	⁷⁄₁₆ x 1⅜	1.00
15X1000B	1K	15	½ x 1¼	1.03
15X1500A	1.5K	15	⅝ x 1⅛	1.05
25X1	1	25	¼ x ⅝	.58
25X2	2	25	¼ x ⅝	.58
25X3	3	25	¼ x ⅝	.58
25X4	4	25	¼ x ⅝	.58
25X5	5	25	¼ x ⅝	.58
25X6	6	25	¼ x ⅝	.58
25X8	8	25	¼ x ⅝	.58
25X10	10	25	¼ x ⅝	.58
25X15A	15	25	¼ x ⅝	.58
25X20A	20	25	¼ x ⅝	.66
25X25B	25	25	¼ x ⅝	.66
25X30A	30	25	¼ x ¾	.66
25X35A	35	25	¼ x ¾	$0.66
25X50A	50	25	⁵⁄₁₆ x ¹¹⁄₁₆	.81
25X75A	75	25	⅜ x ¾	.85
25X100B	100	25	⅜ x ¾	.88
25X150	150	25	⅜ x 1	.93
25X200	200	25	⅜ x 1⅛	.96
25X300	300	25	⅜ x 1½	.97
25X400	400	25	⁷⁄₁₆ x 1⅜	1.00
25X500A	500	25	½ x 1⅜	1.03
25X600	600	25	⁷⁄₁₆ x 1¾	1.05
25X800	800	25	½ x 1¾	1.05
50X1	1	50	¼ x ⅝	.58
50X2	2	50	¼ x ⅝	.58
50X3	3	50	¼ x ⅝	.58
50X4	4	50	¼ x ⅝	.58
50X5A	5	50	¼ x ⅝	.58
50X6B	6	50	⁵⁄₁₆ x ¹¹⁄₁₆	.58
50X8A	8	50	¼ x ⅝	.58
50X10B	10	50	¼ x ⅝	.66
50X15A	15	50	¼ x ¾	.66
50X20B	20	50	⁵⁄₁₆ x ⅝	.81
50X25A	25	50	⁵⁄₁₆ x ¹¹⁄₁₆	.81
50X35A	35	50	⅜ x ¾	.85
50X50B	50	50	⅜ x ¾	.88
50X75	75	50	⅜ x 1	.93
50X100	100	50	⅜ x 1⅛	.96
50X150A	150	50	½ x 1	.97
50X200	200	50	⁷⁄₁₆ x 1⅜	1.03
50X250A	250	50	½ x 1⅜	1.05
50X300	300	50	⁷⁄₁₆ x 2	1.18
50X350A	350	50	⅝ x 1⅛	1.18
50X400A	400	50	⅝ x 1¼	1.18
50X450	450	50	½ x 2	1.35
100X1	1	100	¼ x ⅝	.66
100X2	2	100	¼ x ⅝	.66
100X3	3	100	¼ x ⅝	.66
100X4A	4	100	⅜ x ⅝	.81
100X5A	5	100	⅜ x ⅝	.81
100X6A	6	100	⁵⁄₁₆ x ¹¹⁄₁₆	.81
100X10	10	100	⅜ x ¾	.85
100X15	15	100	⅜ x ⅞	.88
100X20	20	100	⅜ x 1	.93
100X25A	25	100	⅜ x 1	.96
100X30	30	100	⅜ x 1⅜	.96
100X40	40	100	⁷⁄₁₆ x 1⅜	1.00
100X45	45	100	⁷⁄₁₆ x 1½	1.03
100X50	50	100	⁷⁄₁₆ x 1¾	1.05
100X65	65	100	⁷⁄₁₆ x 2	1.18
150X2	2	150	¼ x ¾	.66
150X3	3	150	⁵⁄₁₆ x ⅝	.66
150X4	4	150	⅜ x ⅝	.81
150X5A	5	150	⅜ x ¾	.81
150X6	6	150	⅜ x ⅝	.85
150X8	8	150	⅜ x ⅞	.85
150X10	10	150	⅜ x ⅞	.88
150X12	12	150	⅜ x 1	.93
150X15	15	150	⅜ x 1⅛	.93
150X20	20	150	⅜ x 1⅜	.96
150X25	25	150	⁷⁄₁₆ x 1⅜	1.00
150X30	30	150	⁷⁄₁₆ x 1½	1.00
150X35	35	150	⁷⁄₁₆ x 1¾	1.03
150X40	40	150	⁷⁄₁₆ x 2	1.05

*Size shown for plain case. For insulating sleeve add .010″ dia. x ¹⁄₁₆″ l.

POLYSTYRENE CAPACITORS



Manufactured from a unique form of stretched and fused polystyrene to provide the ultimate in temperature stability and humidity protection. Can replace mica, film, paper, ceramic types in most uses. **Insulation Resistance:** Greater than 100,000 megohms. **Power Factor:** Less than 0.05%. **Temperature Coefficient:** −150 ppm/° C, ±60 ppm/° C. **Temperature Range:** −40° C to +85° C; for best operating stability, −25° C to +70° C. **Ask for Bulletin 9-370 for complete specifications.**

63 WVDC

Tolerance, ±2.5%.

Mallory No.	Cap., pF	Size, In. Dia. x L.	Net Each
SXL111	11,000	.303 x .867	$0.28
SXL112	12,000	.303 x .867	.28
SXL113	13,000	.315 x .867	.28
SXL115	15,000	.323 x .867	.28
SXL116	16,000	.330 x .867	.33
SXL118	18,000	.346 x .867	.33
SXL120	20,000	.358 x .867	.33
SXL122	22,000	.378 x .867	.33
SXL124	24,000	.388 x .867	.40
SXL133	33,000	.484 x .886	.48
SXL136	36,000	.484 x .886	.48
SXL139	39,000	.484 x .886	.48
SXL156	56,000	.451 x 1.300	.57
SXL162	62,000	.473 x 1.300	.57
SXL168	68,000	.473 x 1.300	.57
SXL182	82,000	.528 x 1.300	.73

160 WVDC

Tolerance, ±2.5%.

Mallory No.	Cap., pF	Size, In. Dia. x L.	Net Each
SXM330	300	.185 x .315	$0.20
SXM333	330	.189 x .315	.20
SXM336	360	.194 x .315	.20
SXM339	390	.201 x .315	.20
SXM343	430	.204 x .315	.20
SXM347	470	.209 x .315	.20
SXM350	500	.211 x .315	.20
SXM351	510	.213 x .315	.20
SXM356	560	.213 x .315	.19
SXM360	600	.220 x .315	.19
SXM362	620	.222 x .473	.19
SXM368	680	.228 x .473	.19
SXM375	750	.232 x .473	.19
SXM382	820	.236 x .473	.19
SXM391	910	.240 x .473	.19
SXM210	1,000	.244 x .473	.19
SXM211	1,100	.250 x .473	.19
SXM212	1,200	.256 x .473	.19
SXM213	1,300	.262 x .473	.19
SXM215	1,500	.268 x .473	.19
SXM216	1,600	.272 x .473	.19
SXM218	1,800	.280 x .473	.19
SXM220	2,000	.285 x .473	.19
SXM222	2,200	.228 x .670	.19
SXM224	2,400	.236 x .670	.19
SXM227	2,700	.252 x .670	.19
SXM230	3,000	.268 x .670	.19
SXM233	3,300	.280 x .670	.19
SXM236	3,600	.295 x .670	.19
SXM239	3,900	.307 x .670	.18
SXM243	4,300	.324 x .670	.18
SXM247	4,700	.335 x .670	.18
SXM250	5,000	.340 x .670	.18
SXM251	5,100	.310 x .867	.18
SXM256	5,600	.315 x .867	.18
SXM262	6,200	.325 x .867	.18
SXM268	6,800	.335 x .867	.18
SXM275	7,500	.346 x .867	.18
SXM282	8,200	.358 x .867	.18
SXM291	9,100	.370 x .867	.18
SXM110	10,000	.382 x .867	.25
SXM111	11,000	.405 x .867	.29
SXM112	12,000	.417 x .867	.29
SXM113	13,000	.434 x .867	.29
SXM115	15,000	.452 x .867	.29
SXM116	16,000	.422 x 1.260	.33
SXM118	18,000	.429 x 1.260	.33
SXM120	20,000	.440 x 1.260	.33
SXM122	22,000	.465 x 1.260	.33
SXM124	24,000	.485 x 1.260	.41
SXM127	27,000	.509 x 1.260	.41
SXM133	33,000	.550 x .886	$0.51
SXM136	36,000	.444 x 1.300	.51
SXM139	39,000	.465 x 1.300	.51
SXM147	47,000	.509 x 1.300	.54
SXM150	50,000	.526 x 1.300	.54
SXM151	51,000	.528 x 1.300	.64
SXM156	56,000	.539 x 1.300	.64
SXM162	62,000	.570 x 1.300	.64
SXM168	68,000	.597 x 1.300	.64
SXM175	75,000	.635 x 1.300	.85
SXM182	82,000	.639 x 1.300	.99
SXM191	91,000	.664 x 1.300	1.10
SXM015	150,000	.801 x 1.740	1.65
SXM022	220,000	.953 x 1.740	2.04
SXM033	330,000	1.126 x 1.740	2.83

630 WVDC

Tolerance, ±1 pF for values 5–18 pF; ±5%, all others.

Mallory No.	Cap., pF	Size, In. Dia. x L.	Net Each
SX420	20	.173 x .473	$.18
SX422	22	.173 x .473	.18
SX424	24	.173 x .473	.18
SX426	26	.186 x .473	.18
SX427	27	.173 x .473	.18
SX430	30	.173 x .473	.18
SX433	33	.173 x .473	.18
SX436	36	.178 x .473	.18
SX439	39	.181 x .473	.18
SX443	43	.183 x .473	.18
SX447	47	.185 x .473	.18
SX456	56	.189 x .473	.18
SX462	62	.191 x .473	.18
SX468	68	.193 x .473	.18
SX475	75	.195 x .473	.18
SX482	82	.197 x .473	.18
SX491	91	.199 x .473	.18
SX310	100	.201 x .473	.18
SX311	110	.203 x .473	.18
SX312	120	.205 x .473	.18
SX313	130	.207 x .473	.18
SX315	150	.209 x .473	.18
SX316	160	.211 x .473	.18
SX318	180	.213 x .473	.18
SX320	200	.217 x .473	.18
SX322	220	.220 x .473	.18
SX324	240	.222 x .473	.18
SX327	270	.224 x .473	.18
SX330	300	.226 x .473	.18
SX333	330	.228 x .473	.18
SX336	360	.232 x .473	.18
SX339	390	.236 x .473	.18
SX343	430	.242 x .473	.18
SX347	470	.248 x .473	.18
SX351	510	.214 x .670	.18
SX356	560	.217 x .670	.18
SX362	620	.226 x .670	.18
SX368	680	.232 x .670	.18
SX375	750	.244 x .670	.18
SX382	820	.248 x .670	.18
SX391	910	.256 x .670	.18
SX210	1,000	.264 x .670	.18
SX211	1,100	.276 x .670	.21
SX212	1,200	.283 x .670	.21
SX213	1,300	.291 x .670	.21
SX215	1,500	.299 x .670	.21
SX216	1,600	.305 x .670	.21
SX218	1,800	.319 x .670	.21
SX220	2,000	.329 x .670	.21
SX222	2,200	.339 x .670	.21
SX224	2,400	.352 x .670	.21
SX225	2,500	.355 x .670	.21
SX227	2,700	.362 x .670	.21
SX230	3,000	.366 x .670	.21
SX233	3,300	.378 x .867	.25
SX236	3,600	.388 x .867	.25
SX239	3,900	.398 x .867	.25
SX243	4,300	.414 x .867	.25
SX247	4,700	.425 x .867	.25
SX250	5,000	.445 x .867	.25
SX251	5,100	.447 x .867	.31
SX256	5,600	.453 x .867	.31
SX262	6,200	.470 x .867	.31
SX268	6,800	.480 x .867	.31
SX275	7,500	.498 x .867	.31
SX282	8,200	.516 x .867	.31
SX291	9,100	.532 x .867	.31
SX110	10,000	.555 x .867	.31

HC AND NP HARDWARE

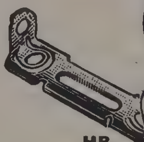
Mal. No.	Description	Net
PL3	1 7/16" end cap—In	$0.25
PLA3	1 7/16" end cap—Out	.25
PL6	1 13/16" end cap—In	.29
PLA6	1 13/16" end cap—Out	.29
PL8	2 1/16" end cap—In	.34
PLA8	2 1/16" end cap—Out	.34
HB2	3 1/64" horiz. bracket	.43
HB4	3 21/32" horiz. bracket	.43
HB8	4 21/32" horiz. bracket	.49

HIGH CAPACITY DRY ELECTROLYTICS

HC, NP

PL

PLA



HB

VR

HC and NP capacitors are furnished in heavy-duty molded phenolic cases with integral safety vent. HC types are polarized; NP types are non-polarized. **Temp. Range:** −20° C to +85° C. **Tolerance:** Type HC—0–50 WVDC, −10%, +150%; 51–350 WVDC, −10%, +100%; 351 WVDC up, −10%, +50%. Type NP—±25%, all units.

POLARIZED TYPE HC

Mallory No.	Cap., µF	WV DC	* Size	Net Each
HC1020A	2,000	10	1	$ 4.34
HC10100	10.000	10†	7	10.13
HC1520A	2,000	15	1	4.49
HC1540A	4,000	15	3	6.95
HC1560A	6,000	15	4	7.27
HC2050-50	2x5,000§	20	7	10.37
HC2060	6,000	20	7	8.54
HC2060A	6.000	20†	5	7.91
HC2510A	1,000	25	1	4.13
HC2520A	2,000	25	2	5.38
HC2530	3,000	25	4	6.32
HC2540A	4,000	25	4	7.22
HC2550	5,000	25	7	8.16
HC4040	4,000	40	7	9.77
HC4040A	4.000	40	5	9.04
HC5005	500	50	2	4.66
HC5005A	500	50	1	4.31
HC5010A	1,000	50	2	5.51
HC5020A	2,000	50	4	6.55
HC5030	3,000	50	7	9.07
HC5040	4,000	50	7	5.69
HC8010	1,000	80	4	6.91
HC8020	2,000	80	7	8.58
HC10015	1,500	100	7	8.34
HC15005	500	100	4	6.59
HC15010	1,000	150	7	8.93
HC15010A	1,000	150	5	8.34
HC20002	200	200	4	5.28
HC20005	500	200	7	7.73
HC20005A	500	200	4	7.16
HC45001	100	450	4	7.73
HC45003	300	450	7	10.97

NON-POLARIZED TYPE NP

Mallory No.	Cap., µF	WV DC	* Size	Net Each
NP1225A	200	125	2	$ 5.23
NP1255A	500	125	5	8.16
NP2514	100	250	5	7.70
NP2520	150	250	5	7.97
NP3003A	15	300	1	3.71
NP3006	30	300	2	4.98
NP3008	50	300	2	6.80
NP3014A	100	300	4	7.94
NP3020	150	300	7	8.50
NP3025	200	300	7	9.07
NP4505	50	450	4	8.16
NP4510	100	450	7	9.97

†Semi-polarized. ‡Aluminum can, post terminals. §Temp. Range to +65° C max.

*HC AND NP CASE SIZES

Code	Size, In. Dia. x Lg.	Use Hardware No. for		
		Cap	Brkt.	Clamp
1	1 7/16 x 2 3/4	PL3, PLA3	HB2	VR3
2	1 7/16 x 3 3/8	PL3, PLA3	HB4	VR3
3	1 7/16 x 4 3/8	PL3, PLA3	HB8	VR3
4	1 13/16 x 3 3/8	PL6, PLA6	HB4	VR6
5	1 13/16 x 4 3/8	PL6, PLA6	HB8	VR6
7	2 1/16 x 4 3/8	PL8, PLA8	HB8	VR8

MALLORY AC Motor Capacitors

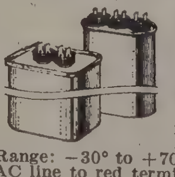
PSU MOTOR START CAPACITORS

PSU capacitors are dry electrolytic non-polarized types for intermittent duty in AC motor starting circuits. Capacitors are rated at minimum to maximum microfarads. Round cases are of moisture and oil resistant molded plastic. Equipped with two quick disconnect terminals. May be mounted by means of PL plastic end cap and HB metal snap-in bracket or VR clamp-bracket. (Order separately).

Mallory No.	Cap., μF	V AC	Size, In. Dia. x L.	Net* Each
PSU7510	75–90	110	1 7/16 x 3 3/8	$1.47
PSU8610	86–103	110	1 7/16 x 3 3/8	1.49
PSU9710	97–116	110	1 7/16 x 3 3/8	1.54
PSU23310A	233–280	110	1 7/16 x 3 3/8	2.45
PSU23310B	233–280	110	2 1/16 x 2 3/8	2.65
PSU27010B	270–324	110	2 1/16 x 2 3/8	2.64
PSU28210	282–338	110	1 13/16 x 3 3/8	2.71
PSU40010	400–480	110	1 13/16 x 4 3/8	3.29
PSU43010	430–516	110	1 13/16 x 4 3/8	3.38
PSU46010	460–552	110	2 1/16 x 3 3/8	4.25
PSU48510	485–582	110	1 13/16 x 4 3/8	4.44
PSU54010A	540–648	110	2 1/16 x 3 3/8	4.89
PSU54010	540–648	110	1 13/16 x 4 3/8	4.89
PSU59010	590–708	110	1 13/16 x 4 3/8	5.15
PSU2115	21–25	*	1 7/16 x 2 3/4	1.33
PSU2515	25–30	*	1 7/16 x 2 3/4	1.33
PSU3015	30–36	*	1 7/16 x 2 3/4	1.35
PSU3815	38–46	*	1 7/16 x 2 3/4	1.38
PSU4315	43–53	*	1 7/16 x 2 3/4	1.40
PSU5315	53–64	*	1 7/16 x 2 3/4	1.45
PSU6415	64–77	*	1 7/16 x 2 3/4	1.49
PSU7215	72–88	*	1 7/16 x 2 3/4	1.52
PSU8815	88–108	*	1 7/16 x 2 3/4	1.54
PSU10815	108–130	*	1 7/16 x 2 3/4	1.62
PSU12415	124–149	*	1 7/16 x 2 3/4	1.73
PSU13015	130–156	*	1 7/16 x 2 3/4	1.76
PSU14515	145–175	*	1 7/16 x 2 3/4	1.83
PSU16115	161–193	*	1 7/16 x 2 3/4	1.87
PSU18915	189–227	*	1 7/16 x 3 3/8	2.17
PSU20015	200–240	*	1 7/16 x 3 3/8	2.28
PSU21615	216–259	*	1 7/16 x 3 3/8	2.31
PSU23315	233–280	*	1 7/16 x 4 3/8	2.55
PSU24315	243–292	*	1 13/16 x 3 3/8	2.61
PSU27015	270–324	*	1 13/16 x 3 3/8	2.74
PSU30015	300–360	*	1 13/16 x 3 3/8	2.99
PSU32415	324–388	*	1 13/16 x 3 3/8	3.04
PSU34015	340–408	*	1 13/16 x 3 3/8	3.12
PSU37815	378–440	*	1 13/16 x 3 3/8	3.25
PSU40015	400–480	*	1 13/16 x 3 3/8	3.39
PSU43015	430–516	*	2 1/16 x 4 3/8	3.83
PSU46015	460–552	*	2 1/16 x 4 3/8	4.35
PSU54015	540–648	*	2 1/16 x 4 3/8	5.03
PSU59015	590–708	*	2 1/16 x 4 3/8	5.25
PSU70515	705–845	*	2 1/16 x 4 3/8	6.19
PSU82915	829–995	*	2 9/16 x 4 3/8	7.68
PSU100015	1K–1.2K	*	2 9/16 x 4 3/4	8.23
PSU2125	21–25	125	1 7/16 x 2	1.45
PSU2525	25–30	125	1 7/16 x 2	1.45
PSU3625	36–43	125	1 7/16 x 2	1.52
PSU5325	53–64	125	1 7/16 x 2	1.58
PSU6425	64–77	125	1 7/16 x 2	1.62
PSU7225	72–86	125	1 7/16 x 3 3/8	1.62
PSU7225A	72–86	125	1 7/16 x 2	1.62
PSU8625	86–103	125	1 7/16 x 2 3/4	1.68
PSU8625A	86–103	125	1 7/16 x 2	1.68
PSU8825	88–108	125	1 7/16 x 2	1.68
PSU10825	108–130	125	1 7/16 x 3 3/8	1.77
PSU10825A	108–130	125	1 7/16 x 2	1.77
PSU12425	124–149	125	1 7/16 x 3 3/8	1.88
PSU12425A	124–149	125	1 7/16 x 2	1.88
PSU13025	130–156	125	1 7/16 x 3 3/8	1.91
PSU14525	145–174	125	1 7/16 x 3 3/8	1.98
PSU16125	161–193	125	1 7/16 x 4 3/8	2.32
PSU16125A	161–193	125	1 7/16 x 3 3/8	2.35
PSU18925	189–229	125	1 13/16 x 3 3/8	2.29
PSU19225	192–230	125	1 7/16 x 4 3/8	2.35
PSU21625	216–259	125	1 13/16 x 3 3/8	2.61
PSU24325	243–292	125	1 13/16 x 3 3/8	2.82
PSU27325	273–328	125	1 13/16 x 4 3/8	3.02
PSU32425	324–389	125	1 13/16 x 4 3/8	3.48
PSU34125	341–409	125	1 13/16 x 4 3/8	3.77
PSU40025	400–480	125	2 1/16 x 4 3/8	4.29
PSU48525	485–543	125	2 1/16 x 4 3/8	4.55
PSU2165	21–25	165	1 7/16 x 2	2.29
PSU2565	25–30	165	1 7/16 x 2	1.72
PSU3065	30–36	165	1 7/16 x 2	1.78
PSU3665	36–43	165	1 7/16 x 2	1.88
PSU4365	43–52	165	1 7/16 x 2	1.94
PSU4765	47–56	165	11/16 x 2	2.00
PSU5365	53–64	165	1 7/16 x 2	2.07
PSU6465	64–77	165	1 7/16 x 2	2.16
PSU7265	72–87	165	1 7/16 x 2	2.29
PSU18965	189–227	165	1 13/16 x 4 3/8	4.62
PSU21665	216–259	165	1 13/16 x 4 3/8	4.68
PSU3820	38–46	220	1 7/16 x 3 3/8	2.96
PSU5320	53–64	220	1 13/16 x 3 3/8	3.09
PSU6420	64–77	220	1 13/16 x 3 3/8	3.60
PSU8620	86–103	220	1 13/16 x 4 3/8	4.05
PSU14120R	141–169†	220	2 1/16 x 4 3/8	5.82
PSU14520	145–174	220	2 1/16 x 4 3/8	$5.89
PSU21620	216–259	220	2 9/16 x 4 3/8	7.82
PSU23320	233–280	220	2 9/16 x 4 3/8	8.37
PSU2535	25–30	‡	1 7/16 x 2 3/4	2.70
PSU4335	43–53	‡	1 13/16 x 3 3/8	3.22
PSU5035	50–60	‡	1 13/16 x 3 3/8	3.32
PSU7535	75–90	‡	1 13/16 x 3 3/8	4.04
PSU8835	88–108	‡	1 13/16 x 3 3/8	4.35
PSU10835	108–130	‡	1 13/16 x 4 3/8	4.93
PSU12135	121–145	‡	2 1/16 x 4 3/8	5.43
PSU13535	135–162	‡	2 1/16 x 4 3/8	5.93
PSU14135R	141–169†	‡	2 1/16 x 4 3/8	6.14
PSU16135	161–193	‡	2 9/16 x 4 3/8	6.86
PSU18935R	189–227†	‡	2 9/16 x 4 3/8	7.28
PSU21635	216–259	‡	2 1/16 x 4 3/8	7.92
PSU23335	233–280	‡	2 9/16 x 4 3/8	8.50
PSU27035	270–324	‡	2 9/16 x 4 3/8	9.61
PSU1850R	18–22†	250	1 7/16 x 2 3/4	2.78
PSU2150	21–25	250	1 7/16 x 2 3/4	2.82
PSU2550	25–30	250	1 7/16 x 2 3/4	2.85
PSU3650	36–43	250	1 13/16 x 3 3/8	3.55
PSU4350	43–53	250	1 13/16 x 3 3/8	3.62
PSU5050	50–60	250	1 13/16 x 3 3/8	3.73
PSU5950	59–71	250	1 13/16 x 4 3/8	4.24
PSU7550	75–90	250	1 13/16 x 4 3/8	4.34
PSU8150	81–97	250	1 13/16 x 4 3/8	4.82
PSU8850	88-108	250	1 13/16 x 4 3/8	4.85
PSU10850	108–130	250	2 1/16 x 4 3/8	5.31
PSU12150	121–145	250	2 1/16 x 4 3/8	5.83
PSU13550	135–162	250	2 1/16 x 4 3/8	6,11
PSU13550R	135-162†	250	2 1/16 x 4 3/8	6.35
PSU14150	141–169	250	2 1/16 x 4 3/8	7.08
PSU16150R	161–193†	250	2 9/16 x 4 3/8	8.56
PSU18950	189–227	250	2 9/16 x 4 3/8	8.90
PSU2130	21–25	330	1 7/16 x 2 3/4	2.65
PSU2730	27–32	330	1 13/16 x 3 3/8	2.98
PSU3430	34–41	330	1 13/16 x 3 3/8	3.19
PSU4130	41–53	330	1 13/16 x 3 3/8	3.56
PSU5330	53–64	330	1 13/16 x 4 3/8	4.32
PSU7230	72–86	330	2 1/16 x 4 3/8	5.06
PSU8130	81–90	330	2 9/16 x 4 3/8	6.14
PSU8830	88–108	330	2 1/16 x 4 3/8	5.83
PSU9730	97–116	330	2 9/16 x 4 3/8	6.90
PSU10830	108–130	330	2 9/16 x 4 3/8	7.05
PSU10830R	108–130†	330	2 9/16 x 4 3/8	7.25
PSU12430	124–149	330	2 9/16 x 4 3/8	8.07
PSU12730	127–152	330	2 9/16 x 4 3/8	8.14
PSU13530	135–162	330	2 9/16 x 4 3/8	8.26
PSU13530R	135–162†	330	2 9/16 x 4 3/8	8.49
PSU14530	145–175	330	2 9/16 x 4 3/8	8.45
PSU16130	161–193	330	2 9/16 x 4 3/8	9.13
PSU18930	189–227	330	2 9/16 x 4 3/8	9.80
PSU21630	216–259	330	2 9/16 x 4 3/8	10.26

*110–125 VAC. †With resistors across terminals. ‡220–250 VAC.

MOTOR RUN CAPACITORS



For motor run and fluorescent ballast applications. All types have metal cases and quick-disconnect terminals with flash guards. Impregnating oil is non-flammable. Tolerance: ±10%. Temp. Range: −30° to +70° C. Always connect AC line to red terminal and windings to black.

TYPE OP (OVAL)

Mallory No.	Cap., μF	V AC	Size, Inches	Net* Each
OP1065	10	165	1 5/16 x 2 5/32 x 2 7/8	$5.41
OP336	3	236	1 5/16 x 2 5/32 x 2 1/16	2.77
OP436	4	236	1 5/16 x 2 5/32 x 2 1/16	2.87
OP536	5	236	1 5/16 x 2 5/32 x 2 5/16	2.95
OP7x36	7.5	236	1 5/16 x 2 5/32 x 3 3/8	5.49
OP1036A	10	236	2 5/32 x 2 27/32 x 2 1/4	5.89
OP1536A	15	236	2 5/32 x 2 27/32 x 3 1/32	6.87
OP2036	20	236	2 5/32 x 2 27/32 x 3 25/32	9.59
OP17525	17.5	250	2 5/32 x 2 27/32 x 3 13/32	8.98
OP1033A	10	330	2 5/32 x 2 27/32 x 2 3/4	5.89
OP170	1	370	1 5/16 x 2 5/32 x 1 11/16	2.64
OP270	2	370	1 5/16 x 2 5/32 x 1 11/16	2.75
OP370	3	370	1 5/16 x 2 5/32 x 2 1/16	2.77
OP470	4	370	1 5/16 x 2 5/32 x 2 9/16	3.15
OP570	5	370	1 5/16 x 2 5/32 x 2 7/8	3.51
OP670	6	370	1 5/16 x 2 5/32 x 3 1/8	3.92
OP7x570	7.5	370	2 5/32 x 2 27/32 x 2 1/2	5.15
OP7x570A	7.5	370	1 5/16 x 2 5/32 x 3 13/32	4.65
OP1070	10	370	2 5/32 x 2 27/32 x 3 1/32	6.44
OP1070A	10	370	1 5/16 x 2 5/32 x 4 3/4	5.94
OP12x70	12.5	370	1 29/32 x 2 29/32 x 3 1/2	6.99
OP1570B	15	370	1 29/32 x 2 29/32 x 3 7/8	7.18
OP1570	15	370	2 5/32 x 2 27/32 x 4 5/32	7.74
OP17570B	17.5	370	1 29/32 x 2 29/32 x 4 3/4	8.66

TYPE OP (OVAL) (Continued)

Mallory No.	Cap., μF	V AC	Size, Inches	Net* Each
OP17570	17.5	370	2 5/32 x 2 27/32 x 4 7/8	$9.06
OP2070	20	370	2 5/32 x 2 27/32 x 4 21/32	9.80
OP2070B	20	370	1 29/32 x 2 29/32 x 5 1/4	9.70
OP2570B	25	370	1 29/32 x 2 29/32 x 6 1/4	11.81
OP2570C	25	370	1 31/32 x 3 21/32 x 4 3/4	11.51
OP2570	25	370	2 5/32 x 2 27/32 x 5 3/16	11.81
OP5070	50	370	1 31/32 x 3 21/32 x 9	21.14
OP15D370	15,3	370	1 29/32 x 2 29/32 x 4 3/4	9.96
OP15D470	15,4	370	1 29/32 x 2 29/32 x 5 1/4	9.98
OP15D570	15,5	370	1 29/32 x 2 29/32 x 5 1/4	10.42
OP27570	27.5	370	1 31/32 x 3 21/32 x 5 3/4	12.31
OP3070	30	370	1 31/32 x 3 21/32 x 5 3/4	13.12
OP3570	35	370	1 31/32 x 3 21/32 x 6 1/4	14.77
OP4070	40	370	1 31/32 x 3 21/32 x 7 1/4	16.71
OP4570	45	370	1 31/32 x 3 21/32 x 8	18.66
OP15D-1070	15, 10	370	1 29/32 x 2 29/32 x 6 1/4	12.42
OP17D570	17.5, 5	370	1 29/32 x 2 29/32 x 6 1/4	11.68
OP20D570	20, 5	370	1 31/32 x 3 21/32 x 5 3/4	12.77
OP20D-1570R	20, 15	370	1 31/32 x 3 21/32 x 6 3/4	16.12
OP25D370	25, 3	370	1 31/32 x 3 21/32 x 5 1/4	14.55
OP25D570	25, 5	370	1 31/32 x 3 21/32 x 6 3/4	14.93
OP30D570	30, 5	370	1 31/32 x 3 21/32 x 8	16.58
OP35D370	35, 3	370	1 31/32 x 3 21/32 x 7 1/4	17.33
OP35D470	35, 4	370	1 31/32 x 3 21/32 x 7 1/4	17.08
OP35D-570A	35, 5	370	1 31/32 x 3 21/32 x 7 1/4	17.38
OP240	2	440	1 5/16 x 2 5/32 x 2 1/16	3.31
OP340	3	440	1 5/16 x 2 5/32 x 2 7/8	3.91
OP440	4	440	1 5/16 x 2 5/32 x 3 1/16	4.31
OP540	5	440	1 5/16 x 2 5/32 x 3 3/4	4.81
OP640	6	440	1 5/16 x 2 5/32 x 4 3/16	5.39
OP7x40	7.5	440	2 5/32 x 2 27/32 x 3 13/32	6.31
OP1040	10	440	1 29/32 x 2 29/32 x 3 7/8	7.18
OP1044	10	440	2 5/32 x 2 27/32 x 4 5/32	7.48
OP12x40	12.5	440	1 29/32 x 2 29/32 x 4 3/4	8.36
OP1540	15	440	2 5/32 x 2 27/32 x 5 5/8	10.20
OP17x40	17.5	440	1 29/32 x 2 29/32 x 6 1/4	10.47
OP2040	20	440	1 29/32 x 2 29/32 x 6 3/4	12.68
OP2040B	20	440	1 31/32 x 3 21/32 x 5 1/4	12.18
OP2540	25	440	1 31/32 x 3 21/32 x 6 1/4	14.50
OP3040	30	440	1 31/32 x 3 21/32 x 8	16.12
OP3540	35	440	1 31/32 x 3 21/32 x 9	19.15
OP4040	40	440	1 31/32 x 3 21/32 x 9 1/2	21.90
OP4540	45	440	1 31/32 x 3 21/32 x 9 1/2	26.11
OP17D740	17.5, 7.5	440	1 31/32 x 3 21/32 x 6 1/4	16.12
OP17D-1740F	17.5, 17.5†	440	1 31/32 x 3 21/32 x 9	20.04
OP20D-1540R	20, 15*	440	1 31/32 x 3 21/32 x 9	19.56
OP20D-2040R	20, 20*	440	1 31/32 x 3 21/32 x 9 1/2	23.16
OP25D440	25, 4	440	1 31/32 x 2 21/32 x 8	14.85
OP25D-1040R	25, 10*	440	1 31/32 x 3 21/32 x 9	19.56
OP25D-2040R	25, 20*	440	1 31/32 x 3 21/32 x 9 1/2	26.09
OP35D340	35, 3	440	1 31/32 x 3 31/32 x 9 1/2	22.87
OP35D540	35–5	440	1 31/32 x 3 21/32 x 9 1/2	23.61

*With resistors across terminals. †With internal fuse.

TYPE OPR (RECTANGULAR)

Mallory No.	Cap., μF	V AC	Size, Inches	Net* Each
OPR2570B	25	370	2 27/32 x 4 9/16 x 3 3/4	$20.49
OPR3570	35	370	2 27/32 x 4 9/16 x 4 5/8	22.87
OPR4070	40	370	2 27/32 x 4 9/16 x 5 3/16	24.99
OPR4570	45	370	2 27/32 x 4 9/16 x 6 1/4	26.91
OPR2040B	20	440	2 27/32 x 4 9/16 x 4 3/16	20.17
OPR2540	25	440	2 27/32 x 4 9/16 x 4 3/16	21.57
OPR3040	30	440	2 27/32 x 4 9/16 x 5 3/16	22.87
OPR3540	35	440	2 27/32 x 4 9/16 x 5 3/16	24.99
OPR4040	40	440	2 27/32 x 4 9/16 x 6 1/4	26.26
OPR4540	45	440	2 27/32 x 4 9/16 x 6 1/4	28.83
OPR5040B	50	440	2 27/32 x 4 9/16 x 6 3/4	31.16
OPR5040	50	440	3 3/4 x 4 9/16 x 5 7/8	32.17
OPR5540	55	440	2 27/32 x 4 9/16 x 7 1/2	33.70
OPR6040	60	440	3 3/4 x 4 9/16 x 7	37.28

*With resistors across terminals. †With internal fuse.

TYPE RP (ROUND)

Mallory No.	Cap., μF	V AC	Size, Inches Dia. x Lgth.	Net* Each
RP3303	3	330	2 x 1 3/4	$3.67
RP3304	4	330	2 x 2 3/16	3.77
RP3305	5	330	2 x 2 11/16	4.01
RP3306	6	330	2 x 2 7/8	4.42
RP3307	7	330	2 x 3 5/16	4.68
RP3308	8	330	2 x 3 13/16	5.88
RP3310	10	330	2 1/2 x 3 1/8	6.36
RP3312	12	330	2 1/2 x 3 1/2	7.56

★QUANTITY DISCOUNTS

1–9 Net; 10–24, 25 Up prices on request.

SEE ANOTHER MALLORY PAGE FOR AC CAPACITOR HARDWARE

PVC DIPPED MYLAR AND PAPER/MYLAR RADIAL-LEAD CAPACITORS

Solid construction: 100 and 200-volt ratings are 100% flat-pressed Mylar dielectric; 400, 600, 1000, 1600 and 2000-volt have paper and Mylar dielectric. Dipped epoxy case. End foil swaged over and leads welded plus protected by the epoxy coating; no chance for opens or intermittents. Copperweld† leads are double-dip tinned. Tolerance: ±10%.

100 WVDC—100% MYLAR

Mallory No.	Cap., µF	Size, Inches			Net 1-24
		L.	W.	Th.	
PVC1118	.018	.745	.365	.210	$0.26
PVC1122	.022	.745	.375	.220	.26
PVC1133	.033	.745	.390	.235	.26
PVC114	.04	.745	.410	.245	.31
PVC1147	.047	.745	.410	.250	.31
PVC1156	.056	.745	.430	.275	.32
PVC1168	.068	.745	.425	.270	.35
PVC101	.1	.745	.480	.325	.36
PVC1015	.15	.775	.750	.335	.42
PVC1022	.22	.775	.815	.400	.46
PVC1025	.25	.775	.850	.415	.46
PVC1033	.33	.775	.895	.480	.54
PVC1047	.47	1.150	.825	.410	.61
PVC105	.5	1.150	.835	.415	.61
PVC1068	.68	1.150	.915	.500	.73
PVC11	1.0	1.150	1.005	.590	.97
PVC11P5	1.5	1.675	.803	.743	1.26
PVC12	2.0	1.800	1.044	.984	1.52

200 WVDC—100% MYLAR

Mallory No.	Cap., µF	Size, Inches			Net 1-24
		L.	W.	Th.	
PVC211	.01	.745	.345	.195	$0.26
PVC2115	.015	.745	.375	.220	.26
PVC212	.02	.745	.405	.250	.26
PVC2122	.022	.745	.405	.250	.26
PVC2133	.033	.745	.415	.260	.26
PVC214	.04	.745	.425	.265	.26
PVC2147	.047	.745	.425	.270	.31
PVC215	.05	.745	.470	.315	.31
PVC2168	.068	.745	.475	.320	.35
PVC201	.1	.775	.765	.350	.36
PVC2015	.15	.775	.835	.420	.42
PVC2022	.22	.775	.915	.500	.46
PVC2025	.25	.775	.940	.520	.50
PVC2033	.33	.775	1.025	.610	.54
PVC2047	.47	1.150	.945	.530	.61
PVC205	.5	1.150	.940	.520	.61
PVC21	1.0	1.675	.824	.764	.94
PVC22	2.0	2.050	1.024	.919	1.44

400 WVDC—PAPER/MYLAR

Mallory No.	Cap., µF	Size, Inches			Net 1-24
		L.	W.	Th.	
PVC411	.01	.625	.395	.365	$0.25
PVC412	.02	.810	.415	.385	.25
PVC4147	.047	1.150	.440	.410	.29
PVC415	.05	1.150	.445	.415	.29
PVC401	.1	1.150	.550	.530	.39
PVC4022	.22	1.577	.633	.615	.51
PVC4025	.25	1.577	.665	.645	.59
PVC4047	.47	1.610	.775	.715	1.07
PVC405	.5	1.612	.790	.730	1.11

600 WVDC—PAPER/MYLAR

Mallory No.	Cap., µF	Size, Inches			Net 1-24
		L.	W.	Th.	
PVC621	.001	.625	.360	.330	$0.25
PVC6212	.0012	.625	.370	.340	.25
PVC6215	.0015	.625	.375	.345	.25
PVC622	.002	.625	.375	.345	.25
PVC6222	.0022	.625	.380	.350	.25
PVC6225	.0025	.625	.375	.345	.25
PVC6227	.0027	.625	.390	.360	.25
PVC623	.003	.625	.405	.375	.25
PVC6233	.0033	.625	.410	.380	.25
PVC6239	.0039	.625	.415	.385	.25
PVC624	.004	.625	.415	.385	.25
PVC6247	.0047	.625	.400	.370	.25
PVC625	.005	.625	.410	.380	.25
PVC6256	.0056	.625	.450	.420	.25
PVC626	.006	.625	.460	.430	.25
PVC6268	.0068	.625	.475	.445	.25
PVC6275	.0075	.625	.475	.445	.25
PVC628	.008	.625	.480	.450	.25
PVC6282	.0082	.875	.400	.370	.25
PVC611	.01	.875	.415	.385	.25
PVC6112	.012	.875	.440	.410	.25
PVC6115	.015	.875	.460	.430	.25
PVC612	.02	.875	.485	.455	.25
PVC6122	.022	.875	.505	.475	.25
PVC6125	.025	.875	.525	.495	.29
PVC6127	.027	1.125	.440	.410	.29
PVC613	.03	1.125	.450	.420	.34
PVC6133	.033	1.125	.465	.435	.34
PVC6139	.039	1.125	.490	.460	.34
PVC614	.04	1.125	.495	.465	.36
PVC6147	.047	1.125	.515	.485	.36
PVC615	.05	1.125	.520	.490	.36
PVC6156	.056	1.125	.560	.540	.36
PVC6168	.068	1.307	.580	.560	.42
PVC6182	.082	1.307	.600	.575	.44
PVC601	.1	1.307	.670	.650	.47
PVC6015	.15	1.577	.695	.675	.58
PVC602	.2	1.577	.770	.750	.67
PVC6022	.22	1.577	.795	.775	.73
PVC6025	.25	1.577	.835	.815	.79
PVC6033	.33	1.577	.930	.910	1.00
PVC6047	.47	2.020	.880	.830	1.63
PVC605	.5	2.020	.905	.875	1.64
PVC61	1.0	2.50	1.165	.....	3.37

1000 WVDC—PAPER/MYLAR

Mallory No.	Cap., µF	Size, Inches			Net 1-24
		L.	W.	Th.	
PVC10010	.1	1.562	.812	.812	$1.65
PVC10015	.15	1.750	.843	.812	1.65

1600 WVDC—PAPER/MYLAR

Mallory No.	Cap., µF	Size, Inches			Net 1-24
		L.	W.	Th.	
PVC1621	.001	.875	.395	.365	$0.29
PVC16215	.0015	.875	.430	.400	.29
PVC16222	.0022	.875	.470	.440	.31
PVC16227	.0027	.875	.495	.465	.31
PVC1623	.003	.875	.515	.485	.34
PVC16233	.0033	.875	.540	.520	.34
PVC1624	.004	.875	.575	.555	.35
PVC16247	.0047	.875	.600	.580	.39
PVC1625	.005	.875	.620	.600	.39
PVC16256	.0056	1.187	.560	.560	.39
PVC1626	.006	1.150	.510	.480	.39
PVC16268	.0068	1.150	.520	.490	.39
PVC1627	.007	1.150	.545	.525	.39
PVC16275	.0075	1.150	.550	.530	.39
PVC1628	.008	1.150	.565	.545	.39
PVC16282	.0082	1.150	.545	.525	.39
PVC1611	.01	1.150	.580	.560	.42
PVC16115	.015	1.307	.615	.595	.42
PVC1612	.02	1.577	.610	.590	.46
PVC16122	.022	1.577	.645	.625	.53
PVC16133	.033	1.577	.750	.730	.59
PVC16147	.047	1.577	.845	.825	.64
PVC1615	.05	1.577	.870	.850	.67
PVC16168	.068	1.577	.985	.965	1.53

2000 WVDC—PAPER/MYLAR

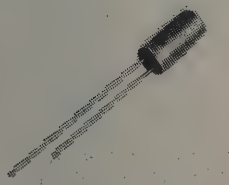
Mallory No.	Cap., µF	Size, Inches			Net 1-24
		L.	W.	Th.	
PVC2X21	.001	.875	.390	.360	$0.39
PVC2X256	.0056	1.187	.590	.560	.64
PVC2X268	.0068	1.187	.650	.630	.64

®Reg. DuPont trademark. †Reg. Copperweld Corp. trademark.

QUANTITY PRICES AVAILABLE ON REQUEST.

SEE INDEX FOR LARGE SELECTION OF OTHER MALLORY PRODUCTS ALSO AVAILABLE FROM OUR STOCK.

VTT ALUMINUM ELECTROLYTIC CAPACITORS



Miniature single ended capacitors will fit easily in small pocket transistor radio circuits and other applications where space is at a premium. Use in filtering, coupling and bypass applications. **Operating temperature:** −25° to +85° C. **Tolerance:** For 10µF and over, −10 +100%; all others −10 +150%.

Mallory No.	Cap., µF	WV DC	Size Dia. x Lg.	Net Ea.
VTT33B10	33	10	.236 x .433	$0.367
VTT47B10	47	10	.263 x .433	.367
VTT100D10	100	10	.315 x .433	.393
VTT220F10	220	10	.394 x .512	.493
VTT330G10	330	10	.394 x .591	.593
VTT1000L10	1000	10	.512 x .945	1.20
VTT2200N10	2200	10	.630 x 1.220	1.793
VTT3300P10	3300	10	.709 x 1.299	2.76
VTT22B16	22	16	.236 x .433	.367
VTT47D16	47	16	.315 x .433	.393
VTT100E16	100	16	.394 x .472	.493
VTT220H16	220	16	.394 x .669	.593
VTT330H16	330	16	.394 x .669	.70
VTT470K16	470	16	.512 x .827	.86
VTT1000M16	1000	16	.630 x .945	1.413
VTT2200P16	2200	16	.709 x 1.299	2.28
VTT10B25	10	25	.236 x .433	.367
VTT22D25	22	25	.315 x .433	.413
VTT33D25	33	25	.315 x .433	.42

Mallory No.	Cap., µF	WV DC	Size Dia. x Lg.	Net Ea.
VTT47E25	47	25	.394 x .472	$0.493
VTT100G25	100	25	.394 x .591	.56
VTT220K25	220	25	.512 x .827	.92
VTT330L25	330	25	.512 x .945	1.12
VTT470M25	470	25	.630 x .945	1.413
VTT1000N25	1000	25	.630 x 1.220	1.873
VTT10B35	10	35	.236 x .433	.44
VTT33E35	33	35	.394 x .472	.513
VTT47E35	47	35	.394 x .472	.967
VTT220K35	220	35	.512 x .827	1.093
VTT330M35	330	35	.630 x .945	1.98
VTT470M35	470	35	.630 x .945	1.64
VTT1A50	1	50	.315 x .433	.333
VTT2R2A50	2.2	50	.197 x .433	.333
VTT3R3A50	3.3	50	.197 x .433	.367
VTT4R7B50	4.7	50	.236 x .433	.367
VTT33G50	33	50	.394 x .591	.60
VTT100K50	100	50	.512 x .827	.94
VTT220M50	220	50	.630 x .945	1.193
VTT330N50	330	50	.630 x 1.220	2.10
VTT470N50	470	50	.630 x 1.220	2.593
VTTR47A63	.47	63	.197 x .433	.367
VTT1A63	1	63	.197 x .433	.367
VTT10D63	10	63	.315 x .433	.54
VTT22G63	22	63	.394 x .591	.76
VTT47J63	47	63	.394 x .787	1.02
VTT1A100	1	100	.197 x .433	.40
VTT3R3D100	3.3	100	.315 x .433	.533
VTT4R7D100	4.7	100	.315 x .433	.58
VTT10G100	10	100	.394 x .591	.893
VTT22J100	22	100	.394 x .787	1.12
VTT33K100	33	100	.512 x .827	1.36
VTT47L100	47	100	.512 x .945	1.553

SPRAGUE EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

TYPE 602D EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

Large cylindrical power supply filter capacitors with exceptional performance over long and trouble-free life. Type 602D have high ripple current capability and are designed for continuous operation over temperature range of −55° C to +85° C. Safely carry as much as 10 amps of ripple current at 120 Hz. Superior humidity seal. Ideal for input of power supply filters. Capacitors with outer insulation are listed below. For bare case, change the 14th character of Sprague number from 2 to 0. With low-screw insert terminals. For high-screw insert terminals, change last character of Sprague number to **B**.

SPRAGUE
602D

5 WVDC, 7 V SURGE

Sprague Number	µF	Size, Price Code*
602D802G005AA2A	8000	AA
602D173G005AB2A	17000	AB
602D253G005AC2A	25000	AC
602D293G005AD2A	29000	AD
602D343G005AE2A	34000	AE
602D373G005AF2A	37000	AF
602D403G005BB2A	40000	BB
602D603G005BC2A	60000	BC
602D673G005CB2D	67000	CB
602D703G005BD2D	70000	BD
602D803G005BE2A	80000	BE
602D903G005BF2A	90000	BF
602D104G005CC2D	100000	CC
602D114G005CD2D	110000	CD
602D134G005CE2D	130000	CE
602D154G005CF2D	150000	CF
602D154G005DC2D	150000	DC
602D174G005DD2D	170000	DD
602D204G005DE2D	200000	DE
602D224G005DF2D	220000	DF

10 WVDC, 15 V SURGE

Sprague Number	µF	Size, Price Code*
602D502G010AA2A	5000	AA
602D103G010AB2A	10000	AB
602D153G010AC2A	15000	AC
602D173G010AD2A	17000	AD
602D203G010AE2A	20000	AE
602D223G010AF2A	22000	AF
602D243G010BB2A	24000	BB
602D373G010BC2A	37000	BC
602D423G010CB2D	42000	CB
602D433G010BD2A	43000	BD
602D483G010BE2A	48000	BE
602D553G010BF2A	55000	BF
602D643G010CC2D	64000	CC
602D753G010CD2D	75000	CD
602D863G010CE2D	86000	CE
602D943G010DC2D	94000	DC
602D963G010CF2D	96000	CF
602D114G010DD2D	110000	DD
602D124G010DE2D	120000	DE
602D144G010DF2D	140000	DF

15 WVDC, 20 V SURGE

Sprague Number	µF	Size, Price Code*
602D402G015AA2A	4000	AA
602D802G015AB2A	8000	AB
602D123G015AC2A	12000	AC
602D143G015AD2A	14000	AD
602D163G015AE2A	16000	AE
602D183G015AF2A	18000	AF
602D203G015BB2A	20000	BB
602D303G015BC2A	30000	BC
602D353G015BD2A	35000	BD
602D403G015BE2A	40000	BE
602D423G015CB2D	42000	CB
602D453G015BF2A	45000	BF
602D513G015CC2D	51000	CC
602D593G015CD2D	59000	CD
602D683G015CE2D	68000	CE
602D763G015CF2D	76000	CF
602D763G015DC2D	76000	DC
602D893G015DD2D	89000	DD
602D104G015DE2D	100000	DE
602D114G015DF2D	110000	DF

20 WVDC, 30 V SURGE

Sprague Number	µF	Size, Price Code*
602D282G020AA2A	2800	AA
602D512G020AB2A	5100	AB
602D862G020AC2A	8600	AC
602D103G020AD2A	10000	AD
602D113G020AE2A	11000	AE
602D133G020AF2A	13000	AF
602D203G020BC2A	20000	BC
602D233G020BD2A	23000	BD
602D243G020CB2D	24000	CB
602D263G020BE2A	26000	BE
602D303G020BF2A	30000	BF
602D373G020CC2D	37000	CC
602D433G020CD2D	43000	CD
602D473G020CE2D	47000	CE
602D543G020DC2D	54000	DC
602D553G020CF2D	55000	CF
602D633G020DD2D	63000	DD
602D733G020DE2D	73000	DE
602D823G020DF2D	82000	DF

25 WVDC, 40 V SURGE

Sprague Number	µF	Size, Price Code*
602D252G025AA2A	2500	AA
602D502G025AB2A	5000	AB
602D752G025AC2A	7500	AC
602D872G025AD2A	8700	AD
602D103G025AE2A	10000	AE
602D113G025AF2A	11000	AF
602D173G025BC2A	17000	BC
602D203G025BD2A	20000	BD
602D203G025CB2D	20000	CB
602D233G025BE2A	23000	BE
602D253G025BF2A	25000	BF
602D303G025CC2D	30000	CC
602D353G025CD2D	35000	CD
602D403G025CE2D	40000	CE
602D443G025DC2D	44000	DC
602D453G025CF2D	45000	CF
602D523G025DD2D	52000	DD
602D603G025DE2D	60000	DE
602D673G025DF2D	67000	DF

30 WVDC, 40 V SURGE

Sprague Number	µF	Size, Price Code*
602D222G030AA2A	2200	AA
602D442G030AB2A	4400	AB
602D662G030AC2A	6600	AC
602D772G030AD2A	7700	AD
602D882G030AE2A	8800	AE
602D992G030AF2A	9900	AF
602D103G030BB2A	10000	BB
602D153G030BC2A	15000	BC
602D173G030BD2A	17000	BD
602D183G030CB2D	18000	CB
602D203G030BE2A	20000	BE
602D223G030BF2A	22000	BF
602D263G030CC2D	26000	CC
602D303G030CD2D	30000	CD
602D343G030CE2D	34000	CE
602D383G030DC2D	38000	DC
602D393G030CF2D	39000	CF
602D453G030DD2D	45000	DD
602D523G030DE2D	52000	DE
602D583G030DF2D	58000	DF

40 WVDC, 55 V SURGE

Sprague Number	µF	Size, Price Code*
602D182G040AA2A	1800	AA
602D372G040AB2A	3700	AB
602D552G040AC2A	5500	AC
602D642G040AD2A	6400	AD
602D742G040AE2A	7400	AE
602D822G040AF2A	8400	AF
602D902G040BB2A	9000	BB
602D133G040BC2A	13000	BC
602D153G040BD2A	15000	BD
602D153G040CB2A	15000	CB
602D183G040BE2A	18000	BE
602D193G040BF2A	19000	BF
602D223G040CC2D	22000	CC
602D253G040CD2D	25000	CD
602D283G040CE2D	28000	CE
602D323G040DC2D	32000	DC
602D333G040CF2D	33000	CF
602D373G040DD2D	37000	DD
602D433G040DE2D	43000	DE
602D483G040DF2D	48000	DF

50 WVDC, 75 V SURGE

Sprague Number	µF	Size, Price Code*
602D142G050AA2A	1400	AA
602D292G050AB2A	2900	AB
602D442G050AC2A	4400	AC
602D512G050AD2A	5100	AD
602D582G050AE2A	5800	AE
602D662G050AF2A	6600	AF
602D902G050BC2A	9000	BC
602D113G050BD2A	11000	BD
602D123G050CB2D	12000	CB
602D133G050BE2A	13000	BE
602D153G050BF2A	15000	BF
602D173G050CC2D	17000	CC
602D203G050CD2D	20000	CD
602D223G050CE2D	22000	CE
602D253G050CF2D	25000	CF
602D253G050DC2D	25000	DC
602D303G050DD2D	30000	DD
602D343G050DE2D	34000	DE
602D393G050DF2D	39000	DF

75 WVDC, 100 V SURGE

Sprague Number	µF	Size, Price Code*
602D531F075AA2A	530	AA
602D102F075AB2A	1000	AB
602D162F075AC2A	1600	AC
602D182F075AD2A	1800	AD
602D202F075AE2A	2000	AE
602D242F075AF2A	2400	AF
602D262F075BB2A	2600	BB
602D392F075BC2A	3900	BC
602D442F075CB2D	4400	CB
602D452F075BD2A	4500	BD
602D502F075BE2A	5000	BE
602D582F075BF2A	5800	BF
602D662F075CC2D	6600	CC
602D772F075CD2D	7700	CD
602D882F075CE2D	8800	CE
602D952F075DC2D	9500	DC
602D992F075CF2D	9900	CF
602D113F075DD2D	11000	DD
602D133F075DE2D	13000	DE
602D143F075DF2D	14000	DF

100 WVDC, 150 V SURGE

Sprague Number	µF	Size, Price Code*
602D251F100AA2A	250	AA
602D501F100AB2A	500	AB
602D801F100AC2A	800	AC
602D901F100AD2A	900	AD
602D102F100AE2A	1000	AE
602D112F100AF2A	1100	AF
602D122F100BB2A	1200	BB
602D182F100BC2A	1800	BC
602D212F100BD2A	2100	BD
602D212F100CB2D	2100	CB
602D242F100BE2A	2400	BE
602D262F100BF2A	2600	BF
602D312F100CC2D	3100	CC
602D362F100CD2D	3600	CD
602D412F100CE2D	4100	CE
602D452F100CF2D	4500	CF
602D462F100DC2D	4600	DC
602D552F100DD2D	5500	DD
602D602F100DE2D	6000	DE
602D672F100DF2D	6700	DF

*CASE SIZES AND PRICES

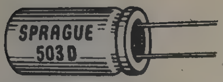
* Code	Case Size, In.† Dia. x Lgth.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
AA	1.438 x 2.188	$ 4.78	$ 3.82	$ 3.34	$ 2.58	$ 2.39
AB	1.438 x 3.188	5.83	4.66	4.08	3.15	2.91
AC	1.438 x 4.188	7.03	5.62	4.92	3.79	3.51
AD	1.438 x 4.688	7.68	6.14	5.37	4.14	3.84
AE	1.438 x 5.188	8.43	6.74	5.90	4.55	4.21
AF	1.438 x 5.688	9.03	7.22	6.32	4.87	4.51
BB	2.062 x 3.188	8.95	7.16	6.27	4.83	4.48
BC	2.062 x 4.188	10.63	8.50	7.44	5.74	5.31
BD	2.062 x 4.688	11.70	9.36	8.19	6.32	5.85
BE	2.062 x 5.188	12.58	10.06	8.80	6.79	6.29

* Code	Case Size, In.† Dia. x Lgth.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
BF	2.062 x 5.688	$13.43	$10.74	$ 9.40	$ 7.25	$ 6.71
CB	2.578 x 3.250	13.03	10.42	9.12	7.03	6.51
CC	2.578 x 4.250	16.20	12.96	11.34	8.75	8.10
CD	2.578 x 4.750	17.58	14.06	12.30	9.49	8.79
CE	2.578 x 5.250	19.73	15.78	13.81	10.65	9.86
CF	2.578 x 5.750	21.25	17.00	14.88	11.48	10.63
DC	3.078 x 4.250	24.00	19.20	16.80	12.96	12.00
DD	3.078 x 4.750	27.15	21.72	19.01	14.66	13.58
DE	3.078 x 5.250	30.18	24.14	21.12	16.29	15.09
DF	3.078 x 5.750	33.03	26.42	23.12	17.83	16.51

†For bare case sizes, subtract .063″ from diameter and length.

SPRAGUE VERTI-LYTIC® MINIATURE ELECTROLYTIC CAPACITORS

TYPE 503D VERTI-LYTIC® MINIATURE ELECTROLYTICS



Low cost capacitors are designed for high density applications. Low leakage current and excellent stability and ESR. Operating temperature, 85° C. Metal-encased, with plastic insulating sleeve.

Sprague Number 503D-	µF	WV DC	Size, In. Dia. x Lgth.	Net Each, Lots of			
				1-49	50-99	100-199	200-499
476G6R3AS	47	6.3	.236 x .433	$0.316	$0.211	$0.15	$0.125
107G6R3BB	100	6.3	.315 x .492	.328	.219	.156	.13
477G6R3CG	470	6.3	.394 x .787	.398	.265	.189	.158
687G6R3DG	680	6.3	.512 x .787	.568	.379	.27	.225
108G6R3DK	1000	6.3	.512 x .984	.632	.421	.30	.25
158G6R3EK	1500	6.3	.630 x .984	1.03	.686	.489	.408
228G6R3ER	2200	6.3	.630 x 1.240	1.213	.809	.576	.48
338G6R3ET	3300	6.3	.630 x 1.614	1.579	1.053	.75	.625
336G010AS	33	10	.236 x .433	.316	.211	.15	.125
686G010BB	68	10	.315 x .492	.328	.219	.156	.13
107G010CB	100	10	.394 x .492	.335	.223	.159	.133
157G010CB	150	10	.394 x .492	.335	.223	.159	.133
227G010CD	220	10	.394 x .63	.341	.227	.162	.135
337G010CG	330	10	.394 x .787	.398	.265	.189	.158
477G010DG	470	10	.512 x .787	.568	.379	.27	.225
687G010DK	680	10	.512 x .984	.632	.421	.30	.25
108G010EK	1000	10	.630 x .984	1.03	.686	.489	.408
158G010ER	1500	10	.630 x 1.240	1.213	.809	.576	.48
228G010EU	2200	10	.630 x 1.437	1.371	.914	.651	.543
685G016HS	6.8	16	.197 x .433	.303	.202	.144	.12
106G016HS	10	16	.197 x .433	.303	.202	.144	.12
156G016AS	15	16	.236 x .433	.316	.211	.15	.125
226G016AS	22	16	.236 x .433	.316	.211	.15	.125
476G016BB	47	16	.315 x .492	.328	.219	.156	.13
686G016CB	68	16	.394 x .492	.335	.223	.159	.133
107G016CD	100	16	.394 x .630	.341	.227	.162	.135
157G016CD	150	16	.394 x .630	.341	.227	.162	.135
227G016CG	220	16	.394 x .787	.398	.265	.189	.158
337G016DG	330	16	.512 x .787	.568	.379	.27	.225
477G016DK	470	16	.512 x .984	.632	.421	.30	.25
687G016EK	680	16	.630 x .984	1.03	.686	.489	.408
108G016ER	1000	16	.630 x 1.240	1.213	.809	.576	.48
158G016ET	1500	16	.630 x 1.614	1.579	1.053	.75	.625
474G025HS	0.47	25	.197 x .433	.303	.202	.144	.12
684G025HS	0.68	25	.197 x .433	.303	.202	.144	.12
105G025HS	1.0	25	.197 x .433	.303	.202	.144	.12
155G025HS	1.5	25	.197 x .433	.303	.202	.144	.12
225G025HS	2.2	25	.197 x .433	.303	.202	.144	.12
335G025HS	3.3	25	.197 x .433	.303	.202	.144	.12
475G025HS	4.7	25	.197 x .433	.303	.202	.144	.12
685G025AS	6.8	25	.236 x .433	.316	.211	.15	.125
106G025AS	10	25	.236 x .433	$0.316	$0.211	$0.15	$0.12
156G025BB	15	25	.315 x .492	.328	.219	.156	.13
226G025BB	22	25	.315 x .492	.328	.219	.156	.13
336G025BB	33	25	.315 x .492	.328	.219	.156	.13
476G025CB	47	25	.394 x .492	.335	.223	.159	.133
686G025CD	68	25	.394 x .630	.341	.227	.162	.135
107G025CG	100	25	.394 x .787	.398	.265	.189	.158
157G025DG	150	25	.512 x .787	.568	.379	.27	.225
227G025DG	220	25	.512 x .787	.568	.379	.27	.225
337G025DK	330	25	.512 x .984	.632	.421	.30	.25
477G025EK	470	25	.630 x .984	1.03	.686	.489	.408
687G025ER	680	25	.630 x 1.240	1.213	.809	.576	.48
108G025EU	1000	25	.630 x 1.437	1.371	.914	.651	.543
685G035AS	6.8	35	.236 x .433	.316	.211	.15	.125
336G035CB	33	35	.394 x .492	.335	.223	.159	.133
476G035CD	47	35	.394 x .630	.341	.227	.162	.135
157G035DG	150	35	.512 x .787	.568	.379	.27	.225
227G035DK	220	35	.512 x .984	.632	.421	.30	.25
337G035EK	330	35	.630 x .984	1.03	.686	.489	.408
477G035ER	470	35	.630 x 1.240	1.213	.809	.576	.48
687G035EU	680	35	.630 x 1.437	1.371	.914	.651	.543
225G050HS	2.2	50	.197 x .433	.303	.202	.144	.12
475G050AS	4.7	50	.236 x .433	.316	.211	.15	.125
156G050BB	15	50	.315 x .492	.328	.219	.156	.13
336G050CD	33	50	.394 x .630	.341	.227	.162	.135
686G050CG	68	50	.394 x .787	.398	.265	.189	.158
107G050DG	100	50	.512 x .787	.568	.379	.27	.225
227G050EK	220	50	.630 x .984	1.03	.686	.489	.408
337G050ER	330	50	.630 x 1.240	1.213	.809	.576	.48
477G050ET	470	50	.630 x 1.614	1.579	1.053	.75	.625
474G063HS	0.47	63	.197 x .433	.303	.202	.144	.12
684G063HS	0.68	63	.197 x .433	.303	.202	.144	.12
105G063HS	1.0	63	.197 x .433	.303	.202	.144	.12
155G063HS	1.5	63	.197 x .433	.303	.202	.144	.12
225G063AS	2.2	63	.236 x .433	.316	.211	.15	.125
335G063AS	3.3	63	.236 x .433	.316	.211	.15	.125
475G063BB	4.7	63	.315 x .492	.328	.219	.156	.13
685G063BB	6.8	63	.315 x .492	.328	.219	.156	.13
106G063BB	10	63	.315 x .492	.328	.219	.156	.13
156G063CB	15	63	.394 x .492	.335	.223	.159	.133
226G063CB	22	63	.394 x .492	.335	.223	.159	.133
336G063CG	33	63	.394 x .787	.398	.265	.189	.158
476G063CG	47	63	.394 x .787	.398	.265	.189	.158
686G063DG	68	63	.512 x .787	.568	.379	.27	.225
107G063DK	100	63	.512 x .984	.632	.421	.30	.25
157G063EK	150	63	.630 x .984	1.03	.686	.489	.408
227G063EU	220	63	.630 x 1.437	1.371	.914	.651	.543
337G063ET	330	63	.630 x 1.614	1.579	1.053	.75	.625

***HIGHER QUANTITY PRICES ON REQUEST.**

SPRAGUE TYPE 715P FILMITE® 'L' ORANGE DROP® CAPACITORS

Polypropylene film capacitors, similar to polystyrene units with their high alternating current carrying capability, have the added advantage of operating temperatures to 105° C and extremely low dissipation factor. The temperature coefficient is negative and virtually linear at 180 ppm/°C over the range of +25° C to +105° C. Capacity tolerance is ±5%.

Sprague Number 715P-	Cap., µF	Size, In. Dia. x Lgth.	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-499
400 WVDC							
10354JD3	.01	.40 x .75	$0.48	$0.393	$0.229	$0.183	$0.164
15354JD3	.015	.45 x .75	.54	.438	.256	.204	.183
33354KD3	.033	.50 x .95	.63	.504	.294	.235	.21
15454LD3	.15	.65 x 1.3	.93	.771	.45	.36	.321
22454MD3	.22	.70 x 1.7	1.05	.873	.509	.407	.364
33454MD3	.33	.80 x 1.7	1.50	1.23	.718	.574	.513
47454MD3	.47	.90 x 1.7	1.50	1.23	.718	.574	.513
600 WVDC							
10256JD3	.001	.40 x .75	$0.45	$0.357	$0.208	$0.167	$0.149
15256JD3	.0015	.40 x .75	.45	.357	.208	.167	.149
22256JD3	.0022	.40 x .75	.45	.357	.208	.167	.149
33256JD3	.0033	.40 x .75	.45	.375	.219	.175	.156
47256JD3	.0047	.45 x .75	.45	.375	.219	.175	.156
68256JD3	.0068	.45 x .75	.48	.393	.229	.183	.164
10356KD3	.01	.45 x .75	.54	.438	.256	.204	.183
600 WVDC (CONT'D)							
15356KD3	.015	.50 x .95	$0.54	$0.438	$0.256	$0.204	$0.183
22356KD3	.022	.55 x .95	.57	.477	.278	.223	.199
47356LD3	.047	.60 x 1.3	.96	.786	.459	.367	.328
68356LD3	.068	.65 x 1.3	.93	.771	.45	.36	.321
10456LD3	.1	.75 x 1.3	1.05	.873	.509	.407	.364
15456MD3	.15	.75 x 1.7	1.50	1.23	.718	.574	.513
22456MD3	.22	.85 x 1.7	1.71	1.419	.828	.662	.591
800 WVDC							
15358LD3	.015	.55 x 1.3	$0.78	$0.636	$0.371	$0.297	$0.265
22358LD3	.022	.60 x 1.3	.93	.771	.45	.36	.321
33358LD3	.033	.70 x 1.3	1.20	.99	.578	.462	.413
68358MD3	.068	.80 x 1.7	1.50	1.23	.718	.574	.513
10458MD3	.1	.90 x 1.7	2.04	1.689	.985	.788	.704
1200 WVDC							
153512LD3	.015	.65 x 1.3	$1.20	$0.99	$0.578	$0.462	$0.413
473512MD3	.047	.85 x 1.7	1.71	1.419	.828	.662	.591
1600 WVDC							
222516LD3	.0022	.50 x 1.3	$0.78	$0.636	$0.371	$0.297	$0.265
332516LD3	.0033	.55 x 1.3	.87	.726	.424	.339	.303
472516LD3	.0047	.60 x 1.3	.87	.726	.424	.339	.303
682516LD3	.0068	.65 x 1.3	.93	.771	.45	.36	.321
103516LD3	.01	.70 x 1.3	1.05	.873	.509	.407	.364
153516MD3	.015	.75 x 1.7	1.20	.99	.578	.462	.413
223516MD3	.022	.85 x 1.7	1.41	1.167	.681	.545	.486
333516MD3	.033	.95 x 1.7	1.71	1.419	.828	.662	.591

SPRAGUE Capacitors

Radial

TYPE 1C, 2C, 3C AND 5C MONOLYTHIC® CERAMIC CAPACITORS

Monolythic® ceramic capacitors are available in wide range of body formulations, capacitance values and sizes. These capacitors are made by spraying alternate layers of ceramic dielectric material and metallic electrodes, then firing into a single, all but indestructible homogenous block. Protected against damage and moisture by tough resin coating.

GENERAL APPLICATION FORMULATION Z5U (+10° C TO +85° C)

Tolerance: ±20% for +80 −20% tolerance, change **X0** in Sprague No. to **D8.**

TYPE 1C—50 WVDC

Sprague Number	μF	Size Code*	Price Code†
1CZ5U103X0050C4	.01	A	1R
1CZ5U153X0050C4	.015	A	1R
1CZ5U223X0050C4	.022	A	2R
1CZ5U333X0050C4	.033	A	2R
1CZ5U473X0050C4	.047	A	2R
1CZ5U683X0050C4	.068	A	3R
1CZ5U104X0050C4	.1	B	4R

TYPE 2C—50 WVDC

Sprague Number	μF	Size Code*	Price Code†
2CZ5U103X0050C4	.01	C	1R
2CZ5U153X0050C4	.015	C	1R
2CZ5U223X0050C4	.022	C	2R
2CZ5U333X0050C4	.033	C	2R
2CZ5U473X0050C4	.047	C	2R
2CZ5U683X0050C4	.068	C	3R
2CZ5U104X0050C4	.1	C	4R

TYPE 2C—50 WVDC (CONT'D)

Sprague Number	μF	Size Code*	Price Code†
2CZ5U154X0050C4	.15	D	5R
2CZ5U224X0050C4	.22	D	5R
2CZ5U334X0050C4	.33	F	6R
2CZ5U474X0050C4	.47	F	6R
2CZ5U684X0050C4	.68	F	7R

TYPE 3C—50 WVDC

Sprague Number	μF	Size Code*	Price Code†
3CZ5U103X0050C5	.01	H	1R
3CZ5U153X0050C5	.015	H	1R
3CZ5U223X0050C5	.022	H	2R
3CZ5U333X0050C5	.033	H	2R
3CZ5U473X0050C5	.047	H	2R
3CZ5U683X0050C5	.068	H	3R
3CZ5U104X0050C5	.1	H	4R
3CZ5U154X0050C5	.15	H	5R
3CZ5U224X0050C5	.22	H	5R

TYPE 3C—50 WVDC (CONT'D)

Sprague Number	μF	Size Code*	Price Code†
3CZ5U334X0050C5	.33	I	6R
3CZ5U474X0050C5	.47	I	6R
3CZ5U684X0050C5	.68	M	7R
3CZ5U105X0050C5	1.0	M	8R

TYPE 5C—50 WVDC

Sprague Number	μF	Size Code*	Price Code†
5CZ5U104X0050C5	.1	N	4R
5CZ5U154X0050C5	.15	N	5R
5CZ5U224X0050C5	.22	N	5R
5CZ5U334X0050C5	.33	N	6R
5CZ5U474X0050C5	.47	O	6R
5CZ5U684X0050C5	.68	O	7R
5CZ5U105X0050C5	1.0	Q	8R
5CZ5U155X0050C5	1.5	S	9R
5CZ5U225X0050C5	2.2	U	10R
5CZ5U335X0050C5	3.3	U	11R

*CASE SIZES

Size Code	Dimensions, Inches Radial Lead Length	Width	Thick	Size Code	Dimensions, Inches Radial Lead Length	Width	Thick
A	.200	.200	.125	N	.500	.200	.125
B	.200	.200	.150	O	.500	.200	.150
C	.300	.200	.125	P	.500	.296	.125
D	.300	.200	.150	Q	.500	.296	.150
E	.300	.300	.125	R	.500	.400	.125
F	.300	.300	.150	S	.500	.400	.150
G	.300	.300	.238	T	.500	.500	.125
H	.390	.200	.125	U	.500	.500	.150
I	.390	.200	.150	V	.500	.500	.156
J	.390	.200	.156	W	.500	.500	.238
K	.390	.200	.238	X	.515	.296	.125
L	.400	.400	.125	Y	.515	.296	.156
M	.400	.400	.150	Z	.515	.296	.238

TYPE 418P ORANGE DROP® FILMITE® "E" CAPACITORS

SPRAGUE
418P

Ideal for TV, radio and allied commercial equipment. Type 418P combines excellent electrical characteristics, compactness and low cost. "Hockeystick" crimped radial lead design for easy insertion on PC wiring boards. Wound with polyester film and thin gage foil; protected against moisture by wax-free conformal coating of epoxy. Designed for operation at temperatures at 85° C and may be operated to 125° C with voltage derating. Capacitance tolerance, ±10%.

Sprague Number 418P-	μF	WV DC	Case Size Dia. x Lgth.	Net Each, Lots of* 1-24	25-49	50-99	100-249
33391JD3	.033	100	.400 x .700	$0.27	$0.151	$0.117	$0.094
39391JD3	.039	100	.400 x .700	.27	.164	.128	.102
47391JD3	.047	100	.400 x .700	.27	.164	.128	.102
56391JD3	.056	100	.400 x .700	.30	.173	.135	.108
68391JD3	.068	100	.400 x .700	.30	.173	.135	.108
82391KD3	.082	100	.400 x .900	.33	.191	.149	.119
10491KD3	.10	100	.400 x .900	.33	.191	.149	.119
12491KD3	.12	100	.450 x .900	.36	.214	.166	.133
15491KD3	.15	100	.450 x .900	.36	.214	.166	.133
18491LD3	.18	100	.450 x 1.200	.42	.248	.193	.154
22491LD3	.22	100	.450 x 1.200	.42	.248	.193	.154
27491LD3	.27	100	.500 x 1.200	.45	.272	.212	.169
33491LD3	.33	100	.500 x 1.200	.45	.272	.212	.169
39491MD3	.39	100	.550 x 1.600	.60	.374	.291	.232
47491MD3	.47	100	.550 x 1.600	.60	.374	.291	.232
56491MD3	.56	100	.650 x 1.600	.69	.423	.329	.263
68491MD3	.68	100	.650 x 1.600	.69	.423	.329	.263
82491MD3	.82	100	.700 x 1.600	.96	.596	.464	.371
10591MD3	1.0	100	.700 x 1.600	.96	.596	.464	.371
18392JD3	.018	200	.400 x .700	.27	.151	.117	.094
22392JD3	.022	200	.400 x .700	.27	.151	.117	.094
27392JD3	.027	200	.400 x .700	.27	.164	.128	.102
33392KD3	.033	200	.400 x .900	.27	.164	.128	.102
39392KD3	.039	200	.400 x .900	.30	.18	.14	.112
47392KD3	.047	200	.400 x .900	.30	.18	.14	.112
56392LD3	.056	200	.400 x 1.200	.33	.191	.149	.119
68392LD3	.068	200	.400 x 1.200	.33	.191	.149	.119
82392LD3	.082	200	.450 x 1.200	.36	.214	.166	.133
10492LD3	.10	200	.450 x 1.200	.36	.214	.166	.133
12492LD3	.12	200	.500 x 1.200	.42	.248	.193	.154
15492LD3	.15	200	.500 x 1.200	.42	.248	.193	.154
18492LD3	.18	200	.550 x 1.200	.45	.272	.212	.169
22492LD3	.22	200	.550 x 1.200	.45	.351	.212	.169
27492MD3	.27	200	.500 x 1.600	.57	.351	.273	.218
33492MD3	.33	200	.500 x 1.600	.57	.351	.273	.218
39492MD3	.39	200	.550 x 1.600	.69	.423	.329	.263
47492MD3	.47	200	.550 x 1.600	.69	.423	.329	.263
82294JD3	.0082	400	.400 x .700	.27	.151	.117	.094
10394JD3	.010	400	.400 x .700	.27	.151	.117	.094
12394JD3	.012	400	.400 x .700	.27	.151	.117	.094
15394JD3	.015	400	.400 x .700	.27	.151	.117	.094
18394KD3	.018	400	.400 x .900	.27	.164	.128	.102
22394KD3	.022	400	.400 x .900	.27	.164	.128	.102
27394KD3	.027	400	.400 x .900	.30	.18	.14	.112
33394KD3	.033	400	.400 x .900	$0.30	$0.18	$0.14	$0.112
39394LD3	.039	400	.450 x 1.200	.33	.196	.152	.122
47394LD3	.047	400	.450 x 1.200	.33	.196	.152	.122
56394LD3	.056	400	.500 x 1.200	.36	.214	.166	.133
68394LD3	.068	400	.500 x 1.200	.36	.214	.166	.133
82394LD3	.082	400	.550 x 1.200	.42	.248	.193	.154
10494LD3	.10	400	.550 x 1.200	.42	.248	.193	.154
12494LD3	.12	400	.600 x 1.200	.45	.272	.212	.169
15494LD3	.15	400	.600 x 1.200	.45	.272	.212	.169
18494MD3	.18	400	.600 x 1.600	.60	.374	.291	.232
22494MD3	.22	400	.600 x 1.600	.60	.374	.291	.232
27494MD3	.27	400	.650 x 1.600	.69	.423	.329	.263
33494MD3	.33	400	.650 x 1.600	.69	.423	.329	.263
39494MD3	.39	400	.720 x 1.600	.96	.596	.464	.371
47494MD3	.47	400	.720 x 1.600	.96	.596	.464	.371
10296JD3	.0010	600	.400 x .700	.24	.142	.11	.088
12296JD3	.0012	600	.400 x .700	.24	.142	.11	.088
15296JD3	.0015	600	.400 x .700	.24	.142	.11	.088
18296JD3	.0018	600	.400 x .700	.24	.142	.11	.088
22296JD3	.0022	600	.400 x .700	.24	.142	.11	.088
27296JD3	.0027	600	.400 x .700	.24	.142	.11	.088
33296JD3	.0033	600	.400 x .700	.24	.142	.11	.088
39296JD3	.0039	600	.400 x .700	.27	.151	.117	.094
47296JD3	.0047	600	.400 x .700	.27	.151	.117	.094
56296JD3	.0056	600	.400 x .700	.27	.151	.117	.094
68296JD3	.0068	600	.400 x .700	.27	.151	.117	.094
82296KD3	.0082	600	.400 x .900	.27	.164	.128	.102
10396KD3	.010	600	.400 x .900	.27	.164	.128	.102
12396KD3	.012	600	.400 x .900	.30	.173	.135	.108
15396KD3	.015	600	.400 x .900	.30	.173	.135	.108
18396KD3	.018	600	.450 x .900	.33	.191	.149	.119
22396KD3	.022	600	.450 x .900	.33	.191	.149	.119
27396LD3	.027	600	.450 x 1.200	.36	.214	.166	.133
33396LD3	.033	600	.450 x 1.200	.36	.214	.166	.133
39396LD3	.039	600	.550 x 1.200	.42	.248	.193	.154
47396LD3	.047	600	.550 x 1.200	.42	.248	.193	.154
56396LD3	.056	600	.600 x 1.200	.45	.272	.212	.169
68396LD3	.068	600	.600 x 1.200	.45	.272	.212	.169
82396LD3	.082	600	.650 x 1.200	.48	.297	.231	.185
10496LD3	.10	600	.650 x 1.200	.48	.297	.231	.185
12496MD3	.12	600	.700 x 1.600	.69	.423	.329	.263
15496MD3	.15	600	.700 x 1.600	.69	.423	.329	.263
18496MD3	.18	600	.800 x 1.600	.96	.596	.464	.371
22496MD3	.22	600	.800 x 1.600	.96	.596	.464	.371

*1–24, Kleer-Pak; all others Bulk-Pack. 250–499, 500–999 Bulk-Pack prices on request.

SPRAGUE Tantalum Capacitors

TYPE CLR65 SINTERED-ANODE TANTALUM CAPACITORS TO MIL-C-39006

Available as hermetically sealed and non-hermetically sealed types. Designed to meet MIL-STD-790 specs. Rated for operation to 85° C (to 125° C with voltage derating). Come in four different failure rates: L = 2%; M = 1%; P = 0.1%; R = 0.01%. Hermetically-sealed types MIL-C-39006/9C are not available in "R" failure rate.

SPRAGUE
CLR65

ELASTOMER-SEALED CAPACITORS TO MIL-C-39006/9B

Cap., µF	WV DC	Tol. ± %	MIL Number M39006/09- Failure Rate				Size Code*	Price Code*
			L	M	P	R		
30	6	20	1621	1826	2652	2857	A	BET1
30	6	10	1622	1827	2653	2858	A	BET2
68	6	20	1624	1829	2655	2860	A	BET1
68	6	10	1625	1830	2656	2861	A	BET2
140	6	20	1627	1832	2658	2863	B	BET3
140	6	10	1628	1833	2659	2864	B	BET4
270	6	20	1630	1835	2661	2866	B	BET3
270	6	10	1631	1836	2662	2867	B	BET4
330	6	20	1633	1838	2664	2869	C	BET5
330	6	10	1634	1839	2665	2870	C	BET6
560	6	20	1636	1841	2667	2872	C	BET5
560	6	10	1637	1842	2668	2873	C	BET6
1200	6	20	1639	1844	2670	2875	D	BET7
1200	6	10	1640	1845	2671	2876	D	BET8
25	8	20	1641	1846	2672	2877	A	BET1
25	8	10	1642	1847	2673	2878	A	BET2
56	8	20	1644	1849	2675	2880	A	BET1
56	8	10	1645	1850	2676	2881	A	BET2
220	8	20	1647	1852	2678	2883	B	BET3
220	8	10	1648	1853	2679	2884	B	BET4
430	8	20	1650	1855	2681	2886	C	BET5
430	8	10	1651	1856	2682	2887	C	BET6
850	8	20	1653	1858	2684	2889	D	BET7
850	8	10	1654	1859	2685	2890	D	BET8
20	10	20	1655	1860	2686	2891	A	BET1
20	10	10	1656	1861	2687	2892	A	BET2
47	10	20	1658	1863	2689	2894	A	BET1
47	10	10	1659	1864	2690	2895	A	BET2
100	10	20	1661	1866	2692	2897	B	BET3
100	10	10	1662	1867	2693	2898	B	BET4
180	10	20	1664	1869	2695	2900	B	BET3
180	10	10	1665	1870	2696	2901	B	BET4
250	10	20	1667	1872	2698	2903	C	BET5
250	10	10	1668	1873	2699	2904	C	BET6
390	10	20	1670	1875	2701	2906	C	BET5
390	10	10	1671	1876	2702	2907	C	BET6
750	10	20	1673	1878	2704	2909	D	BET7
750	10	10	1674	1879	2705	2910	D	BET8
15	15	20	1675	1880	2706	2911	A	BET1
15	15	10	1676	1881	2707	2912	A	BET2
33	15	20	1678	1883	2709	2914	A	BET1
33	15	10	1679	1884	2710	2915	A	BET2
70	15	20	1681	1886	2712	2917	B	BET3
70	15	10	1682	1887	2713	2918	B	BET4
120	15	20	1684	1889	2715	2920	B	BET3
120	15	10	1685	1890	2716	2921	B	BET4
170	15	20	1687	1892	2718	2923	C	BET5
170	15	10	1688	1893	2719	2924	C	BET6
270	15	20	1690	1895	2721	2926	C	BET5
270	15	10	1691	1896	2722	2927	C	BET6
540	15	20	1693	1898	2724	2929	D	BET7
540	15	10	1694	1899	2725	2930	D	BET8
10	25	20	1695	1900	2726	2931	A	BET1
10	25	10	1696	1901	2727	2932	A	BET2
22	25	20	1698	1903	2729	2934	A	BET1
22	25	10	1699	1904	2730	2935	A	BET2
100	25	20	1701	1906	2732	2937	B	BET9
100	25	10	1702	1907	2733	2938	B	BET10
180	25	20	1704	1909	2735	2940	C	BET5
180	25	10	1705	1910	2736	2941	C	BET6
350	25	20	1707	1912	2738	2943	D	BET7
350	25	10	1708	1913	2739	2944	D	BET8
8	30	20	1709	1914	2740	2945	A	BET1
8	30	10	1710	1915	2741	2946	A	BET2
15	30	20	1712	1917	2743	2948	A	BET1
15	30	10	1713	1918	2744	2949	A	BET2
40	30	20	1715	1920	2746	2951	B	BET3
40	30	10	1716	1921	2747	2952	B	BET4
68	30	20	1718	1923	2749	2954	B	BET3
68	30	10	1719	1924	2750	2955	B	BET4
100	30	20	1721	1926	2752	2957	C	BET5
100	30	10	1722	1927	2753	2958	C	BET6
150	30	20	1724	1929	2755	2960	C	BET5
150	30	10	1725	1930	2756	2961	C	BET6
300	30	20	1727	1932	2758	2963	D	BET7
300	30	10	1728	1933	2759	2964	D	BET8
5	50	20	1729	1934	2760	2965	A	BET1
5	50	10	1730	1935	2761	2966	A	BET2
10	50	20	1732	1937	2763	2968	A	BET1
10	50	10	1733	1938	2764	2969	A	BET2
25	50	20	1735	1940	2766	2971	B	BET3
25	50	10	1736	1941	2767	2972	B	BET4
47	50	20	1738	1943	2769	2974	B	BET3
47	50	10	1739	1944	2770	2975	B	BET4
60	50	20	1741	1946	2772	2977	C	BET5
60	50	10	1742	1947	2773	2978	C	BET6
82	50	20	1744	1949	2775	2980	C	BET5
82	50	10	1745	1950	2776	2981	C	BET6
160	50	20	1747	1952	2778	2983	D	BET7
160	50	10	1748	1953	2779	2984	D	BET8
4	60	20	1749	1954	2780	2985	A	BET1
4	60	10	1750	1955	2781	2986	A	BET2
8.2	60	20	1752	1957	2783	2988	A	BET1
8.2	60	10	1753	1958	2784	2989	A	BET2
20	60	20	1755	1960	2786	2991	B	BET3
20	60	10	1756	1961	2787	2992	B	BET4
39	60	20	1758	1963	2789	2994	B	BET3
39	60	10	1759	1964	2790	2995	B	BET4
50	60	20	1761	1966	2792	2997	C	BET5
50	60	10	1762	1967	2793	2998	C	BET6
68	60	20	1764	1969	2795	3000	C	BET5
68	60	10	1765	1970	2796	3001	C	BET6
140	60	20	1767	1972	2798	3003	D	BET7
140	60	10	1768	1973	2799	3004	D	BET8
3.5	75	20	1769	1974	2800	3005	A	BET1
3.5	75	10	1770	1975	2801	3006	A	BET2
6.8	75	20	1772	1977	2803	3008	A	BET1
6.8	75	10	1773	1978	2804	3009	A	BET2
15	75	20	1775	1980	2806	3011	B	BET3
15	75	10	1776	1981	2807	3012	B	BET4
33	75	20	1778	1983	2809	3014	B	BET3
33	75	10	1779	1984	2810	3015	B	BET4
40	75	20	1781	1986	2812	3017	C	BET11
40	75	10	1782	1987	2813	3018	C	BET12
56	75	20	1784	1989	2815	3020	C	BET11
56	75	10	1785	1990	2816	3021	C	BET12
110	75	20	1787	1992	2818	3023	D	BET7
110	75	10	1788	1993	2819	3024	D	BET8
2.5	100	20	1789	1994	2820	3025	A	BET13
2.5	100	10	1790	1995	2821	3026	A	BET14
4.7	100	20	1792	1997	2823	3028	A	BET13
4.7	100	10	1793	1998	2824	3029	A	BET14
11	100	20	1795	2621	2826	3031	B	BET3
11	100	10	1796	2622	2827	3032	B	BET4
22	100	20	1798	2624	2829	3034	B	BET3
22	100	10	1799	2625	2830	3035	B	BET4
30	100	20	1801	2627	2832	3037	C	BET15
30	100	10	1802	2628	2833	3038	C	BET16
43	100	20	1804	2630	2835	3040	C	BET15
43	100	10	1805	2631	2836	3041	C	BET16
86	100	20	1807	2633	2838	3043	D	BET17
86	100	10	1808	2634	2839	3044	D	BET18
1.7	125	20	1809	2635	2840	3045	A	BET13
1.7	125	10	1810	2636	2841	3046	A	BET14
3.6	125	20	1812	2638	2843	3048	A	BET13
3.6	125	10	1813	2639	2844	3049	A	BET14
18	125	20	3267	3270	3273	3276	C	BET15
18	125	10	3268	3271	3274	3277	C	BET16
25	125	20	1821	2647	2852	3057	C	BET15
25	125	10	1822	2648	2853	3058	C	BET16
56	125	20	1824	2650	2855	3060	D	BET17
56	125	10	1825	2651	2856	3061	D	BET18

PRICES FOR ELASTOMER-SEALED CAPACITORS

$250.00 minimum item charge applies to all "R" failure rate items; **$50.00** minimum item charge applies to all other items.

*	Failure Rate—L Net Each, Lots of†				Failure Rate—M Net Each, Lots of†				Failure Rate—P Net Each, Lots of†				Failure Rate—R Net Each, Lots of			
Code	1-24	25-49	50-99	100-499	1-24	25-49	50-99	100-499	1-24	25-49	50-99	100-499	1-49	50-99	100-499	500-999
BET1	$1.89	$1.54	$1.22	$0.91	$2.08	$1.69	$1.35	$1.00	$ 3.13	$2.55	$2.03	$1.51	$ 6.24	$5.08	$ 4.04	$ 3.00
BET2	2.08	1.69	1.35	1.00	2.29	1.87	1.49	1.10	3.46	2.82	2.24	1.66	6.86	5.59	4.44	3.30
BET3	3.19	2.60	2.06	1.53	3.51	2.86	2.27	1.69	5.26	4.29	3.41	2.53	10.53	8.58	6.83	5.07
BET4	3.51	2.86	2.27	1.69	3.86	3.15	2.50	1.86	5.80	4.73	3.76	2.79	11.58	9.44	7.51	5.58
BET5	4.86	3.96	3.15	2.34	5.35	4.36	3.46	2.57	8.02	6.53	5.20	3.86	16.04	13.07	10.40	7.72
BET6	5.35	4.36	3.46	2.57	5.89	4.80	3.81	2.83	8.83	7.19	5.72	4.25	17.63	14.37	11.43	8.49
BET7	8.59	7.00	5.56	4.13	9.45	7.70	6.12	4.55	14.17	11.55	9.19	6.82	28.35	23.10	18.38	13.65
BET8	9.45	7.70	6.12	4.55	10.39	8.47	6.74	5.00	15.61	12.72	10.11	7.51	31.18	25.41	20.21	15.01
BET9	3.35	2.73	2.17	1.61	3.67	2.99	2.38	1.77	5.51	4.49	3.57	2.65	11.02	8.98	7.14	5.30
BET10	3.67	2.99	2.38	1.77	4.05	3.30	2.62	1.95	6.05	4.93	3.92	2.91	12.12	9.88	7.86	5.84
BET11	5.18	4.22	3.36	2.50	5.70	4.64	3.69	2.74	8.56	6.97	5.55	4.12	17.09	13.93	11.08	8.23
BET12	5.70	4.64	3.69	2.74	6.26	5.10	4.06	3.02	9.42	7.68	6.11	4.54	18.79	15.31	12.18	9.05
BET13	2.02	1.65	1.31	.97	2.24	1.83	1.45	1.08	3.37	2.75	2.19	1.62	6.72	5.48	4.36	3.24
BET14	2.24	1.83	1.45	1.08	2.46	2.00	1.59	1.18	3.73	3.04	2.41	1.79	7.40	6.03	4.79	3.56
BET15	5.29	4.31	3.43	2.55	5.83	4.75	3.78	2.81	8.75	7.13	5.67	4.21	17.50	14.26	11.34	8.42
BET16	5.83	4.75	3.78	2.81	6.43	5.24	4.17	3.09	9.61	7.83	6.23	4.63	19.25	15.69	12.48	9.27
BET17	8.83	7.19	5.72	4.25	9.72	7.92	6.30	4.68	14.58	11.88	9.45	7.02	29.16	23.76	18.90	14.04
BET18	9.72	7.92	6.30	4.68	10.69	8.71	6.93	5.15	16.04	13.07	10.40	7.72	32.08	26.14	20.79	15.44

†500–999 prices on request.

***SEE LAST PAGE OF LISTING FOR CASE SIZES**

TYPE CLR65 TANTALUM CAPACITORS (CONT'D)

HERMETICALLY-SEALED CAPACITORS TO MIL-C-39006/9B

Cap., μF	WV DC	Tol. ± %	MIL Number M39006/09- Failure Rate L	M	P	R	Size Code*	Price Code*
30	6	20	4001	4206	4411	4616	A	BGT1
30	6	10	4002	4207	4412	4617	A	BGT2
68	6	20	4004	4209	4414	4619	A	BGT1
68	6	10	4005	4210	4415	4620	A	BGT2
140	6	20	4007	4212	4417	4622	B	BGT3
140	6	10	4008	4213	4418	4623	B	BGT4
270	6	20	4010	4215	4420	4625	B	BGT3
270	6	10	4011	4216	4421	4626	B	BGT4
330	6	20	4013	4218	4423	4628	C	BGT5
330	6	10	4014	4219	4424	4629	C	BGT6
560	6	20	4016	4221	4426	4631	C	BGT5
560	6	10	4017	4222	4427	4632	C	BGT6
1200	6	20	4019	4224	4429	4634	E	BGT7
1200	6	10	4020	4225	4430	4635	E	BGT8
25	8	20	4021	4226	4431	4636	A	BGT1
25	8	10	4022	4227	4432	4637	A	BGT2
56	8	20	4024	4229	4434	4639	A	BGT1
56	8	10	4025	4230	4435	4640	A	BGT2
220	8	20	4027	4232	4437	4642	B	BGT3
220	8	10	4028	4233	4438	4643	B	BGT4
430	8	20	4030	4235	4440	4645	C	BGT5
430	8	10	4031	4236	4441	4646	C	BGT6
850	8	20	4033	4238	4443	4648	E	BGT7
850	8	10	4034	4239	4444	4649	E	BGT8
20	10	20	4035	4240	4445	4650	A	BGT1
20	10	10	4036	4241	4446	4651	A	BGT2
47	10	20	4038	4243	4448	4653	A	BGT1
47	10	10	4039	4244	4449	4654	A	BGT2
100	10	20	4041	4246	4451	4656	B	BGT3
100	10	10	4042	4247	4452	4657	B	BGT4
180	10	20	4044	4249	4454	4659	B	BGT3
180	10	10	4045	4250	4455	4660	B	BGT4
250	10	20	4047	4252	4457	4662	C	BGT5
250	10	10	4048	4253	4458	4663	C	BGT6
390	10	20	4050	4255	4460	4665	C	BGT5
390	10	10	4051	4256	4461	4666	C	BGT6
750	10	20	4053	4258	4463	4668	E	BGT7
750	10	10	4054	4259	4464	4669	E	BGT8
15	15	20	4055	4260	4465	4670	A	BGT1
15	15	10	4056	4261	4466	4671	A	BGT2
33	15	20	4058	4263	4468	4673	A	BGT1
33	15	10	4059	4264	4469	4674	A	BGT2
70	15	20	4061	4266	4471	4676	B	BGT3
70	15	10	4062	4267	4472	4677	B	BGT4
120	15	20	4064	4269	4474	4679	B	BGT3
120	15	10	4065	4270	4475	4680	B	BGT4
170	15	20	4067	4272	4477	4682	C	BGT5
170	15	10	4068	4273	4478	4683	C	BGT6
270	15	20	4070	4275	4480	4685	C	BGT5
270	15	10	4071	4276	4481	4786	C	BGT6
540	15	20	4073	4278	4483	4688	E	BGT7
540	15	10	4074	4279	4484	4689	E	BGT8
10	25	20	4075	4280	4485	4690	A	BGT1
10	25	10	4076	4281	4486	4691	A	BGT2
22	25	20	4078	4283	4488	4693	A	BGT1
22	25	10	4079	4284	4489	4694	A	BGT2
100	25	20	4081	4286	4491	4696	B	BGT3
100	25	10	4082	4287	4492	4697	B	BGT4
180	25	20	4084	4289	4494	4699	C	BGT9
180	25	10	4085	4290	4495	4700	C	BGT10
350	25	20	4087	4292	4497	4702	E	BGT7
350	25	10	4088	4293	4496	4703	E	BGT8
8	30	20	4089	4294	4499	4704	A	BGT1
8	30	10	4090	4295	4500	4705	A	BGT2
15	30	20	4092	4297	4502	4707	A	BGT1
15	30	10	4093	4298	4503	4708	A	BGT2
40	30	20	4095	4300	4505	4710	B	BGT3
40	30	10	4096	4301	4506	4711	B	BGT4
68	30	20	4098	4303	4508	4713	B	BGT3
68	30	10	4099	4304	4509	4714	B	BGT4
100	30	20	4101	4306	4511	4716	C	BGT5
100	30	10	4102	4307	4512	4717	C	BGT6
150	30	20	4104	4309	4514	4719	C	BGT5
150	30	10	4105	4310	4515	4720	C	BGT6
300	30	20	4107	4312	4517	4722	E	BGT7
300	30	10	4108	4313	4518	4723	E	BGT8
5	50	20	4109	4314	4519	4724	A	BGT1
5	50	10	4110	4315	4520	4725	A	BGT2
10	50	20	4112	4317	4522	4727	A	BGT1
10	50	10	4113	4318	4523	4728	A	BGT2
25	50	20	4115	4320	4525	4730	B	BGT3
25	50	10	4116	4321	4526	4731	B	BGT4
47	50	20	4118	4323	4528	4733	B	BGT3
47	50	10	4119	4324	4529	4734	B	BGT4
60	50	20	4121	4326	4531	4736	C	BGT5
60	50	10	4122	4327	4532	4737	C	BGT6
82	50	20	4124	4329	4534	4739	C	BGT11
82	50	10	4125	4330	4535	4740	C	BGT12
160	50	20	4127	4332	4537	4742	E	BGT7
160	50	10	4128	4333	4538	4743	E	BGT8
4	60	20	4129	4334	4539	4744	A	BGT1
4	60	10	4130	4335	4540	4745	A	BGT2
8.2	60	20	4132	4337	4542	4747	A	BGT1
8.2	60	10	4133	4338	4543	4748	A	BGT2
20	60	20	4135	4340	4545	4750	B	BGT3
20	60	10	4136	4341	4546	4751	B	BGT4
39	60	20	4138	4343	4548	4753	B	BGT3
39	60	10	4139	4344	4549	4754	B	BGT4
50	60	20	4141	4346	4551	4756	C	BGT5
50	60	10	4142	4347	4552	4757	C	BGT6
68	60	20	4144	4349	4554	4759	C	BGT11
68	60	10	4145	4350	4555	4760	C	BGT12
140	60	20	4147	4352	4557	4762	E	BGT7
140	60	10	4148	4353	4558	4763	E	BGT8
3.5	75	20	4149	4354	4559	4764	A	BGT1
3.5	75	10	4150	4355	4560	4765	A	BGT2
6.8	75	20	4152	4357	4562	4767	A	BGT1
6.8	75	10	4153	4358	4563	4768	A	BGT2
15	75	20	4155	4360	4565	4770	B	BGT3
15	75	10	4156	4361	4566	4771	B	BGT4
33	75	20	4158	4363	4568	4773	B	BGT3
33	75	10	4159	4364	4569	4774	B	BGT4
40	75	20	4161	4366	4571	4776	C	BGT5
40	75	10	4162	4367	4572	4777	C	BGT6
56	75	20	4164	4369	4574	4779	C	BGT13
56	75	10	4165	4370	4575	4780	C	BGT14
110	75	20	4167	4372	4577	4782	E	BGT7
110	75	10	4168	4373	4578	4783	E	BGT8
2.5	100	20	4169	4374	4579	4784	A	BGT1
2.5	100	10	4170	4375	4580	4785	A	BGT2
4.7	100	20	4172	4377	4582	4787	A	BGT1
4.7	100	10	4173	4378	4583	4788	A	BGT2
11	100	20	4175	4380	4585	4790	B	BGT3
11	100	10	4176	4381	4586	4791	B	BGT4
22	100	20	4178	4383	4588	4793	B	BGT3
22	100	10	4179	4384	4589	4794	B	BGT4
30	100	20	4181	4386	4591	4796	C	BGT5
30	100	10	4182	4387	4592	4797	C	BGT6
43	100	20	4184	4389	4594	4799	C	BGT15
43	100	10	4185	4390	4595	4800	C	BGT16
86	100	20	4187	4392	4597	4802	E	BGT7
86	100	10	4188	4393	4598	4803	E	BGT8
1.7	125	20	4189	4394	4599	4804	A	BGT1
1.7	125	10	4190	4395	4600	4805	A	BGT2
3.6	125	20	4192	4397	4602	4807	A	BGT1
3.6	125	10	4193	4398	4603	4808	A	BGT2

PRICING FOR HERMETICALLY-SEALED CAPACITORS TO MIL-C-39006/9B

$250.00 min. item charge applies to all "R" failure rate items; **$50.00** min. item charge applies to all other items. For ±5% tolerance, double the price shown for ±20% tolerance.

* Code	Failure Rate—L Net Each, Lots of†				Failure Rate—M Net Each, Lots of†				Failure Rate—P Net Each, Lots of†				Failure Rate—R Net Each, Lots of			
	1-24	25-49	50-99	100-499	1-24	25-49	50-99	100-499	1-24	25-49	50-99	100-499	1-49	50-99	100-499	500-999
BGT1	$2.97	$2.42	$1.92	$1.43	$3.27	$2.66	$2.12	$1.57	$4.91	$4.00	$3.18	$2.37	$ 9.80	$ 7.99	$ 6.35	$ 4.72
BGT2	3.27	2.66	2.12	1.57	3.59	2.93	2.33	1.73	5.40	4.40	3.50	2.60	10.77	8.78	6.98	5.19
BGT3	4.08	3.32	2.64	1.96	4.48	3.65	2.90	2.16	6.72	5.48	4.36	3.24	13.45	10.96	8.72	6.47
BGT4	4.48	3.65	2.90	2.16	4.94	4.03	3.20	2.38	7.40	6.03	4.79	3.56	14.80	12.06	9.59	7.12
BGT5	5.43	4.42	3.52	2.61	5.97	4.86	3.87	2.87	8.96	7.30	5.81	4.32	17.90	14.59	11.60	8.62
BGT6	5.97	4.86	3.87	2.87	6.56	5.35	4.25	3.16	9.85	8.03	6.39	4.75	19.68	16.04	12.76	9.48
BGT7	9.02	7.35	5.85	4.34	9.91	8.07	6.42	4.77	14.88	12.12	9.64	7.16	29.73	24.22	19.27	14.31
BGT8	9.91	8.07	6.42	4.77	10.91	8.89	7.07	5.25	16.36	13.33	10.60	7.88	32.70	26.64	21.19	15,74
BGT9	6.56	5.35	4.25	3.16	6.02	4.91	3.20	2.38	9.04	7.37	5.86	4.35	18.06	14.72	11.71	8.70
BGT10	7.21	5.87	4.67	3.47	6.61	5.39	3.90	2.90	9.96	8.12	6.46	4.80	19.87	16.19	12.88	9.57
BGT11	5.48	4.47	3.55	2.64	6.02	4.91	3.20	2.38	9.04	7.37	5.86	4.35	18.06	14.72	11.71	8.70
BGT12	6.02	4.91	3.90	2.90	6.61	5.39	3.90	2.90	9.96	8.12	6.46	4.80	19.87	16.19	12.88	9.57
BGT13	5.48	4.47	3.55	2.64	6.02	4.91	3.20	2.38	9.04	7.37	5.86	4.35	21.63	17.62	14.02	10.41
BGT14	6.02	4.91	3.90	2.90	6.61	5.39	3.90	2.90	9.96	8.12	6.46	4.80	23.79	19.38	15.42	11.45
BGT15	6.56	5.35	4.25	3.16	7.21	5.87	4.67	3.47	10.83	8.82	7.02	5.21	21.63	17.62	14.02	10.41
BGT16	7.21	5.87	4.67	3.47	7.94	6.47	5.14	3.82	11.91	9.70	7.72	5.73	23.79	19.38	15.42	11.45

†500–999 prices on request.

***SEE FOLLOWING PAGE FOR CASE SIZES**

TYPE CLR65 TANTALUM CAPACITORS (CONT'D)

HERMETICALLY-SEALED CAPACITORS TO MIL-C-39006/09C

Cap., μF	WV DC	Tol. ± %	MIL Number M39006/09- Failure Rate			Size Code*	Price Code*
			L (2%)	M (1%)	P (0.1%)		
30	6	20	6001	6206	6411	A	CGT1
30	6	10	6002	6207	6412	A	CGT2
68	6	20	6004	6209	6414	A	CGT1
68	6	10	6005	6210	6415	A	CGT2
140	6	20	6007	6212	6417	B	CGT3
140	6	10	6008	6213	6418	B	CGT4
270	6	20	6010	6215	6420	B	CGT3
270	6	10	6011	6216	6421	B	CGT4
330	6	20	6013	6218	6423	C	CGT5
330	6	10	6014	6219	6424	C	CGT6
560	6	20	6016	6221	6426	C	CGT5
560	6	10	6017	6222	6427	C	CGT6
1200	6	20	6019	6224	6429	E	CGT7
1200	6	10	6020	6225	6430	E	CGT8
25	8	20	6021	6226	6431	A	CGT1
25	8	10	6022	6227	6432	A	CGT2
56	8	20	6024	6229	6434	A	CGT1
56	8	10	6025	6230	6435	A	CGT2
220	8	20	6027	6232	6437	B	CGT3
220	8	10	6028	6233	6438	B	CGT4
430	8	20	6030	6235	6440	C	CGT5
430	8	10	6031	6236	6441	C	CGT6
850	8	20	6033	6238	6443	E	CGT7
850	8	10	6034	6239	6444	E	CGT8
20	10	20	6035	6240	6445	A	CGT1
20	10	10	6036	6241	6446	A	CGT2
47	10	20	6038	6243	6448	A	CGT1
47	10	10	6039	6244	6449	A	CGT2
100	10	20	6041	6246	6451	B	CGT3
100	10	10	6042	6247	6452	B	CGT4
180	10	20	6044	6249	6454	B	CGT3
180	10	10	6045	6250	6455	B	CGT4
250	10	20	6047	6252	6457	C	CGT5
250	10	10	6048	6253	6458	C	CGT6
390	10	20	6050	6255	6460	C	CGT5
390	10	10	6051	6256	6461	C	CGT6
750	10	20	6053	6258	6463	E	CGT7
750	10	10	6054	6259	6464	E	CGT8
15	15	20	6055	6260	6465	A	CGT1
15	15	10	6056	6261	6466	A	CGT2
33	15	20	6058	6263	6468	A	CGT1
33	15	10	6059	6264	6469	A	CGT2
70	15	20	6061	6266	6471	B	CGT3
70	15	10	6062	6267	6472	B	CGT4
120	15	20	6064	6269	6474	B	CGT3
120	15	10	6065	6270	6475	B	CGT4
170	15	20	6067	6272	6477	C	CGT5
170	15	10	6068	6273	6478	C	CGT6
270	15	20	6070	6275	6480	C	CGT5
270	15	10	6071	6276	6481	C	CGT6
540	15	20	6073	6278	6483	E	CGT7
540	15	10	6074	6279	6484	E	CGT8
10	25	20	6075	6280	6485	A	CGT1
10	25	10	6076	6281	6486	A	CGT2
22	25	20	6078	6283	6488	A	CGT1
22	25	10	6079	6284	6489	A	CGT2
100	25	20	6081	6286	6491	B	CGT3
100	25	10	6082	6287	6492	B	CGT4
180	25	20	6084	6289	6494	C	CGT5
180	25	10	6085	6290	6495	C	CGT6
350	25	20	6087	6292	6497	E	CGT7
350	25	10	6088	6293	6498	E	CGT8
8	30	20	6089	6294	6499	A	CGT1
8	30	10	6090	6295	6500	A	CGT2
15	30	20	6092	6297	6502	A	CGT1
15	30	10	6093	6298	6503	A	CGT2
40	30	20	6095	6300	6505	B	CGT3
40	30	10	6096	6301	6506	B	CGT4
68	30	20	6098	6303	6508	B	CGT3
68	30	10	6099	6304	6509	B	CGT4
100	30	20	6101	6306	6511	C	CGT5
100	30	10	6102	6307	6512	C	CGT6
150	30	20	6104	6309	6514	C	CGT5
150	30	10	6105	6310	6515	C	CGT6
300	30	20	6107	6312	6517	E	CGT7
300	30	10	6108	6313	6518	E	CGT8
5	50	20	6109	6314	6519	A	CGT1
5	50	10	6110	6315	6520	A	CGT2
10	50	20	6112	6317	6522	A	CGT1
10	50	10	6113	6318	6523	A	CGT2
25	50	20	6115	6320	6525	B	CGT3
25	50	10	6116	6321	6526	B	CGT4
47	50	20	6118	6323	6528	B	CGT3
47	50	10	6119	6324	6529	B	CGT4
60	50	20	6121	6326	6531	C	CGT5
60	50	10	6122	6327	6532	C	CGT6
82	50	20	6124	6329	6534	C	CGT5
82	50	10	6125	6330	6535	C	CGT6
160	50	20	6127	6332	6537	E	CGT7
160	50	10	6128	6333	6538	E	CGT8
4	60	20	6129	6334	6539	A	CGT1
4	60	10	6130	6335	6540	A	CGT2
8.2	60	20	6132	6337	6542	A	CGT1
8.2	60	10	6133	6338	6543	A	CGT2
20	60	20	6135	6340	6545	B	CGT3
20	60	10	6136	6341	6546	B	CGT4
39	60	20	6138	6343	6548	B	CGT3
39	60	10	6139	6344	6549	B	CGT4
50	60	20	6141	6346	6551	C	CGT5
50	60	10	6142	6347	6552	C	CGT6
68	60	20	6144	6349	6554	C	CGT5
68	60	10	6145	6350	6555	C	CGT6
140	60	20	6147	6352	6557	E	CGT7
140	60	10	6148	6353	6558	E	CGT8
3.5	75	20	6149	6354	6559	A	CGT1
3.5	75	10	6150	6355	6560	A	CGT2
6.8	75	20	6152	6357	6562	A	CGT1
6.8	75	10	6153	6358	6563	A	CGT2
15	75	20	6155	6360	6565	B	CGT3
15	75	10	6156	6361	6566	B	CGT4
33	75	20	6158	6363	6568	B	CGT3
33	75	10	6159	6364	6569	B	CGT4
40	75	20	6161	6366	6571	C	CGT9
40	75	10	6162	6367	6572	C	CGT10
56	75	20	6164	6369	6574	C	CGT9
56	75	10	6165	6370	6575	C	CGT10
110	75	20	6167	6372	6577	E	CGT7
110	75	10	6168	6373	6578	E	CGT8
2.5	100	20	6169	6374	6579	A	CGT1
2.5	100	10	6170	6375	6580	A	CGT2
4.7	100	20	6172	6377	6582	A	CGT1
4.7	100	10	6173	6378	6583	A	CGT2
11	100	20	6175	6380	6585	B	CGT11
11	100	10	6176	6381	6586	B	CGT12
22	100	20	6178	6383	6588	B	CGT13
22	100	10	6179	6384	6589	B	CGT14
30	100	20	6181	6386	6591	C	CGT9
30	100	10	6182	6387	6592	C	CGT10
43	100	20	6184	6389	6594	C	CGT9
43	100	10	6185	6390	6595	C	CGT10
86	100	20	6187	6392	6597	E	CGT7
86	100	10	6188	6393	6598	E	CGT8
1.7	125	20	6189	6394	6599	A	CGT1
1.7	125	10	6190	6395	6600	A	CGT2
3.6	125	20	6192	6397	6602	A	CGT1
3.6	125	10	6193	6398	6603	A	CGT2
9	125	20	6195	6400	6605	B	CGT11
9	125	10	6196	6401	6606	B	CGT12
14	125	20	6198	6403	6608	B	CGT11
14	125	10	6199	6404	6609	B	CGT12
18	125	20	6201	6406	6611	C	CGT9
18	125	10	6202	6407	6612	C	CGT10
25	125	20	6204	6409	6614	C	CGT15
25	125	10	6205	6410	6615	C	CGT16
56	125	20	7027	7030	7033	E	CGT7
56	125	10	7028	7031	7034	E	CGT8

PRICES FOR HERMETICALLY-SEALED CAPACITORS TO MIL-C-39006/09C

*	Failure Rate—L Net Each, Lots of					Failure Rate—M Net Each, Lots of					Failure Rate—P Net Each, Lots of				
Code	1-24	25-49	50-99	100-499	500-999	1-24	25-49	50-99	100-499	500-999	1-24	25-49	50-99	100-499	500-999
CGT1	$ 3.13	$ 2.55	$ 2.03	$1.51	$1.33	$ 3.46	$ 2.82	$2.24	$1.66	$1.47	$ 5.18	$ 4.22	$ 3.36	$2.50	$2.21
CGT2	3.46	2.82	2.24	1.66	1.47	3.81	3.10	2.47	1.83	1.62	5.70	4.64	3.69	2.74	2.43
CGT3	4.21	3.43	2.73	2.03	1.79	4.64	3.78	3.01	2.24	1.98	6.97	5.68	4.51	3.35	2.97
CGT4	4.64	3.78	3.01	2.24	1.98	5.10	4.16	3.31	2.46	2.17	7.67	6.25	4.97	3.69	3.27
CGT5	6.56	5.35	4.25	3.16	2.79	7.21	5.87	4.67	3.47	3.07	10.83	8.82	7.02	5.21	4.61
CGT6	7.21	5.87	4.67	3.47	3.07	7.94	6.47	5.14	3.82	3.38	11.91	9.70	7.72	5.73	5.07
CGT7	12.37	10.08	8.01	5.95	5.27	13.61	11.09	8.82	6.55	5.80	20.41	16.63	13.23	9.83	8.69
CGT8	13.61	11.09	8.82	6.55	5.80	14.96	12.19	9.69	7.20	6.37	22.46	18.30	14.56	10.82	9.57
CGT9	7.88	6.42	5.11	3.80	3.36	8.67	7.06	5.62	4.17	3.69	13.01	10.60	8.44	6.27	5.54
CGT10	8.67	7.06	5.62	4.17	3.69	9.53	7.77	6.18	4.59	4.06	14.31	11.66	9.28	6.89	6.10
CGT11	4.78	3.89	3.10	2.30	2.04	5.26	4.29	3.41	2.53	2.24	7.91	6.45	5.13	3.81	3.37
CGT12	5.26	4.29	3.41	2.53	2.24	5.80	4.73	3.76	2.79	2.47	8.69	7.08	5.63	4.19	3.70
CGT13	4.78	3.89	3.10	2.30	2.04	5.26	4.29	3.41	2.53	2.24	6.97	5.68	4.51	3.35	2.97
CGT14	5.26	4.29	3.41	2.53	2.24	5.80	4.73	3.76	2.79	2.24	7.67	6.25	4.97	3.69	3.27
CGT15	6.56	5.35	4.25	3.16	2.79	8.67	7.06	5.62	4.17	3.69	13.01	10.60	8.44	6.27	5.54
CGT16	7.21	5.87	4.67	3.47	3.07	9.53	7.77	6.18	4.59	4.06	14.31	11.66	9.28	6.89	6.10

*CASE SIZES

Code	Diameter	Length
A	0.188″	0.453″
B	0.281″	0.641″
C	0.375″	0.766″
D	0.375″	1.062″
E	0.375″	1.250″

SPRAGUE Tantalum Capacitors

TYPE 150D SOLID ELECTROLYTE TANTALEX® CAPACITORS

True miniaturization with characteristics previously unobtainable in electrolytics. Solid electrolyte cannot leak or corrode; hermetically sealed. **Temperature Range:** 85° C without derating; to 125° C with derating. **Ordering Information:** Select capacitance and read across chart to voltage desired. Suffix on number (A, B, R or S) refers to size; find this key and your capacitance n the price chart, at bottom of page.

TYPE 150D ±10% TOLERANCE CAPACITANCE VALUES AVAILABLE

Cap., µF	Sprague Prefix†	Suffix for WVDC of:									
		6	10	15	20	35	50	60	75	100	125
.0047	150D472X				9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.0056	150D562X				9020A	9035A	9050A	9060A	9075A	9100A	9100A
.0068	150D682X				9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.0082	150D822X				9020A	9035A	9050A	9060A	9075A	9100A	9100A
.01	150D103X				9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.012	150D123X				9020A	9035A	9050A	9060A	9075A	9100A	9100A
.015	150D153X				9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.018	150D183X				9020A	9035A	9050A	9060A	9075A	9100A	9100A
.022	150D223X				9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.027	150D273X				9020A	9035A	9050A	9060A	9075A	9100A	9100A
.033	150D333X				9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.039	150D393X				9020A	9035A	9050A	9060A	9075A	9100A	9100A
.047	150D473X				9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.056	150D563X				9020A	9035A	9050A	9060A	9075A	9100A	9100A
.068	150D683X				9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.082	150D823X				9020A	9035A	9050A	9060A	9075A	9100A	9100A
.1	150D104X				9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.12	150D124X				9020A	9035A	9050A	9060A	9075A	9100A	9100A
.15	150D154X				9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.18	150D184X				9020A	9035A	9050A	9060A	9075A	9100A	9100A
.22	150D224X	9006A*	9010A*	9015A*	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.27	150D274X	9006A	9010A	9015A	9020A	9035A	9050A	9060A	9075A	9100A	9100A
.33	150D334X	9006A*	9010A*	9015A*	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.39	150D394X	9006A	9010A	9015A	9020A	9035A	9050A	9060A	9075A	9100A	9100A
.47	150D474X	9006A*	9010A*	9015A*	9020A*	9035A*	9050A*	9060A*	9075A*	9100A*	9100A*
.56	150D564X	9006A	9010A	9015A	9020A	9035A	9050A	9060A	9075A	9100A	9100B
.68	150D684X	9006A*	9010A*	9015A*	9020A*	9035A*	9050A*	9060A*	9075A*	9100B*	9100B*
.82	150D824X	9006A	9010A	9015A	9020A	9035A	9050A	9060B	9075B	9100B	9100B
1.0	150D105X	9006A*	9010A*	9015A*	9020A*	9035A*	9050A*	9060B*	9075B*	9100B*	9100B*
1.2	150D125X	9006A	9010A	9015A	9020A	9035B	9050B	9060B	9075B	9100B	9100B
1.5	150D155X	9006A*	9010A*	9015A*	9020A*	9035B*	9050B*	9060B*	9075B*	9100B*	9100B*
1.8	150D185X	9006A	9010A	9015A	9020A	9035B	9050B	9060B	9075B	9100B	9100B
2.2	150D225X	9006A*	9010A*	9015A*	9020A*	9035B*	9050B*	9060B*	9075B*	9100B*	9100B*
2.7	150D275X	9006A	9010A	9015A	9020B	9035B	9050B	9060B	9075B	9100B	
3.3	150D335X	9006A*	9010A*	9015A*	9020B*	9035B*	9050B*	9060B*	9075B*	9100R*	
3.9	150D395X	9006A	9010A	9015B	9020B	9035B	9050B	9060B	9075B	9100R	
4.7	150D475X	9006A*	9010A*	9015B*	9020B*	9035B*	9050B*	9060R*	9075R*	9100R*	
5.6	150D565X	9006A	9010B	9015B	9020B	9035B	9050R	9060R	9075R	9100R	
6.8	150D685X	9006A*	9010B*	9015B*	9020B*	9035B*	9050R*	9060R*	9075R*	9100R*	
8.2	150D825X	9006B	9010B	9015B	9020B	9035R	9050R	9060R	9075R		
10	150D106X	9006B*	9010B*	9015B*	9020B*	9035R*	9050R*	9060R*	9075R*		
12	150D126X	9006B	9010B	9015B	9020B	9035R	9050R	9060S	9075S		
15	150D156X	9006B*	9010B*	9015B*	9020B*	9035R*	9050R*	9060S*	9075S*		
18	150D186X	9006B	9010B	9015B	9020R	9035R	9050R	9060S			
22	150D226X	9006B*	9010B*	9015B*	9020R*	9035R*	9050S*	9060S*			
27	150D276X	9006B	9010B	9015R	9020R	9035S					
33	150D336X	9006B*	9010B*	9015R*	9020R*	9035S*					
39	150D396X	9006B	9010B	9015R	9020R	9035S					
40	150D406X		9010B*								
47	150D476X	9006B*	9010R*	9015R*	9020R*	9035S*					
56	150D566X	9006B	9010R	9015R	9020S						
60	150D606X	9006B*									
68	150D686X	9006R*	9010R*	9015R*	9020S*						
82	150D826X	9006R	9010R	9015S	9020S						
100	150D107X	9006R*	9010R*	9015S*	9020S*						
120	150D127X	9006R*	9010R*	9015S							
150	150D157X	9006R*	9010S*	9015S*							
180	150D187X	9006R*	9010S								
220	150D227X	9006S*	9010S*								
270	150D277X	9006S*									
330	150D337X	9006S*									

†PRICE CHART AND ORDERING INFORMATION FOR TYPE 150D CAPACITORS

When ordering, show full number (as above for ±10% tol.) for value desired (e.g., 150D224X**9006A**). Items noted (*) available in ±20% tol.; to order, change first digit in suffix to **0** (e.g., 150D224X**0**006A). For ±5% tol., for 6 to 50 volts double ±20% tol. unit prices, for 60 to 125 volts triple ±20% tol. unit prices; to order, change first digit in suffix to **5** (e.g., 150D224X**5**006A). For bare metal case (size as listed below), add final digit **0** (150D224X9006A**0**). For plastic film sleeve (add .010″ dia. x .036″ lg. for all units), use final digit **2** (150D224X9006A**2**).

WV DC	Case Size	Size, In. Dia. x Lgth.	Cap. Range µF	±10% Tolerance (X9), Net Each, Lots of					±20% Tolerance (X0), Net Each, Lots of				
				1-24	25-49	50-99	100-499	500-999	1-24	25-49	50-99	100-499	500-999
6, 10, 15 or 20	A	.125 x .250	.0047–.027†	$0.81	$0.57	$0.41	$0.33	$0.26	$0.80	$0.56	$0.40	$0.32	$0.25
			.033–6.8†	.81	.57	.41	.33	.26	.80	.56	.40	.32	.25
	B	.175 x .438	2.7–60†	.96	.68	.49	.39	.30	.95	.67	.48	.38	.29
	R	.279 x .650	18–180†	2.92	2.05	1.47	1.18	.92	2.90	2.03	1.45	1.16	.90
	S	.341 x .750	56–330†	5.38	3.78	2.71	2.17	1.69	5.35	3.75	2.68	2.14	1.66
35	A	.125 x .250	.0047–.027	.81	.57	.41	.33	.26	.80	.56	.40	.32	.25
			.033–1.0	.81	.57	.41	.33	.26	.80	.56	.40	.32	.25
	B	.175 x .438	1.2–6.8	.96	.68	.49	.39	.30	.95	.67	.48	.38	.29
	R	.279 x .650	8.2–22	2.92	2.05	1.47	1.18	.92	2.90	2.03	1.45	1.16	.90
	S	.341 x .750	27–47	5.38	3.78	2.71	2.17	1.69	5.35	3.75	2.68	2.14	1.66
50	A	.125 x .250	.0047–.027	.89	.62	.45	.36	.28	.88	.61	.44	.36	.28
			.033–1.0	.89	.62	.45	.36	.28	.88	.61	.44	.36	.28
	B	.175 x .438	1.2–4.7	1.06	.75	.54	.43	.34	1.05	.74	.53	.42	.33
	R	.279 x .650	5.6–10	3.32	2.33	1.67	1.34	1.04	3.30	2.31	1.65	1.32	1.02
			12–18	3.32	2.33	1.67	1.34	1.04	3.30	2.31	1.65	1.32	1.02
	S	.341 x .750	22	6.13	4.30	3.08	2.47	1.92	6.10	4.27	3.05	2.44	1.89
60 or 75	A	.125 x .250	.0047–.68	1.92	1.35	.97	.78	.61	1.90	1.33	.95	.76	.59
	B	.175 x .438	.82–3.9	2.27	1.60	1.15	.92	.72	2.25	1.58	1.13	.90	.70
	R	.279 x .650	4.7–10	5.34	3.75	2.69	2.16	1.68	5.30	3.71	2.65	2.12	1.64
	S	.341 x .750	12–22‡	9.76	6.85	4.91	3.94	3.07	9.70	6.79	4.85	3.88	3.01
100	A	.125 x .250	.0047–.56	3.64	2.56	1.84	1.48	1.16	3.60	2.52	1.80	1.44	1.12
	B	.175 x .438	.68–1.7	4.35	3.06	2.20	1.77	1.38	4.30	3.01	2.15	1.72	1.33
	R	.279 x .650	3.3–6.8	9.00	6.33	4.55	3.66	2.88	8.90	6.23	4.45	3.56	2.76
125	A	.125 x .250	.0047–.47	4.70	3.35	2.45	2.00	1.60	4.50	3.15	2.25	1.80	1.40
	B	.175 x .438	.56–2.2	5.05	3.60	2.63	2.14	1.70	4.85	3.40	2.43	1.94	1.50

†Min.-max. for all four voltages combined; see individual voltages in table, above, for specific values and range. ‡12 and 15 µF, for 75 WVDC.

SPRAGUE Electrolytic Capacitors

TYPE 500D MINIATURE METAL-CASE ALUMINUM ELECTROLYTICS

Miniature metal-case aluminum electrolytic capacitors feature high voltage ratings and moderate cost. Excellent stability of capacitance, equivalent series resistance and leakage current. Welds at all critical anode and cathode terminations assure freedom from open circuits even when operated in the mV or µV range. Furnished as polar units with the cathode connected to aluminum case. Designed for operation over temperature range of −20° C to +85° C with very low equivalent series resistance and leakage current. Capacitance tolerance, −10, +75%, 3 VDC thru 50 VDC; −10, +50%, 100 and 150 VDC. Available without outer shrink-fitted insulation on request.

3 VDC WORKING, 4 VDC SURGE

µF	Sprague No. 500D-	Case Code *	Net Each, Lots of					
			1-24	25-49	50 Up	100-249	250-499	500-999
1	105G003BA7	BA	$.565	$.393	$.314	$.236	$.196	$.173
2	205G003BA7	BA	.565	.393	.314	.236	.196	.173
3	305G003BA7	BA	.565	.393	.314	.236	.196	.173
4	405G003BA7	BA	.565	.393	.314	.236	.196	.173
5	505G003BA7	BA	.565	.393	.314	.236	.196	.173
6	605G003BA7	BA	.565	.393	.314	.236	.196	.173
8	805G003BA7	BA	.565	.393	.314	.236	.196	.173
10	106G003BA7	BA	.565	.393	.314	.236	.196	.173
15	156G003BA7	BA	.565	.393	.314	.236	.196	.173
20	206G003BA7	BA	.565	.393	.314	.236	.196	.173
25	256G003BA7	BA	.565	.393	.314	.236	.196	.173
30	306G003BA7	BA	.565	.393	.314	.236	.196	.173
50	506G003BB7	BB	.587	.408	.326	.245	.204	.179
65	656G003BB7	BB	.587	.408	.326	.245	.204	.179
75	756G003CB7	CB	.619	.430	.344	.258	.215	.189
100	107G003CB7	CB	.619	.430	.344	.258	.215	.189
130	137G003CB7	CB	.619	.430	.344	.258	.215	.189
150	157G003CC7	CC	.662	.46	.368	.276	.23	.202
200	207G003CC7	CC	.662	.46	.368	.276	.23	.202
250	257G003DC7	DC	.67	.465	.372	.279	.233	.205
300	307G003DC7	DC	.67	.465	.372	.279	.233	.205
400	407G003DD7	DD	.684	.475	.38	.285	.238	.209
500	507G003DF7	DF	.734	.51	.408	.306	.255	.224
600	607G003DF7	DF	.734	.51	.408	.306	.255	.224
800	807G003DH7	DH	.76	.528	.422	.317	.264	.232
900	907G003EF7	EF	.864	.60	.48	.36	.30	.264
1000	108G003EH7	EH	.911	.633	.506	.38	.316	.278
1200	128G003EH7	EH	.911	.633	.506	.38	.316	.278
1500	158G003FH7	FH	1.228	.853	.682	.512	.426	.375
1800	188G003FH7	FH	1.228	.853	.682	.512	.426	.375
2000	208G003FH7	FH	1.228	.853	.682	.512	.426	.375
2200	228G003FK7	FK	1.292	.898	.718	.539	.449	.395
2500	258G003FK7	FK	1.292	.898	.718	.539	.449	.395

6 VDC WORKING, 8 VDC SURGE

1	105G006BA7	BA	$.565	$.393	$.314	.$236	$.196	$.173
2	205G006BA7	BA	.565	.393	.314	.236	.196	.173
3	305G006BA7	BA	.565	.393	.314	.236	.196	.173
4	405G006BA7	BA	.565	.393	.314	.236	.196	.173
5	505G006BA7	BA	.565	.393	.314	.236	.196	.173
6	605G006BA7	BA	.565	.393	.314	.236	.196	.173
8	805G006BA7	BA	.565	.393	.314	.236	.196	.173
10	106G006BA7	BA	.565	.393	.314	.236	.196	.173
15	156G006BA7	BA	.565	.393	.314	.236	.196	.173
20	206G006BA7	BA	.565	.393	.314	.236	.196	.173
25	256G006BB7	BB	.587	.408	.326	.245	.204	.179
35	356G006BB7	BB	.587	.408	.326	.245	.204	.179
50	506G006BB7	BB	.587	.408	.326	.245	.204	.179
75	756G006CB7	CB	.619	.43	.344	.258	.215	.189
90	906G006CB7	CB	.619	.43	.344	.258	.215	.189
100	107G006CC7	CC	.662	.46	.368	.276	.23	.202
140	147G006CC7	CC	.662	.46	.368	.276	.23	.202
150	157G006DC7	DC	.67	.465	.372	.279	.233	.205
200	207G006DC7	DC	.67	.465	.372	.279	.233	.205
250	257G006DD7	DD	.684	.475	.38	.285	.238	.209
300	307G006DD7	DD	.684	.475	.38	.285	.238	.209
400	407G006DF7	DF	.734	.51	.408	.306	.255	.224
500	507G006DH7	DH	.76	.528	.422	.317	.264	.232
600	607G006DH7	DH	.76	.528	.422	.317	.264	.232
700	707G006EF7	EF	.864	.60	.48	.36	.30	.264
800	807G006EH7	EH	.911	.633	.506	.38	.316	.278
950	957G006EH7	EH	.911	.633	.506	.38	.316	.278
1000	108G006FF7	FF	.911	.633	.506	.38	.316	.278
1200	128G006FH7	FH	1.228	.853	.682	.512	.426	.375
1500	158G006FH7	FH	1.228	.853	.682	.512	.426	.375
1800	188G006FK7	FK	1.292	.898	.718	.539	.449	.395
2000	208G006FK7	FK	1.292	.898	.718	.539	.449	.395

12 VDC WORKING, 15 VDC SURGE

1	105G012BA7	BA	$.565	$.393	$.314	$.236	$.196	$.173
2	205G012BA7	BA	.565	.393	.314	.236	.196	.173
3	305G012BA7	BA	.565	.393	.314	.236	.196	.173
4	405G012BA7	BA	.565	.393	.314	.236	.196	.173
5	505G012BA7	BA	.565	.393	.314	.236	.196	.173
6	605G012BA7	BA	.565	.393	.314	.236	.196	.173
8	805G012BA7	BA	.565	.393	.314	.236	.196	.173
10	106G012BA7	BA	.565	.393	.314	.236	.196	.173
15	156G012BA7	BA	.565	.393	.314	.236	.196	.173
20	206G012BB7	BB	.587	.408	.326	.245	.204	.179
25	256G012BB7	BB	.587	.408	.326	.245	.204	.179
30	306G012BB7	BB	.587	.408	.326	.245	.204	.179

12 VDC (CONT'D)

µF	Sprague No. 500D-	Case Code *	Net Each, Lots of					
			1-24	25-49	50 Up	100-249	250-499	500-999
50	506G012CB7	CB	$.619	$.43	$.344	$.258	$.215	$.189
60	606G012CB7	CB	.619	.43	.344	.258	.215	.189
75	756G012CC7	CC	.662	.46	.368	.276	.23	.202
90	906G012DB7	DB	.662	.46	.368	.276	.23	.202
100	107G012CC7	CC	.662	.46	.368	.276	.23	.202
140	147G012DC7	DC	.67	.465	.372	.279	.233	.205
150	157G012DD7	DD	.684	.475	.38	.285	.238	.209
190	197G012DD7	DD	.684	.475	.38	.285	.238	.209
200	207G012DF7	DF	.734	.51	.408	.306	.255	.224
250	257G012DF7	DF	.734	.51	.408	.306	.255	.224
290	297G012DF7	DF	.734	.51	.408	.306	.255	.224
390	397G012DH7	DH	.76	.528	.422	.317	.264	.232
400	407G012EF7	EF	.864	.60	.48	.36	.30	.264
450	457G012EF7	EF	.864	.60	.48	.36	.30	.264
500	507G012EH7	EH	.911	.633	.506	.38	.316	.278
600	607G012EH7	EH	.911	.633	.506	.38	.316	.278
800	807G012FH7	FH	1.228	.853	.682	.512	.426	.375
1000	108G012FK7	FK	1.292	.898	.718	.539	.449	.395
1200	128G012FK7	FK	1.292	.898	.718	.539	.449	.395

16 VDC WORKING, 20 VDC SURGE

1	105G016BA7	BA	$.565	$.393	$.314	$.236	$.196	$.173
2	205G016BA7	BA	.565	.393	.314	.236	.196	.173
3	305G016BA7	BA	.565	.393	.314	.236	.196	.173
4	405G016BA7	BA	.565	.393	.314	.236	.196	.173
5	505G016BA7	BA	.565	.393	.314	.236	.196	.173
6	605G016BA7	BA	.565	.393	.314	.236	.196	.173
8	805G016BA7	BA	.565	.393	.314	.236	.196	.173
10	106G016BA7	BA	.565	.393	.314	.236	.196	.173
15	156G016BB7	BB	.587	.408	.326	.245	.204	.179
20	206G016BB7	BB	.587	.408	.326	.245	.204	.179
25	256G016BB7	BB	.587	.408	.326	.245	.204	.179
30	306G016CB7	CB	.619	.43	.344	.258	.215	.189
35	356G016CB7	CB	.619	.43	.344	.258	.215	.189
50	506G016CB7	CB	.619	.43	.344	.258	.215	.189
75	756G016CC7	CC	.662	.46	.368	.276	.23	.202
85	856G016DB7	DB	.662	.46	.368	.276	.23	.202
90	906G016CC7	CC	.662	.46	.368	.276	.23	.202
1 0	107G016DC7	DC	.67	.465	.372	.279	.233	.205
130	137G016DC7	DC	.67	.465	.372	.279	.233	.205
150	157G016DD7	DD	.684	.475	.38	.285	.238	.209
180	187G016DD7	DD	.684	.475	.38	.285	.238	.209
200	207G016DF7	DF	.734	.51	.408	.306	.255	.224
250	257G016DF7	DF	.734	.51	.408	.306	.255	.224
300	307G016DH7	DH	.76	.528	.422	.317	.264	.232
350	357G016DH7	DH	.76	.528	.422	.317	.264	.232
400	407G016EF7	EF	.864	.60	.48	.36	.30	.264
450	457G016EH7	EH	.911	.633	.506	.38	.316	.278
500	507G016EH7	EH	.911	.633	.506	.38	.316	.278
600	607G016EH7	EH	.911	.633	.506	.38	.316	.278
800	807G016FH7	FH	1.228	.853	.682	.512	.426	.375
1000	108G016FK7	FK	1.292	.898	.718	.539	.449	.395
1200	128G016FK7	FK	1.292	.898	.718	.539	.449	.395

25 VDC WORKING, 35 VDC SURGE

1	105G025BA7	BA	$.565	$.393	$.314	$.236	$.196	$.173
2	205G025BA7	BA	.565	.393	.314	.236	.196	.173
3	305G025BA7	BA	.565	.393	.314	.236	.196	.173
4	405G025BA7	BA	.565	.393	.314	.236	.196	.173
5	505G025BA7	BA	.565	.393	.314	.236	.196	.173
6	605G025BA7	BA	.565	.393	.314	.236	.196	.173
8	805G025BA7	BA	.565	.393	.314	.236	.196	.173
10	106G025BB7	BB	.587	.408	.326	.245	.204	.179
15	156G025BB7	BB	.587	.408	.326	.245	.204	.179
20	206G025CB7	CB	.619	.43	.344	.258	.215	.189
25	256G025CB7	CB	.619	.43	.344	.258	.215	.189
30	306G025CB7	CB	.619	.43	.344	.258	.215	.189
35	356G025CB7	CB	.619	.43	.344	.258	.215	.189
50	506G025CC7	CC	.662	.46	.368	.276	.23	.202
175	756G025DC7	DC	.67	.465	.372	.279	.233	.205
100	107G025DD7	DD	.684	.475	.38	.285	.238	.209
150	157G025DF7	DF	.734	.51	.408	.306	.255	.224
200	207G025DH7	DH	.76	.528	.422	.317	.264	.232
250	257G025EF7	EF	.864	.60	.48	.36	.30	.264
300	307G025EH7	EH	.911	.633	.506	.38	.316	.278
350	357G025EH7	EH	.911	.633	.506	.38	.316	.278
400	407G025FF7	FF	.911	.633	.506	.38	.316	.278
450	457G025FH7	FH	1.228	.853	.682	.512	.426	.375
500	507G025FH7	FH	1.228	.853	.682	.512	.426	.375
600	607G025FK7	FK	1.292	.898	.718	.539	.449	.395

*CASE SIZES

Case Code	Size, Inches		Case Code	Size, Inches	
	Dia.	Lgth.		Dia.	Lgth.
BA	.260	.536	DF	.385	1.286
BB	.260	.723	DH	.385	1.536
CB	.322	.723	EF	.448	1.286
CC	.322	.848	EH	.448	1.536
DB	.385	.723	FF	.510	1.286
DC	.385	.848	FH	.510	1.536
DD	.385	.973	FJ	.510	1.786

TYPE 500D CONTINUED ON THE FOLLOWING PAGE

SPRAGUE Electrolytic Capacitors

TYPE 500D ELECTROLYTIC CAPACITORS (CONT'D)

50 VDC WORKING, 65 VDC SURGE

μF	Sprague No. 5000-	Case Code *	Net Each, Lots of 1-24	25-49	50 Up	100-249	250-499	500-999
1	105G050BA7	BA	$.565	$.393	$.314	$.236	$.196	$.173
2	205G050BA7	BA	.565	.393	.314	.236	.196	.173
3	305G050BA7	BA	.565	.393	.314	.236	.196	.173
4	405G050BA7	BA	.565	.393	.314	.236	.196	.173
5	505G050BB7	BB	.587	.408	.326	.245	.204	.179
6	605G050BB7	BB	.587	.408	.326	.245	.204	.179
8	805G050BB7	BB	.587	.408	.326	.245	.204	.179
10	106G050CB7	CB	.619	.43	.344	.258	.215	.189
15	156G050CB7	CB	.619	.43	.344	.258	.215	.189
20	206G050CC7	CC	.662	.46	.368	.276	.23	.202
25	256G050CC7	CC	.662	.46	.368	.276	.23	.202
35	356G050DC7	DC	.67	.465	.372	.279	.233	.205
50	506G050DD7	DD	.684	.475	.38	.285	.238	.209
75	756G050DF7	DF	.734	.51	.408	.306	.255	.224
100	107G050DH7	DH	.76	.528	.422	.317	.264	.232
120	127G050EF7	EF	.864	.60	.48	.36	.30	.264
150	157G050EH7	EH	.911	.633	.506	.38	.316	.278
200	207G050FF7	FF	.911	.633	.506	.38	.316	.278
250	257G050FF7	FF	.911	.633	.506	.38	.316	.278
300	307G050FH7	FH	1.228	.853	.682	.512	.426	.375
350	357G050FK7	FK	1.292	.898	.718	.539	.449	.395
400	407G050FK7	FK	1.292	.898	.718	.539	.449	.395

100 VDC WORKING, 125 VDC SURGE

1	105F100BA7	BA	$.619	$.43	.$344	$.258	$.215	$.189
2	205F100BB7	BB	.648	.45	.36	.27	.225	.198
3	305F100CB7	CB	.68	.473	.378	.284	.236	.208
4	405F100CB7	CB	.68	.473	.378	.284	.236	.208
5	505F100CC7	CC	.727	.505	.404	.303	.253	.222
6	605F100CC7	CC	.727	.505	.404	.303	.253	.222
8	805F100DC7	DC	.738	.513	.41	.308	.256	.226
10	106F100DC7	DC	.738	.513	.41	.308	.256	.226
15	156F100DD7	DD	.752	.523	.418	.314	.261	.23
20	206F100DF7	DF	.806	.56	.448	.336	.28	.246
25	256F100DH7	DH	.835	.58	.464	.348	.29	.255
30	306F100DH7	DH	.835	.58	.464	.348	.29	.255
40	406F100EH7	EH	1.001	.695	.556	.417	.348	.306
50	506F100FH7	FH	1.35	.938	.75	.563	.469	.413
60	606F100FH7	FH	1.35	.938	.75	.563	.469	.413
75	756F100FK7	FK	1.422	.988	.79	.593	.494	.435

150 VDC WORKING, 175 VDC SURGE

1	105F150BA7	BA	$.619	$.43	$.344	$.258	$.215	$.189
2	205F150BB7	BB	.648	.45	.36	.27	.225	.198
3	305F150CB7	CB	.68	.473	.378	.284	.236	.208
4	405F150CC7	CC	.727	.505	.404	.303	.253	.222
5	505F150CC7	CC	.727	.505	.404	.303	.253	.222
6	605F150DC7	DC	.738	.513	.41	.308	.256	.226
7	705F150DC7	DC	.738	.513	.41	.308	.256	.226
8	805F150DC7	DC	.738	.513	.41	.308	.256	.226
10	106F150DD7	DD	.752	.523	.418	.314	.261	.23
15	156F150DF7	DF	.806	.56	.448	.336	.28	.246
20	206F150DH7	DH	.835	.58	.464	.348	.29	.255
25	256F150EF7	EF	.95	.66	.528	.396	.33	.29
30	306F150EH7	EH	1.001	.695	.556	.417	.348	.306
35	356F150FH7	FH	1.35	.938	.75	.563	.469	.413
40	406F150FH7	FH	1.35	.938	.75	.563	.469	.413
50	506F150FK7	FK	1.442	.988	.79	.593	.494	.435

200 VDC WORKING, 250 VDC SURGE

1	105F200BB7	BB	$.648	$.45	$.36	$.27	$.225	$.198
2	205F200CB7	CB	.68	.473	.378	.284	.236	.208
3	305F200CC7	CC	.727	.505	.404	.303	.253	.222
4	405F200DC7	DC	.738	.513	.41	.308	.256	.226
5	505F200DC7	DC	.738	.513	.41	.308	.256	.226

200 VDC (CONT'D)

μF	Sprague No. 5000-	Case Code *	Net Each, Lots of 1-24	25-49	50 Up	100-249	250-499	500-999
6	605F200DD7	DD	$.752	$.523	$.418	$.314	$.261	$.23
8	805F200DF7	DF	.806	.56	.448	.336	.28	.246
10	106F200DF7	DF	.806	.56	.448	.336	.28	.246
15	156F200EF7	EF	.95	.66	.528	.396	.33	.29
20	206F200EH7	EH	1.001	.695	.556	.417	.348	.306
25	256F200FH7	FH	1.35	.938	.75	.563	.469	.413
30	306F200FK7	FK	1.422	.988	.79	.593	.494	.435

250 VDC WORKING, 300 VDC SURGE

1	105F250CB7	CB	$.68	$.473	$.378	$.284	$.236	$.208
2	205F250DB7	DB	.727	.505	.404	.303	.253	.222
3	305F250DC7	DC	.738	.513	.41	.308	.256	.226
4	405F250DD7	DD	.752	.523	.418	.314	.261	.23
5	505F250DF7	DF	.806	.56	.448	.336	.28	.246
6	605F250DF7	DF	.806	.56	.448	.336	.28	.246
8	805F250DH7	DH	.835	.58	.464	.348	.29	.255
10	106F250EF7	EF	.95	.66	.528	.396	.33	.29
12	126F250EH7	EH	1.001	.695	.556	.417	.348	.306
15	156F250FH7	FH	1.35	.938	.75	.563	.469	.413
20	206F250FK7	FK	1.422	.988	.79	.593	.494	.435

300 VDC WORKING, 350 VDC SURGE

1	105F300CB7	CB	$.68	$.473	$.378	$.284	$.236	$.208
2	205F300DC7	DC	.738	.513	.41	.308	.256	.226
3	305F300DD7	DD	.752	.523	.418	.314	.261	.23
4	405F300DF7	DF	.806	.56	.448	.336	.28	.246
5	505F300DF7	DF	.806	.56	.448	.336	.28	.246
6	605F300DH7	DH	.835	.58	.464	.348	.29	.255
8	805F300EH7	EH	1.001	.695	.556	.417	.348	.306
10	106F300EH7	EH	1.001	.695	.556	.417	.348	.306
12	126F300FH7	FH	1.35	.938	.75	.563	.469	.413
15	156F300FH7	FH	1.35	.938	.75	.563	.496	.413
20	206F300FK7	FK	1.422	.988	.79	.593	.494	.435

350 VDC WORKING, 400 VDC SURGE

1	105F350CC7	CC	$.727	$.505	$.404	$.303	$.253	$.222
2	205F350DC7	DC	.738	.513	.41	.308	.256	.226
3	305F350DD7	DD	.752	.523	.418	.314	.261	.23
4	405F350DF7	DF	.806	.56	.448	.336	.28	.246
5	505F350DH7	DH	.835	.58	.464	.348	.29	.255
6	605F350DH7	DH	.835	.58	.464	.348	.29	.255
8	805F350EH7	EH	1.001	.695	.556	.417	.348	.306
10	106F350FH7	FH	1.35	.938	.75	.563	.469	.413
12	126F350FH7	FH	1.35	.938	.75	.563	.469	.413
15	156F350FK7	FK	1.422	.988	.79	.593	.494	.435

400 VDC WORKING, 475 VDC SURGE

1	105F400DC7	DC	$.738	$.513	$.41	$.308	$.256	$.226
2	205F400DF7	DF	.806	.56	.448	.336	.28	.246
3	305F400DH7	DH	.835	.58	.464	.348	.29	.255
4	405F400EF7	EF	.95	.66	.528	.396	.33	.29
5	505F400EH7	EH	1.001	.695	.556	.417	.348	.306
6	605F400FF7	FF	1.001	.695	.556	.417	.348	.306
8	805F400FH7	FH	1.35	.938	.75	.563	.469	.413
10	106F400FK7	FK	1.422	.988	.79	.593	.494	.435
12	126F400FK7	FK	1.422	.988	.79	.593	.494	.435

450 VDC WORKING, 525 VDC SURGE

1	105F450DC7	DC	$.738	$.513	$.41	$.308	$.256	$.226
2	205F450DF7	DF	.806	.56	.448	.336	.28	.246
3	305F450EF7	EF	.95	.66	.528	.396	.33	.29
4	405F450EH7	EH	1.001	.695	.556	.417	.348	.306
5	505F450FF7	FF	1.35	.938	.75	.563	.469	.413
6	605F450FH7	FH	1.35	.938	.75	.563	.469	.413
8	805F450FK7	FK	1.422	.988	.79	.593	.494	.435
10	106F450FK7	FK	1.422	.988	.79	.593	.494	.435

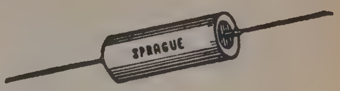
*CASE SIZES LISTED ON THE PREVIOUS PAGE

OUR STOCKS ARE COMPLETE AND UP TO DATE FOR PROMPT DELIVERY—
SEE CATALOG INDEX FOR OTHER SPRAGUE PRODUCTS ALSO LISTED.
WRITE FOR INFORMATION ON NEW OR UNLISTED ITEMS.

SPRAGUE Tantalum Capacitors

TYPE CSR13 SOLID ELECTROLYTE TUBULAR TANTALUM CAPACITORS TO MIL-C-39003/1A SPECIFICATIONS

Established reliability, solid tantalums meet satellite, missile, military equipment, computer and other complex equipment requirements for minimum failure. Meet MIL-C-39003 requirements in choice of 2%, 1% or 0.1% failure rate versions. Extensively tested and culled to meet highest environmental conditions such as high G shock, vibration, immersion, etc. (Full specifications on request.) **Temp. Range:** −55° C to +125° C. Supplied with insulating sleeve.



STOCK VALUES MIL-C-39003 (2% FAILURE RATE)

6 WVDC

Cap., µF	MIL Type Number	*
5.6	CSR13B565KL	A
6.8	CSR13B685KL†	A
47	CSR13B476KL†	B
56	CSR13B566KL	B
150	CSR13B157KL†	C
180	CSR13B187KL	C
270	CSR13B277KL	D
330	CSR13B337KL†	D

10 WVDC

Cap., µF	MIL Type Number	*
3.9	CSR13C395KL	A
4.7	CSR13C475KL†	A
27	CSR13C276KL	B
33	CSR13C336KL†	B
39	CSR13C396KL	B
82	CSR13C826KL	C
100	CSR13C107KL†	C
120	CSR13C127KL	C
180	CSR13C187KL	D
220	CSR13C227KL†	D

15 WVDC

Cap., µF	MIL Type Number	*
2.7	CSR13D275KL	A
3.3	CSR13D335KL†	A
18	CSR13D186KL	B
22	CSR13D226KL†	B
56	CSR13D566KL	C
68	CSR13D686KL†	C
120	CSR13D127KL	D
150	CSR13D157KL†	D

20 WVDC

Cap., µF	MIL Type Number	*
1.2	CSR13E125KL	A
1.5	CSR13E155KL†	A
1.8	CSR13E185KL	A
2.2	CSR13E225KL†	A
8.2	CSR13E825KL	B
10	CSR13E106KL†	B
12	CSR13E126KL	B
15	CSR13E156KL†	B
27	CSR13E276KL	C
33	CSR13E336KL†	C
39	CSR13E396KL	C
47	CSR13E476KL†	C
56	CSR13E566KL	D
68	CSR13E686KL†	D
82	CSR13E826KL	D
100	CSR13E107KL†	D

35 WVDC

Cap., µF	MIL Type Number	*
5.6	CSR13F565KL	B
6.8	CSR13F685KL†	B
22	CSR13F226KL†	C
27	CSR13F276KL	D
33	CSR13F336KL†	D
39	CSR13F396KL	D
47	CSR13F476KL†	D

50 WVDC

Cap., µF	MIL Type Number	*
.0047	CSR13G472KL†	A
.0056	CSR13G562KL	A
.0068	CSR13G682KL†	A
.0082	CSR13G822KL	A
.01	CSR13G103KL†	A
.012	CSR13G123KL	A
.015	CSR13G153KL†	A
.018	CSR13G183KL	A
.022	CSR13G223KL†	A
.027	CSR13G273KL	A
.033	CSR13G333KL†	A
.039	CSR13G393KL	A
.047	CSR13G473KL†	A
.056	CSR13G563KL	A
.068	CSR13G683KL†	A
.082	CSR13G823KL	A
.1	CSR13G104KL†	A
.12	CSR13G124KL	A
.15	CSR13G154KL†	A
.18	CSR13G184KL	A
.22	CSR13G224KL†	A
.27	CSR13G274KL	A
.33	CSR13G334KL†	A
.39	CSR13G394KL	A
.47	CSR13G474KL†	A
.56	CSR13G564KL	A
.68	CSR13G684KL†	A
.82	CSR13G824KL	A
1	CSR13G105KL†	A
1.2	CSR13G125KL	B
1.5	CSR13G155KL†	B
1.8	CSR13G185KL	B
2.2	CSR13G225KL†	B
2.7	CSR13G275KL	B
3.3	CSR13G335KL†	B
3.9	CSR13G395KL	B
4.7	CSR13G475KL†	B
5.6	CSR13G565KL	C
6.8	CSR13G685KL†	C
8.2	CSR13G825KL	C
10	CSR13G106KL†	C
12	CSR13G126KL	C
15	CSR13G156KL†	C
18	CSR13G186KL	C
22	CSR13G226KL†	D

75 WVDC

Cap., µF	MIL Type Number	*
.1	CSR13H104KL†	A
.12	CSR13H124KL	A
.15	CSR13H154KL†	A
.18	CSR13H184KL	A
.22	CSR13H224KL†	A
.27	CSR13H274KL	A
.33	CSR13H334KL†	A
.39	CSR13H394KL	A
.47	CSR13H474KL†	A
.56	CSR13H564KL	A
.68	CSR13H684KL†	A
.82	CSR13H824KL	B
1	CSR13H105KL†	B
1.2	CSR13H125KL	B
1.5	CSR13H155KL†	B
1.8	CSR13H185KL	B
2.2	CSR13H225KL†	B
2.7	CSR13H275KL	B
3.3	CSR13H335KL†	B
3.9	CSR13H395KL	B
4.7	CSR13H475KL†	C
5.6	CSR13H565KL	C
6.8	CSR13H685KL†	C
8.2	CSR13H825KL	C
10	CSR13H106KL†	C
12	CSR13H126KL	D
15	CSR13H156KL†	D

100 WVDC

Cap., µF	MIL Type Number	*
.0047	CSR13J472KL†	A
.0056	CSR13J562KL	A
.0068	CSR13J682KL†	A
.0082	CSR13J822KL	A
.01	CSR13J103KL†	A
.012	CSR13J123KL	A
.015	CSR13J153KL†	A
.018	CSR13J183KL	A
.022	CSR13J223KL†	A
.027	CSR13J273KL	A
.033	CSR13J333KL†	A
.039	CSR13J393KL	A
.047	CSR13J473KL†	A
.056	CSR13J563KL	A
.068	CSR13J683KL†	A
.082	CSR13J823KL	A
.1	CSR13J104KL†	A
.12	CSR13J124KL	A
.15	CSR13J154KL†	A
.18	CSR13J184KL	A
.22	CSR13J224KL†	A
.27	CSR13J274KL	A
.33	CSR13J334KL†	A
.39	CSR13J394KL	A
.47	CSR13J474KL†	A
.56	CSR13J564KL	A
.68	CSR13J684KL†	B
.82	CSR13J824KL	B
1.0	CSR13J105KL†	B
1.2	CSR13J125KL	B
1.5	CSR13J155KL†	B
1.8	CSR13J185KL	B
2.2	CSR13J225KL†	B
2.7	CSR13J275KL	B

Tolerance: All units shown, ±10%. †±20% available; to order, change next to last letter to **M** (e.g., CSR13B685**M**L).

ORDERING AND PRICING INFORMATION

Above stock values are for 2% Failure Rate. **For 1% Failure Rate:** Change suffix L to **M** (e.g., CSR13B565K**M**); prices shown at right. **For 0.1% Failure Rate:** Change suffix L to **P** (CSR13B565K**P**), available in values 6 thru 50 WVDC only; prices as shown at right.

2% FAILURE RATE (L Suffix)

±10% Tolerance

WV DC	*	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
6 thru 35	A	$0.81	$0.57	$0.41	$0.33	$0.26
	B	.96	.68	.49	.39	.30
	C	2.92	2.05	1.47	1.18	.92
	D	5.38	3.78	2.71	2.17	1.69
50	A†	.89	.62	.45	.36	.28
	B	1.06	.75	.54	.43	.34
	C§	3.32	2.33	1.67	1.34	1.04
	D	6.13	4.30	3.08	2.47	1.92
75	A	1.92	1.35	.97	.78	.61
	B	2.27	1.60	1.15	.92	.72
	C	5.34	3.75	2.69	2.16	1.68
	D	9.76	6.85	4.91	3.94	3.07
100	A	3.64	2.56	1.84	1.48	1.16
	B	4.35	3.06	2.20	1.77	1.38

±20% Tolerance

WV DC	*	1-24	25-49	50-99	100-499	500-999
6 thru 35	A	$0.80	$0.56	$0.40	$0.32	$0.25
	B	.95	.67	.48	.38	.29
	C	2.90	2.03	1.45	1.16	.90
	D	5.35	3.75	2.68	2.14	1.66
50	A†	.88	.61	.44	.35	.27
	B	1.05	.74	.53	.42	.33
	C§	3.30	2.31	1.65	1.32	1.02
	D	6.10	4.27	3.05	2.44	1.89
75	A	1.90	1.33	.95	.76	.59
	B	2.25	1.58	1.13	.90	.70
	C	5.30	3.71	2.65	2.12	1.64
	D	9.70	6.79	4.85	3.88	3.01
100	A	3.60	2.52	1.80	1.44	1.12
	B	4.30	3.01	2.15	1.72	1.33

1% FAILURE RATE (M Suffix)

WV DC	*	Range, µF	±10% Tolerance, Net Ea., Lots					±20% Tolerance, Net Ea., Lots				
			1-24	25-49	50-99	100-499	500-999	1-24	25-49	50-99	100-499	500-999
6 thru 35	A	1.2–6.8**	$ 0.83	$0.59	$0.43	$0.35	$0.28	$0.82	$ 0.58	$0.42	$0.34	$0.27
	B	5.6–56**	.98	.70	.51	.41	.32	.97	.69	.50	.40	.31
	C	22–180**	2.94	2.07	1.49	1.20	.94	2.92	2.05	1.47	1.18	.92
	D	27–330**	5.40	3.80	2.73	2.19	1.71	5.37	3.77	2.70	2.16	1.68
50	A	.033–1	.92	.65	.48	.39	.31	.91	.64	.47	.38	.30
	B	1.2–4.7	1.09	.78	.57	.46	.37	1.08	.77	.56	.45	.36
	C	5.6–18	3.35	2.36	1.70	1.37	1.07	3.33	2.34	1.68	1.35	1.05
	D	22	6.16	4.33	3.11	2.50	1.95	6.13	4.30	3.08	2.47	1.92
75	A	.1–.68	1.97	1.40	1.02	.83	.66	1.95	1.38	1.00	.81	.64
	B	.82–3.9	2.32	1.65	1.22	.97	.77	2.30	1.63	1.18	.95	.75
	C	4.7–10	5.39	3.80	2.74	2.21	1.73	5.35	3.76	2.70	2.17	1.69
	D	12, 15	9.81	6.90	4.96	3.99	3.12	9.75	6.84	4.90	3.93	3.06
100	A	.0047–.56	3.74	2.66	1.94	1.58	1.26	3.70	2.62	1.90	1.54	1.22
	B	.68–.27	4.45	3.16	2.30	1.87	1.48	4.40	3.11	2.25	1.82	1.43

0.1% FAILURE RATE (P Suffix)

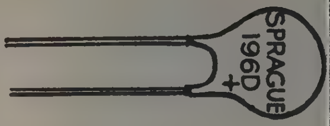
Minimum item charge, $50.00. Orders accepted on a non-cancellable, non-returnable basis only.

6–20	A	1.2–6.8**	$ 1.62	$1.14	$0.82	$0.66	$0.52	$ 1.60	$1.12	$0.80	$0.64	$0.50
6–20	B	8.2–56**	1.92	1.36	.98	.78	.60	1.90	1.34	.96	.76	.58
6–15	C	56–180**	5.84	4.10	2.94	2.36	1.84	5.80	4.06	2.90	2.32	1.80
20	C	27–47	5.84	4.10	2.94	2.36	1.84	5.80	4.06	2.90	2.32	1.80
6–20	D	56–330	10.76	7.56	5.42	4.34	3.38	10.70	7.50	5.36	4.28	3.32
35	B	5.6, 6.8	1.92	1.36	.98	.78	.60	1.90	1.34	.96	.76	.58
	C	22	5.84	4.10	2.94	2.36	1.84	5.80	4.06	2.90	2.32	1.80
	D	27–47	10.76	7.56	5.42	4.34	3.38	10.70	7.50	5.36	4.28	3.32
50	A	.0047–1	1.78	1.24	.90	.72	.56	1.76	1.22	.88	.70	.54
	B	1.2–4.7	2.12	1.50	1.08	.86	.68	2.10	1.48	1.06	.84	.66
	C	5.6–18	6.64	4.66	3.34	2.68	2.08	6.60	4.62	3.30	2.64	2.04
	D	22	12.26	8.60	6.16	4.94	3.84	12.20	8.54	6.10	4.88	3.78

*Case Size: A, 0.135″ dia. x 0.286″ lg.; B, 0.185″ dia. x 0.474″ lg.; C, 0.289″ dia. x 0.686″ lg.; D, 0.351″ dia. x 0.786″ lg.; †In range .0047–.027 µF. ‡In range .033–1.0 µF. §In range 5.6–10 µF. ♯In range 12–18 µF. **Varies according to voltage; see tables of stock values, above.

SPRAGUE Tantalum Capacitors

TYPE 196D DIPPED TANTALEX® SOLID-TANTALUM CAPACITORS



Epoxy-dipped coating economically provides good electrical and mechanical protection. High stability, very little capacitance change; low dissipation factor permits higher ripples. Radial leads for mounting on PC boards. **Operating Temperature:** −55° C to +85° C. **Tolerance:** ±10%; ±20% available as noted. **Case Size and Leads:** Last three characters indicate case sizes and leads. Case Size: **H,** .175″ dia. x .375″ h.; **J,** .225″ dia. x .425″ h.; **K,** .225″ dia. x .450″ h.; **L,** .450″ dia. x .500″ h.; **M,** .600″ dia. x .800″ h.; **P,** .400″ dia. x .650″ h.; **T,** .400″ dia. x .750″ h. Numbers ending with **A1** have straight leads with .125″ spacing; **A3** indicates straight leads with .250″ spacing. Numbers ending with **E4** have "Hockeystick" leads with .250″ spacing. For short "Hockeystick" pin leads (.187″ l.; .250″ spacing) change A1 or E4 to **E3.** For short "Hairpin Crimped" leads (.187″ l.; .250″ spacing) change A3 to **B3.**

4 WVDC, 5.3 V SURGE

Sprague Number	Cap., µF	Net Each, Lots of				
		5-Pak		Bulk Pack		
		1-49	50-99	100-499	500-999	1000-4999*
196D106X9004HA1*	10	$0.66	$0.34	$0.27	$0.21	$0.16
196D126X9004HA1	12	.66	.34	.27	.21	.16
196D476X9004JA1*	47	.76	.39	.31	.24	.19
196D566X9004JA1	56	.76	.39	.31	.24	.19
196D826X9004KA1	82	.86	.44	.35	.27	.21
196D107X9004KA1*	100	.86	.44	.35	.27	.21
196D187X9004PE4	180	2.12	1.07	.86	.67	.52
196D227X9004PE4*	220	2.12	1.07	.86	.67	.52

6 WVDC, 8 V SURGE

196D685X9006HA1*	6.8	$0.66	$0.34	$0.27	$0.21	$0.16
196D825X9006HA1	8.2	.66	.34	.27	.21	.16
196D336X9006JA1*	33	.76	.39	.31	.24	.19
196D396X9006JA1	39	.76	.39	.31	.24	.19
196D476X9006JA1*	47	.76	.39	.31	.24	.19
196D566X9006KA1	56	.86	.44	.35	.27	.21
196D686X9006KA1*	68	.86	.44	.35	.27	.21
196D127X9006PE4	120	2.12	1.07	.86	.67	.52
196D157X9006PE4*	150	2.12	1.07	.86	.67	.52
196D277X9006TE4	270	3.87	1.95	1.56	1.21	.93
196D337X9006TE4*	330	3.87	1.95	1.56	1.21	.93

10 WVDC, 13 V SURGE

196D475X9010HA1*	4.7	$0.66	$0.34	$0.27	$0.21	$0.16
196D565X9010HA1	5.6	.66	.34	.27	.21	.16
196D226X9010JA1*	22	.76	.39	.31	.24	.19
196D276X9010JA1	27	.76	.39	.31	.24	.19
196D336X9010KA1*	33	.86	.44	.35	.27	.21
196D396X9010KA1	39	.86	.44	.35	.27	.21
196D826X9010PE4	82	2.12	1.07	.86	.67	.52
196D107X9010PE4*	100	2.12	1.07	.86	.67	.52
196D187X9010TE4	180	3.87	1.95	1.56	1.21	.93
196D227X9010TE4*	220	3.87	1.95	1.56	1.21	.93

15 WVDC, 20 V SURGE

196D335X9015HA1*	3.3	$0.66	$0.34	$0.27	$0.21	$0.16
196D395X9015HA1	3.9	.66	.34	.27	.21	.16
196D156X9015JA1*	15	.76	.39	.31	.24	.19
196D186X9015JA1	18	.76	.39	.31	.24	.19
196D226X9015KA1*	22	.86	.44	.35	.27	.21
196D566X9015PE4	56	2.12	1.07	.86	.67	.52
196D686X9015PE4*	68	2.12	1.07	.86	.67	.52
196D127X9015TE4	120	3.87	1.95	1.56	1.21	.93
196D157X9015TE4*	150	3.87	1.95	1.56	1.21	.93

20 WVDC, 26 V SURGE

196D275X9020HA1	2.7	$0.66	$0.34	$0.27	$0.21	$0.16
196D106X9020JA1*	10	.76	.39	.31	.24	.19
196D126X9020JA1	12	.76	.39	.31	.24	.19
196D156X9020KA1*	15	.86	.44	.35	.27	.21
196D396X9020PE4	39	2.12	1.07	.86	.67	.52
196D476X9020PE4*	47	2.12	1.07	.86	.67	.52
196D826X9020TE4	82	3.87	1.95	1.56	1.21	.93
196D107X9020TE4*	100	3.87	1.95	1.56	1.21	.93

25 WVDC, 32 V SURGE

196D125X9025HA1	1.2	$0.66	$0.34	$0.27	$0.21	$0.16
196D155X9025HA1*	1.5	.66	.34	.27	.21	.16
196D185X9025HA1	1.8	.66	.34	.27	.21	.16
196D225X9025HA1*	2.2	.66	.34	.27	.21	.16
196D565X9025JA1	5.6	.76	.39	.31	.24	.19
196D685X9025JA1*	6.8	.76	.39	.31	.24	.19
196D825X9025JA1	8.2	.76	.39	.31	.24	.19
196D106X9025KA1*	10	.86	.44	.35	.27	.21
196D126X9025KA1	12	.86	.44	.35	.27	.21

25 WVDC, 32 V SURGE (CONTINUED)

Sprague Number	Cap., µF	Net Each, Lots of				
		5-Pak		Bulk Pack		
		1-49	50-99	100-499	500-999	1000-4999*
196D276X9025PE4	27	$2.12	$1.07	$0.86	$0.67	$0.52
196D336X9025PE4*	33	2.12	1.07	.86	.67	.52
196D566X9025TE4	56	3.87	1.95	1.56	1.21	.93
196D686X9025TE4*	68	3.87	1.95	1.56	1.21	.93

35 WVDC, 46 V SURGE

196D104X9035HA1*	.10	$0.66	$0.34	$0.27	$0.21	$0.16
196D124X9035HA1	.12	.66	.34	.27	.21	.16
196D154X9035HA1*	.15	.66	.34	.27	.21	.16
196D184X9035HA1	.18	.66	.34	.27	.21	.16
196D224X9035HA1*	.22	.66	.34	.27	.21	.16
196D274X9035HA1	.27	.66	.34	.27	.21	.16
196D334X9035HA1*	.33	.66	.34	.27	.21	.16
196D394X9035HA1	.39	.66	.34	.27	.21	.16
196D474X9035HA1*	.47	.66	.34	.27	.21	.16
196D564X9035HA1	.56	.66	.34	.27	.21	.16
196D684X9035HA1*	.68	.66	.34	.27	.21	.16
196D824X9035HA1	.82	.66	.34	.27	.21	.16
196D105X9035HA1*	1.0	.66	.34	.27	.21	.16
196D125X9035JA1	1.2	.76	.39	.31	.24	.19
196D155X9035JA1*	1.5	.76	.39	.31	.24	.19
196D185X9035JA1	1.8	.76	.39	.31	.24	.19
196D225X9035JA1*	2.2	.76	.39	.31	.24	.19
196D275X9035JA1	2.7	.76	.39	.31	.24	.19
196D335X9035JA1*	3.3	.76	.39	.31	.24	.19
196D395X9035JA1	3.9	.76	.39	.31	.24	.19
196D475X9035JA1*	4.7	.76	.39	.31	.24	.19
196D565X9035KA1	5.6	.86	.44	.35	.27	.21
196D685X9035KA1*	6.8	.86	.44	.35	.27	.21
196D825X9035PE4	8.2	2.12	1.07	.86	.67	.52
196D106X9035PE4*	10	2.12	1.07	.86	.67	.52
196D126X9035PE4	12	2.12	1.07	.86	.67	.52
196D156X9035PE4*	15	2.12	1.07	.86	.67	.52
196D186X9035PE4	18	2.12	1.07	.86	.67	.52
196D226X9035PE4*	22	2.12	1.07	.86	.67	.52
196D276X9035TE4	27	3.87	1.95	1.56	1.21	.93
196D336X9035TE4*	33	3.87	1.95	1.56	1.21	.93
196D396X9035TE4	39	3.87	1.95	1.56	1.21	.93
196D476X9035TE4*	47	3.87	1.95	1.56	1.21	.93

50 WVDC, 65 V SURGE

196D104X9050HA1*	.10	$0.76	$0.39	$0.31	$0.24	$0.19
196D124X9050HA1	.12	.76	.39	.31	.24	.19
196D154X9050HA1*	.15	.76	.39	.31	.24	.19
196D184X9050HA1	.18	.76	.39	.31	.24	.19
196D224X9050HA1*	.22	.76	.39	.31	.24	.19
196D274X9050HA1	.27	.76	.39	.31	.24	.19
196D334X9050HA1*	.33	.76	.39	.31	.24	.19
196D394X9050HA1	.39	.76	.39	.31	.24	.19
196D474X9050HA1*	.47	.76	.39	.31	.24	.19
196D564X9050HA1	.56	.76	.39	.31	.24	.19
196D684X9050HA1*	.68	.76	.39	.31	.24	.19
196D824X9050HA1	.82	.76	.39	.31	.24	.19
196D105X9050HA1*	1.0	.76	.39	.31	.24	.19
196D125X9050JA1	1.2	.86	.44	.36	.27	.21
196D155X9050JA1*	1.5	.86	.44	.36	.27	.21
196D185X9050JA1	1.8	.86	.44	.36	.27	.21
196D225X9050JA1*	2.2	.86	.44	.36	.27	.21
196D275X9050JA1	2.7	.86	.44	.36	.27	.21
196D335X9050JA1*	3.3	.86	.44	.36	.27	.21
196D395X9050KA1	3.9	.96	.49	.39	.30	.23
196D475X9050KA1*	4.7	.96	.49	.39	.30	.23
196D565X9050PE4	5.6	2.37	1.20	.96	.75	.57
196D685X9050PE4*	6.8	2.37	1.20	.96	.75	.57
196D825X9050PE4	8.2	2.37	1.20	.96	.75	.57
196D106X9050PE4*	10	2.37	1.20	.96	.75	.57
196D126X9050PE4	12	2.37	1.20	.96	.75	.57
196D156X9050PE4*	15	2.37	1.20	.96	.75	.57
196D186X9050TE4	18	4.52	2.27	1.82	1.42	1.08
196D226X9050TE4*	22	4.52	2.27	1.82	1.42	1.08

* ±20% tolerance available. Change 9th character in number to **0** (196D106X0004HA1) and deduct **2c** per each price break-out.

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SPRAGUE Electrolytic Capacitors

TYPE 600D EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

SPRAGUE
EXTRALYTIC

Aluminum electrolytics offering extended operating temperature range from −55° C to +125° C. Dual rating makes possible operation at either +85° C or +125° C. Improved oxide systems, etching techniques, and end seals, together with a new electrolyte, make Type 600D capacitors equivalent or superior to comparable foil tantalum types. They are also lower in cost and one-third the weight of comparable foil tantalums.

7 WVDC AT 85° C; 5 WVDC AT 125° C

Sprague No.	Cap. µF	†	Net Each, Lots of				
			1-24	25-49	50-99	100-499	500-999
600D127G007KD4	120	A	$2.64	$1.32	$1.16	$0.86	$0.83
600D227G007DD4	220	B	2.64	1.32	1.16	.86	.83
600D277G007DE4	270	C	3.00	1.50	1.32	.98	.94
600D397G007DG4	390	D	3.48	1.74	1.53	1.14	1.09
600D567G007DJ4	560	E	4.00	2.00	1.76	1.30	1.26
600D827G007DL4	820	F	5.08	2.54	2.23	1.66	1.60
600D108G007DX4	1000	G	6.08	3.04	2.67	1.98	1.91
10 WVDC AT 85° C; 7 WVDC AT 125° C							
600D107G010KD4	100	A	$2.64	$1.32	$1.16	$0.86	$0.83
600D187G010DD4	180	B	2.64	1.32	1.16	.86	.83
600D227G010DE4	220	C	3.00	1.50	1.32	.98	.94
600D337G010DG4	330	D	3.48	1.74	1.53	1.14	1.09
600D477G010DJ4	470	E	4.00	2.00	1.76	1.30	1.26
600D687G010DL4	680	F	5.08	2.54	2.23	1.66	1.60
600D827G010DX4	820	G	6.08	3.04	2.67	1.98	1.91
15 WVDC AT 85° C; 10 WVDC AT 125° C							
600D686G015KD4	68	A	$2.64	$1.32	$1.16	$0.86	$0.83
600D826G015KD4	82	A	2.64	1.32	1.16	.86	.83
600D157G015DD4	150	B	2.64	1.32	1.16	.86	.83
600D187G015DE4	180	C	3.00	1.50	1.32	.98	.94
600D277G015DG4	270	D	3.48	1.74	1.53	1.14	1.09
600D397G015DJ4	390	E	4.00	2.00	1.76	1.30	1.26
600D567G015DL4	560	F	5.08	2.54	2.23	1.66	1.60
600D687G015DX4	680	G	6.08	3.04	2.67	1.98	1.91
20 WVDC AT 85° C; 15 WVDC AT 125° C							
600D686G020KD4	68	A	$2.64	$1.32	$1.16	$0.86	$0.83
600D107G020DD4	100	B	2.64	1.32	1.16	.86	.83
600D147G020DE4	140	C	3.00	1.50	1.32	.98	.94
600D227G020DG4	220	D	3.48	1.74	1.53	1.14	1.09
600D297G020DJ4	290	E	4.00	2.00	1.76	1.30	1.26
600D447G020DL4	440	F	5.08	2.54	2.23	1.66	1.60
600D607G020DX4	600	G	6.08	3.04	2.67	1.98	1.91
30 WVDC AT 85° C; 20 WVDC AT 125° C							
600D336G030KD4	33	A	$2.64	$1.32	$1.16	$0.86	$0.83
600D476G030KD4	47	A	2.64	1.32	1.16	.86	.83
600D826G030DD4	82	B	2.64	1.32	1.16	.86	.83
600D107G030DE4	100	C	3.00	1.50	1.32	.98	.94
600D127G030DG4	120	D	3.48	1.74	1.53	1.14	1.09
600D157G030DG4	150	D	3.48	1.74	1.53	1.14	1.09
600D227G030DJ4	220	E	4.00	2.00	1.76	1.30	1.26
600D337G030DL4	330	F	5.08	2.54	2.23	1.66	1.60
600D397G030DX4	390	G	6.08	3.04	2.67	1.98	1.91
40 WVDC AT 85° C; 30 WVDC AT 125° C							
600D306G040KD4	30	A	$2.64	$1.32	$1.16	$0.86	$0.83
600D506G040DD4	50	B	2.64	1.32	1.16	.86	.83
600D706G040DE4	70	C	3.00	1.50	1.32	.98	.94
600D107G040DG4	100	D	3.48	1.74	1.53	1.14	1.09
600D147G040DJ4	140	E	4.00	2.00	1.76	1.30	1.26
600D217G040DL4	210	F	5.08	2.54	2.23	1.66	1.60
600D287G040DX4	280	G	6.08	3.04	2.67	1.98	1.91
50 WVDC AT 85° C; 40 WVDC AT 125° C							
600D226G050KD4	22	A	$2.64	$1.32	$1.16	$0.86	$0.83
600D336G050DD4	33	B	2.64	1.32	1.16	.86	.83
600D476G050DE4	47	C	3.00	1.50	1.32	.98	.94
600D566G050DG4	56	D	3.48	1.74	1.53	1.14	1.09
600D686G050DG4	68	D	3.48	1.74	1.53	1.14	1.09
600D107G050DJ4	100	E	4.00	2.00	1.76	1.30	1.26
600D157G050DL4	150	F	5.08	2.54	2.23	1.66	1.60
600D187G050DX4	180	G	6.08	3.04	2.67	1.98	1.91
60 WVDC AT 85° C; 50 WVDC AT 125° C							
600D176G060KD4	17	A	$2.64	$1.32	$1.16	$0.86	$0.83
600D256G060DD4	25	B	2.64	1.32	1.16	.86	.83
600D406G060DE4	40	C	3.00	1.50	1.32	.98	.94
600D606G060DG4	60	D	3.48	1.74	1.53	1.14	1.09
600D806G060DJ4	80	E	4.00	2.00	1.76	1.30	1.26
600D127G060DL4	120	F	5.08	2.54	2.23	1.66	1.60
600D167G060DX4	160	G	6.08	3.04	2.67	1.98	1.91
75 WVDC AT 85° C; 60 WVDC AT 125° C							
600D126F075KD4	12	A	$2.64	$1.32	$1.16	$0.86	$0.83
600D226F075DD4	22	B	2.64	1.32	1.16	.86	.83
600D336F075DE4	33	C	3.00	1.50	1.32	.98	.94
600D476F075DG4	47	D	3.48	1.74	1.53	1.14	1.09
600D686F075DJ4	68	E	4.00	2.00	1.76	1.30	1.26
600D107F075DL4	100	F	5.08	2.54	2.23	1.66	1.60
600D127F075DX4	120	G	6.08	3.04	2.67	1.98	1.91
100 WVDC AT 85° C; 75 WVDC AT 125° C							
600D825F100KD4	8.2	A	$2.64	$1.32	$1.16	$0.86	$0.83
600D126F100DD4	12	B	2.64	1.32	1.16	.86	.83
600D156F100DE4	15	C	3.00	1.50	1.32	.98	.94
600D226F100DG4	22	D	3.48	1.74	1.53	1.14	1.09
600D336F100DJ4	33	E	4.00	2.00	1.76	1.30	1.26
600D476F100DL4	47	F	5.08	2.54	2.23	1.66	1.60
600D686F100DX4	68	G	6.08	3.04	2.67	1.98	1.91

150 WVDC AT 85° C; 100 WVDC AT 125° C

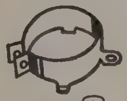
Sprague No.	Cap. µF	†	Net Each, Lots of				
			1-24	25-49	50-99	100-499	500-999
600D475F150KD4	4.7	A	$2.64	$1.32	$1.16	$0.86	$0.83
600D565F150KD4	5.6	A	2.64	1.32	1.16	.86	.83
600D825F150DD4	8.2	B	2.64	1.32	1.16	.86	.83
600D126F150DE4	12	C	3.00	1.50	1.32	.98	.94
600D186F150DG4	18	D	3.48	1.74	1.53	1.14	1.09
600D226F150DJ4	22	E	4.00	2.00	1.76	1.30	1.26
600D336F150DL4	33	F	5.08	2.54	2.23	1.66	1.60
600D566F150DX4	56	G	6.08	3.04	2.67	1.98	1.91
200 WVDC AT 85° C; 150 WVDC AT 125° C							
600D405F200KD4	4	A	$2.64	$1.32	$1.16	$0.86	$0.83
600D605F200DD4	6	B	2.64	1.32	1.16	.86	.83
600D805F200DE4	8	C	3.00	1.50	1.32	.98	.94
600D136F200DG4	13	D	3.48	1.74	1.53	1.14	1.09
600D176F200DJ4	17	E	4.00	2.00	1.76	1.30	1.26
600D266F200DL4	26	F	5.08	2.54	2.23	1.66	1.60
600D396F200DX4	39	G	6.08	3.04	2.67	1.98	1.91
250 WVDC AT 85° C; 200 WVDC AT 125° C							
600D335F250KD4	3.3	A	$3.40	$1.70	$1.49	$1.11	$1.07
600D565F250DD4	5.6	B	3.40	1.70	1.49	1.11	1.07
600D685F250DE4	6.8	C	3.88	1.94	1.70	1.27	1.22
600D106F250DG4	10	D	4.52	2.26	1.98	1.47	1.42
600D126F250DJ4	12	E	5.16	2.58	2.26	1.68	1.62
600D226F250DL4	22	F	6.60	3.30	2.89	2.15	2.07
600D276F250DX4	27	G	7.88	3.94	3.45	2.57	2.47

†SIZE

Items listed have outer insulating sleeve; for bare metal case version, subtract .0156″ from diameter .0625″ from lenght.

Case Code	Size, Inches Dia. x Length	Case Code	Size, Inches Dia. x Length
A	.296 x 1.000	E	.390 x 1.687
B	.390 x 1.000	F	.390 x 2.249
C	.390 x 1.187	G	.390 x 2.749
D	.390 x 1.437		

MOUNTING HARDWARE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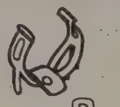
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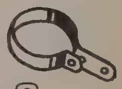

C

VERTICAL MTG. CLAMPS FOR CYLINDRICAL CAPACITORS (FIG. A)

Sprague No.	Inside Dia.	Mtg. Ctrs.	Net Each	Sprague No.	Inside Dia.	Mtg. Ctrs.	Net Each
4586-97	1″	1 7/16″	$0.42	4586-48	2″	2 1/2″	$0.72
4586-97F	1 1/4″	1 11/16″	.42	4586-2B	2 1/16″	2 9/16″	.72
4586-97A	1 3/8″	1 25/32″	.42	4586-1	2 1/2″	3″	.72
4586-97B	1 1/2″	1 15/16″	.48	4586-2D	2 9/16″	3 1/16″	.72
4586-97C	1 3/4″	2 3/16″	.48	4586-2	3″	3 1/2″	.84
4-36-14M	1 3/4″	2 3/16″	.48	4586-2A	3 1/16″	3 9/16″	.84

HORIZONTAL MTG. CLIPS FOR CYLINDRICAL CAPACITORS (FIG. B)

36-520E	3/8″	......	$0.18	36-520B	7/8″	......	$0.24
36-520F	1/2″	......	.18	36-520C	1″	......	.24
36-520	5/8″	......	.24	36-520D	1 3/8″	......	.30
36-520A	3/4″	......	.24				

MOUNTING STRAPS FOR TUBULAR COMPONENTS (FIG. C)

36-68T	1/4″	......	$0.12	36-59J	7/8″	......	$0.12
36-59	5/16″	......	.12	36-59K	15/16″	......	.12
36-59A	3/8″	......	.12	36-59L	1″	......	.12
36-59B	7/16″	......	.12	36-59M	1 1/16″	......	.12
36-59C	1/2″	......	.12	36-59N	1 1/8″	......	.12
36-69D	9/16″	......	.12	36-59P	1 3/16″	......	.12
36-69E	5/8″	......	.12	36-59R	1 1/4″	......	.18
36-69F	11/16″	......	.12	36-59S	1 5/16″	......	.18
36-69G	3/4″	......	.12	36-59T	1 3/8″	......	.18
36-69H	13/16″	......	.12				

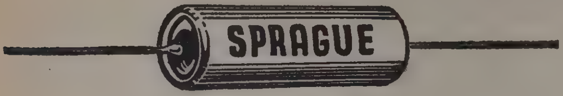
KRAFTBOARD INSULATING TUBES

For "above-ground" use with can-type capacitors. Closed top.

Sprague No.	For Can Size	Net Each	Sprague No.	For Can Size	Net Each
407-57A	1″ x 2″	$0.18	407-57E	1 3/8″ x 3″	$0.18
407-57N	1″ x 2 1/2″	.18	407-57Z	1 3/8″ x 3 1/2″	.18
407-57D	1″ x 3″	.18	407-174C	1 3/8″ x 4″	.18
407-174E	1″ x 4″	.18	407-174P	1 3/8″ x 4 1/2″	.18
407-57B	1 3/8″ x 2″	.18	407-57	3/4″ x 2″	.18
407-57R	1 3/8″ x 2 1/2″	.18	407-57U	1″ x 3 1/2″	.18

SPRAGUE Vitamin Q® Capacitors

SUBMINIATURE METAL-CLAD PAPER CAPACITORS



Exceeds the performance requirements of MIL-C-25A. Extensively used in military and commercial equipment; assures reliability under the most severe operating conditions. Features positive hermetic glass-to-metal end seals. **Capacitance Tolerance:** ±10% and ±20%. **Temperature Range:** −55° C to +125° C.

TYPE 96P INSERTED TAB—STYLE 2
PLAIN METAL CASE—±10% TOLERANCE*

100 WVDC

Sprague Number	Cap., μF	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499*
96P10291S2	.001	10.745	$7.163	$4.925	$3.582	$2.239	$1.343
96P15291S2	.0015	10.745	7.163	4.925	3.582	2.239	1.343
96P33291S2	.0033	10.745	7.163	4.925	3.582	2.239	1.343
96P47291S2	.0047	10.745	7.163	4.925	3.582	2.239	1.343
96P10391S2	.01	10.89	7.26	4.991	3.63	2.269	1.361
96P22391S2	.022	11.906	7.938	5.457	3.969	2.481	1.488
96P33391S2	.033	11.326	7.55	5.191	3.775	2.36	1.416
96P10491S2	.1	11.471	7.647	5.257	3.824	2.39	1.434
96P22491S2	.22	12.052	8.034	5.524	4.017	2.511	1.506
96P47491S2	.47	15.101	10.067	6.921	5.034	3.146	1.888
96P10591S2	1.0	17.569	11.713	8.053	5.856	3.66	2.196

200 WVDC

Sprague Number	Cap., μF	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499*
96P22392S2	.022	10.745	$7.163	$4.925	$3.582	$2.239	$1.343
96P68392S2	.068	11.326	7.55	5.191	3.775	2.36	1.415
96P10492S2	.1	11.326	7.55	5.191	3.775	2.36	1.415
96P22492S2	.22	12.052	8.034	5.524	4.017	2.511	1.506
96P47492S2	.47	14.665	9.777	6.722	4.888	3.055	1.833
96P10592S2	1.0	17.279	11.519	7.919	5.76	3.60	2.16

300 WVDC

Sprague Number	Cap., μF	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499*
96P15393S2	.015	10.89	$7.26	$4.991	$3.63	$2.269	$1.361
96P47393S2	.047	11.18	7.454	5.124	3.727	2.329	1.398
96P68393S2	.068	11.326	7.55	5.191	3.775	2.36	1.416
96P10493S2	.1	11.326	7.55	5.191	3.775	2.36	1.416
96P22493S2	.22	14.81	9.874	6.788	4.937	3.086	1.581

400 WVDC

Sprague Number	Cap., μF	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499*
96P10394S2	.01	10.745	$7.163	$4.925	$3.582	$2.239	$1.343
96P33394S2	.033	11.18	7.454	5.124	3.727	2.329	1.398
96P47394S2	.047	11.471	7.647	5.257	3.824	2.39	1.434
96P10494S2	.1	11.906	7.938	5.457	3.969	2.481	1.488
96P22494S2	.22	14.81	9.874	6.788	4.937	3.086	1.851
96P47494S2	.47	17.279	11.519	7.919	5.76	3.60	2.16
96P10594S2	1.0	22.361	14.907	10.249	7.454	4.659	2.795

600 WVDC

Sprague Number	Cap., μF	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499*
96P10296S2	.001	10.745	$7.163	$4.925	$3.582	$2.239	$1.343
96P15296S2	.0015	10.745	7.163	4.925	3.582	2.239	1.343
96P22296S2	.0022	10.745	7.163	4.925	3.582	2.239	1.343
96P33296S2	.0033	10.745	7.163	4.925	3.582	2.239	1.343
96P47296S2	.0047	10.745	7.163	4.925	3.582	2.239	1.343
96P68296S2	.0068	10.745	7.163	4.925	3.582	2.239	1.343
96P10396S2	.01	11.18	7.454	5.124	3.727	2.329	1.398
96P22396S2	.022	11.18	7.454	5.124	3.727	2.329	1.398
96P47396S2	.047	11.471	7.647	5.257	3.824	2.39	1.434
96P10496S2	.1	13.504	9.002	6.189	4.501	2.813	1.688
96P22496S2	.22	14.665	9.777	6.722	4.888	3.055	1.833
96P47496S2	.47	18.586	12.39	8.518	6.195	3.872	2.323

1000 WVDC

Sprague Number	Cap., μF	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-499	500-999
96P104910S2	.1	$12.54	$8.36	$5.748	$4.18	$2.613	$1.568

TYPE 196P EXTENDED FOIL—STYLE 2
PLAIN METAL CASE—±10% TOLERANCE*

100 WVDC

Sprague Number	Cap., μF	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499*
196P47291S2	.0047	$4.114	$3.291	$2.057	$1.646	$1.234	$1.029
196P10391S2	.01	3.993	3.194	1.997	1.597	1.198	.998
196P15391S2	.015	3.993	3.194	1.997	1.597	1.198	.998
196P39391S2	.039	3.993	3.194	1.997	1.597	1.198	.998
196P47391S2	.047	3.993	3.194	1.997	1.597	1.198	.998
196P10491S2	.1	4.235	3.388	2.118	1.694	1.271	1.059
196P22491S2	.22	4.356	3.485	2.178	1.742	1.307	1.089
196P33491S2	.33	4.719	3.775	2.36	1.888	1.416	1.18
196P47491S2	.47	5.687	4.55	2.844	2.275	1.706	1.422
196P68491S2	.68	6.353	5.082	3.176	2.541	1.906	1.588
196P10591S2	1.0	6.897	5.518	3.449	2.759	2.069	1.724

200 WVDC

Sprague Number	Cap., μF	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499*
196P27392S2	.027	$3.993	$3.194	$1.997	$1.597	$1.198	$0.998
196P33392S2	.033	3.993	3.194	1.997	1.597	1.198	.998
196P56392S2	.056	4.054	3.243	2.027	1.621	1.216	1.013
196P68392S2	.068	4.054	3.243	2.027	1.621	1.216	1.013
196P10492S2	.1	4.114	3.291	2.057	1.646	1.234	1.029
196P15492S2	.15	4.356	3.485	2.178	1.742	1.307	1.089
196P22492S2	.22	4.719	3.775	2.36	1.888	1.416	1.18
196P47492S2	.47	5.627	4.55	2.844	2.275	1.706	1.422
196P10592S2	1.0	6.897	5.518	3.449	2.759	2.069	1.724

300 WVDC

Sprague Number	Cap., μF	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499*
196P47293S2	.0047	$3.993	$3.194	$1.997	$1.597	$1.198	$0.998
196P22393S2	.022	4.054	3.243	2.027	1.621	1.216	1.013
196P47393S2	.047	4.114	3.291	2.057	1.646	1.234	1.029
196P10493S2	1.0	4.235	3.388	2.118	1.694	1.271	1.059

400 WVDC

Sprague Number	Cap., μF	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499*
196P15394S2	.015	$4.235	$3.388	$2.118	$1.694	$1.271	$1.059
196P47394S2	.047	4.719	3.775	2.36	1.888	1.416	1.18
196P10494S2	.1	5.022	4.017	2.511	2.009	1.506	1.255
196P15494S2	.15	5.385	4.308	2.692	2.154	1.615	1.346
196P22494S2	.22	5.566	4.453	2.783	2.226	1.67	1.392
196P47494S2	.47	6.897	5.518	3.449	2.759	2.069	1.724

600 WVDC

Sprague Number	Cap., μF	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499*
196P10296S2	.001	$3.993	$3.194	$1.997	$1.597	$1.198	$0.998
196P22296S2	.0022	3.993	3.194	1.997	1.597	1.198	.998
196P10396S2	.01	4.114	3.291	2.057	1.646	1.234	1.029
196P22396S2	.022	4.235	3.388	2.118	1.694	1.271	1.059
196P33396S2	.033	4.296	3.436	2.148	1.718	1.289	1.074
196P47396S2	.047	4.356	3.485	2.178	1.742	1.307	1.089
196P10496S2	.1	5.203	4.162	2.602	2.081	1.561	1.301
196P22496S2	.22	5.687	4.55	2.844	2.275	1.706	1.422
196P47496S2	.47	7.20	5.76	3.60	2.88	2.16	1.80

1000 WVDC

Sprague Number	Cap., μF	Net Each, Lots of					
		1-9	10-24	25-49	50-99	100-249	250-499*
196P103910S2	.01	$4.719	$3.775	$2.36	$1.888	$1.416	$1.18
196P104910S2	.1	5.566	4.453	2.783	2.226	1.67	1.392
196P224910S2	.22	6.474	5.179	3.237	2.589	1.942	1.618
196P474910S2	.47	7.684	6.147	3.842	3.073	2.305	1.921

***Also available with plastic outer sleeve, Style 4. Both Styles 2 and 4 available ±20% tolerance. Write for information.**

★500 UP QUANTITY PRICE AVAILABLE ON REQUEST.

SPRAGUE Electrolytic Capacitors

TYPE 36D POWERLYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

Especially suitable for replacement applications. Maximum space economy at operating temperatures up to 85° C. Low ESR and leakage currents. Extremely long shelf life. Uses most reliable seal developed for aluminum electrolytic capacitors. Pressure-type safety vents employing silicone rubber are used on all cases. Capacitors listed have low-insert terminals; change last character of model no. from A to **B** for high-insert or A to **C** for solder-lug terminals, price on request.

3 WVDC

Sprague Number	Cap., µF	*
36D103G003AA2A	10000	AA1
36D203G003AB2A	20000	AB1
36D303G003AC2A	30000	AC1
36D363G003AD2A	36000	AD1
36D413G003AE2A	41000	AE1
36D463G003AF2A	46000	AF1
36D473G003BB2A	47000	BB1
36D703G003BC2A	70000	BC1
36D803G003CB2A	80000	CB1
36D823G003BD2A	82000	BD1
36D943G003BE2A	94000	BE1
36D104G003BF2A	100000	BF1
36D124G003CC2A	120000	CC1
36D144G003CD2A	140000	CD1
36D164G003CE2A	160000	CE1
36D174G003DC2A	170000	DC1
36D184G003CF2A	180000	CF1
36D204G003DD2A	200000	DD1
36D234G003DE2A	230000	DE1
36D274G003DF2A	270000	DF1

6 WVDC

36D702G006AA2A	7000	AA1
36D143G006AB2A	14000	AB1
36D213G006AC2A	21000	AC1
36D253G006AD2A	25000	AD1
36D293G006AE2A	29000	AE1
36D323G006AF2A	32000	AF1
36D333G006BB2A	33000	BB1
36D503G006BC2A	50000	BC1
36D573G006CB2A	57000	CB1
36D583G006BD2A	58000	BD1
36D663G006BE2A	66000	BE1
36D753G006BF2A	75000	BF1
36D863G006CC2A	86000	CC1
36D104G006CD2A	100000	CD1
36D114G006CE2A	110000	CE1
36D124G006DC2A	120000	DC1
36D144G006DD2A	140000	DD1
36D164G006DE2A	160000	DE1
36D194G006DF2A	190000	DF1

10 WVDC

Sprague Number	Cap., µF	*
36D602G010AA2A	6000	AA1
36D123G010AB2A	12000	AB1
36D183G010AC2A	18000	AC1
36D213G010AD2A	21000	AD1
36D243G010AE2A	24000	AE1
36D273G010AF2A	27000	AF1
36D283G010BB2A	28000	BB1
36D423G010BC2A	42000	BC1
36D483G010CB2A	48000	CB1
36D493G010BD2A	49000	BD1
36D563G010BE2A	56000	BE1
36D633G010BF2A	63000	BF1
36D723G010CC2A	72000	CC1
36D843G010CD2A	84000	CD1
36D963G010CE2A	96000	CE1
36D104G010CF2A	100000	CF1
36D104G010DC2A	100000	DC1
36D124G010DD2A	120000	DD1
36D144G010DE2A	140000	DE1
36D164G010DF2A	160000	DF1

15 WVDC

36D462G015AA2A	4600	AA1
36D922G015AB2A	9200	AB1
36D133G015AC2A	13000	AC1
36D163G015AD2A	16000	AD1
36D183G015AE2A	18000	AE1
36D203G015AF2A	20000	AF1
36D213G015BB2A	21000	BB1
36D313G015BC2A	31000	BC1
36D363G015CB2A	36000	CB1
36D373G015BD2A	37000	BD1
36D423G015BE2A	42000	BE1
36D473G015BF2A	47000	BF1
36D543G015CC2A	54000	CC1
36D633G015CD2A	63000	CD1
36D723G015CE2A	72000	CE1
36D803G015DC2A	80000	DC1
36D813G015CF2A	81000	CF1
36D933G015DD2A	93000	DD1
36D104G015DE2A	100000	DE1
36D124G015DF2A	120000	DF1

25 WVDC

Sprague Number	Cap., µF	*
36D272G025AA2A	2700	AA1
36D552G025AB2A	5500	AB1
36D822G025AC2A	8200	AC1
36D962G025AD2A	9600	AD1

25 WVDC (Cont'd.)

Sprague Number	Cap., µF	*
36D113G025AE2A	11000	AE1
36D123G025AF2A	12000	AF1
36D183G025BC2A	18000	BC1
36D213G025CB2A	21000	CB1
36D223G025BD2A	22000	BD1
36D253G025BE2A	25000	BE1
36D283G025BF2A	28000	BF1
36D323G025CC2A	32000	CC1
36D383G025CD2A	38000	CD1
36D433G025CE2A	43000	CE1
36D473G025DC2A	47000	DC1
36D483G025CF2A	48000	CF1
36D553G025DD2A	55000	DD1
36D633G025DE2A	63000	DE1
36D713G025DF2A	71000	DF1

30 WVDC

36D202G030AA2A	2000	AA1
36D402G030AB2A	4000	AB1
36D602G030AC2A	6000	AC1
36D722G030AD2A	7200	AD1
36D832G030AE2A	8300	AE1
36D932G030AF2A	9300	AF1
36D952G030BB2A	9500	BB1
36D143G030BC2A	14000	BC1
36D163G030BD2A	16000	BD1
36D193G030BE2A	19000	BE1
36D213G030BF2A	21000	BF1
36D243G030CC2A	24000	CC1
36D283G030CD2A	28000	CD1
36D323G030CE2A	32000	CE1
36D363G030DC2A	36000	DC1
36D373G030CF2A	37000	CF1
36D423G030DD2A	42000	DD1
36D483G030DE2A	48000	DE1
36D543G030DF2A	54000	DF1

40 WVDC

36D182G040AA2A	1800	AA1
36D362G040AB2A	3600	AB1
36D552G040AC2A	5500	AC1
36D642G040AD2A	6400	AD1
36D732G040AE2A	7300	AE1
36D832G040AF2A	8300	AF1
36D842G040BB2A	8400	BB1
36D123G040BC2A	12000	BC1
36D143G040BD2A	14000	BD1
36D163G040BE2A	16000	BE1
36D193G040BF2A	19000	BF1
36D213G040CC2A	21000	CC1
36D253G040CD2A	25000	CD1
36D283G040CE2A	28000	CE1
36D313G040DC2A	31000	DC1
36D323G040CF2A	32000	CF1
36D373G040DD2A	37000	DD1
36D423G040DE2A	42000	DE1

50 WVDC

36D132G050AA2A	1300	AA1
36D262G050AB2A	2600	AB1
36D392G050AC2A	3900	AC1
36D462G050AD2A	4600	AD1
36D522G050AE2A	5200	AE1
36D592G050AF2A	5900	AF1
36D602G050BB2A	6000	BB1
36D902G050BC2A	9000	BC1
36D103G050BD2A	10000	BD1
36D123G050BE2A	12000	BE1
36D133G050BF2A	13000	BF1
36D153G050CC2A	15000	CC1
36D183G050CD2A	18000	CD1
36D203G050CE2A	20000	CE1
36D223G050DC2A	22000	DC1
36D233G050CF2A	23000	CF1
36D263G050DD2A	26000	DD1
36D303G050DE2A	30000	DE1
36D343G050DF2A	34000	DF1

75 WVDC

36D851G075AA2A	850	AA2
36D172G075AB2A	1700	AB2
36D252G075AC2A	2500	AC2
36D302G075AD2A	3000	AD2
36D342G075AE2A	3400	AE2
36D382G075AF2A	3800	AF2
36D392G075BB2A	3900	BB2
36D592G075BC2A	5900	BC2
36D672G075CB2A	6700	CB2
36D692G075BD2A	6900	BD2
36D782G075BE2A	7800	BE2
36D882G075BF2A	8800	BF2
36D103G075CC2A	10000	CC2
36D113G075CD2A	11000	CD2
36D133G075CE2A	13000	CE2
36D143G075DC2A	14000	DC2

75 WVDC (Cont'd.)

Sprague Number	Cap., µF	*
36D153G075CF2A	15000	CF2
36D173G075DD2A	17000	DD2
36D203G075DE2A	20000	DE2
36D223G075DF2A	22000	DF2

100 WVDC

36D451G100AA2A	450	AA2
36D901G100AB2A	900	AB2
36D132G100AC2A	1300	AC2
36D152G100AD2A	1500	AD2
36D182G100AE2A	1800	AE2
36D202G100AF2A	2000	AF2
36D302G100BC2A	3000	BC2
36D352G100CB2A	3500	CB2
36D362G100BD2A	3600	BD2
36D402G100BE2A	4000	BE2
36D452G100BF2A	4500	BF2
36D532G100CC2A	5300	CC2
36D612G100CD2A	6100	CD2
36D702G100CE2A	7000	CE2
36D782G100CF2A	7800	CF2
36D782G100DC2A	7800	DC2
36D912G100DD2A	9100	DD2
36D103G100DE2A	10000	DE2
36D113G100DF2A	11000	DF2

150 WVDC

36D301F150AA2A	300	AA3
36D601F150AB2A	600	AB3
36D901F150AC2A	900	AC3
36D112F150AD2A	1100	AD3
36D122F150AE2A	1200	AE3
36D132F150AF2A	1300	AF3
36D142F150BB2A	1400	BB3
36D212F150BC2A	2100	BC3
36D242F150BD2A	2400	BD3
36D272F150BE2A	2700	BE3
36D312F150BF2A	3100	BF3
36D362F150CC2A	3600	CC3
36D422F150CD2A	4200	CD3
36D472F150CE2A	4700	CE3
36D532F150CF2A	5300	CF3
36D532F150DC2A	5300	DC3
36D622F150DD2A	6200	DD3
36D702F150DE2A	7000	DE3
36D782F150DF2A	7800	DF3

200 WVDC

36D251F200AA2A	250	AA3
36D431F200AB2A	430	AB3
36D641F200AC2A	640	AC3
36D771F200AD2A	770	AD3
36D851F200AE2A	850	AE3
36D951F200AF2A	950	AF3
36D142F200BC2A	1400	BC3
36D162F200CB2A	1600	CB3
36D172F200BD2A	1700	BD3
36D192F200BE2A	1900	BE3
36D212F200BF2A	2100	BF3
36D252F200CC2A	2500	CC3
36D292F200CD2A	2900	CD3
36D332F200CE2A	3300	CE3
36D372F200CF2A	3700	CF3
36D372F200DC2A	3700	DC3
36D432F200DD2A	4300	DD3
36D482F200DE2A	4800	DE3
36D552F200DF2A	5500	DF3

250 WVDC

36D171F250AA2A	170	AA3
36D351F250AB2A	350	AB3
36D531F250AC2A	530	AC3
36D631F250AD2A	630	AD3
36D701F250AE2A	700	AE3
36D781F250AF2A	780	AF3
36D801F250BB2A	800	BB3
36D122F250BC2A	1200	BC3
36D132F250CB2A	1300	CB3
36D142F250BD2A	1400	BD3
36D152F250BE2A	1500	BE3
36D172F250BF2A	1700	BF3
36D202F250CC2A	2000	CC3
36D242F250CD2A	2400	CD3
36D272F250CE2A	2700	CE3
36D302F250CF2A	3000	CF3
36D302F250DC2A	3000	DC3
36D352F250DD2A	3500	DD3
36D402F250DE2A	4000	DE3
36D452F250DF2A	4500	DF3

TYPE 36D CONTINUED ON
THE FOLLOWING PAGE

SPRAGUE Electrolytic Capacitors

TYPE 36D ELECTROLYTIC CAPACITORS (CONT'D)

300 WVDC

Sprague Number	Cap., µF	*
36D121F300AA2A	120	AA3
36D241F300AB2A	240	AB3
36D371F300AC2A	370	AC3
36D451F300AD2A	450	AD3
36D501F300AE2A	500	AE3
36D551F300AF2A	550	AF3
36D821F300BC2A	820	BC3
36D951F300BD2A	950	BD3
36D112F300BE2A	1100	BE3
36D122F300BF2A	1200	BF3
36D142F300CC2A	1400	CC3
36D162F300CD2A	1600	CD3
36D182F300CE2A	1800	CE3
36D212F300CF2A	2100	CF3
36D212F300DC2A	2100	DC3
36D242F300DD2A	2400	DD3
36D272F300DE2A	2700	DE3
36D312F300DF2A	3100	DF3

350 WVDC

Sprague Number	Cap., µF	*
36D950F350AA2A	95	AA3
36D191F350AB2A	190	AB3
36D291F350AC2A	290	AC3
36D361F350AD2A	360	AD3
36D391F350AE2A	390	AE3
36D421F350BB2A	420	BB3
36D441F350AF2A	440	AF3
36D651F350BC2A	650	BC3

350 WVDC (Cont'd.)

Sprague Number	Cap., µF	*
36D751F350CB2A	750	CB3
36D781F350BD2A	780	BD3
36D881F350BE2A	880	BE3
36D102F350BF2A	1000	BF3
36D112F350CC2A	1100	CC3
36D132F350CD2A	1300	CD3
36D152F350CE2A	1500	CE3
36D162F350DC2A	1600	DC3
36D172F350CF2A	1700	CF3
36D192F350DD2A	1900	DD3
36D222F350DE2A	2200	DE3
36D252F350DF2A	2500	DF3

400 WVDC

Sprague Number	Cap., µF	*
36D650F400AA2A	65	AA3
36D121F400AB2A	120	AB3
36D191F400AC2A	190	AC3
36D231F400AD2A	230	AD3
36D271F400AE2A	270	AE3
36D291F400BB2A	290	BB3
36D301F400AF2A	300	AF3
36D421F400BC2A	420	BC3
36D491F400CB2A	490	CB3
36D531F400BD2A	530	BD3
36D611F400BE2A	610	BE3
36D681F400BF2A	680	BF3
36D791F400CC2A	790	CC3
36D911F400CD2A	910	CD3

400 WVDC (Cont'd.)

Sprague Number	Cap., µF	*
36D102F400CE2A	1000	CE3
36D102F400DC2A	1000	DC3
36D112F400CF2A	1100	CF3
36D122F400DD2A	1200	DD3
36D142F400DE2A	1400	DE3
36D162F400DF2A	1600	DF3

450 WVDC

Sprague Number	Cap., µF	*
36D500F450AA2A	50	AA3
36D101F450AB2A	100	AB3
36D141F450AC2A	140	AC3
36D171F450AD2A	170	AD3
36D191F450AE2A	190	AE3
36D211F450AF2A	210	AF3
36D221F450BB2A	220	BB3
36D331F450BC2A	330	BC3
36D381F450CB2A	380	CB3
36D391F450BD2A	390	BD3
36D441F450BE2A	440	BE3
36D491F450BF2A	490	BF3
36D571F450CC2A	570	CC3
36D661F450CD2A	660	CD3
36D761F450CE2A	760	CE3
36D851F450CF2A	850	CF3
36D861F450DC2A	860	DC3
36D102F450DD2A	1000	DD3
36D112F450DE2A	1100	DE3
36D122F450DF2A	1200	DF3

*CASE SIZES AND PRICES

* Code	Size, Inches Dia. x Lgth.	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
AA1	1⅜ x 2⅛	$3.45	$2.88	$1.64	$1.50	$1.38
AA2	1⅜ x 2⅛	3.48	2.90	1.66	1.51	1.39
AA3	1⅜ x 2⅛	3.81	3.18	1.82	1.65	1.52
AB1	1⅜ x 3⅛	4.02	3.35	1.92	1.74	1.61
AB2	1⅜ x 3⅛	4.38	3.65	2.09	1.90	1.75
AB3	1⅜ x 3⅛	4.62	3.85	2.20	2.00	1.85
AC1	1⅜ x 4⅛	4.65	3.88	2.22	2.02	1.86
AC2	1⅜ x 4⅛	4.95	4.13	2.36	2.15	1.98
AC3	1⅜ x 4⅛	5.67	4.73	2.70	2.46	2.27
AD1	1⅜ x 4⅝	5.16	4.30	2.46	2.24	2.06
AD2	1⅜ x 4⅝	5.73	4.78	2.73	2.48	2.29
AD3	1⅜ x 4⅝	6.15	5.13	2.93	2.67	2.46
AE1	1⅜ x 5⅛	5.49	4.58	2.62	2.38	2.20
AE2	1⅜ x 5⅛	6.15	5.13	2.93	2.67	2.46
AE3	1⅜ x 5⅛	6.75	5.63	3.22	2.93	2.70
AF1	1⅜ x 5⅝	5.76	4.80	2.75	2.50	2.30
AF2	1⅜ x 5⅝	6.48	5.40	3.09	2.81	2.59
AF3	1⅜ x 5⅝	7.08	5.90	3.37	3.07	2.83
BB1	2 x 3⅛	5.91	4.93	2.82	2.56	2.36
BB2	2 x 3⅛	6.72	5.60	3.20	2.91	2.69
BB3	2 x 3⅛	7.41	6.18	3.53	3.21	2.96
BC1	2 x 4⅛	7.14	5.95	3.40	3.09	2.86
BC2	2 x 4⅛	8.37	6.98	3.99	3.63	3.35
BC3	2 x 4⅛	9.21	7.68	4.39	3.99	3.68
BD1	2 x 4⅝	8.10	6.75	3.86	3.51	3.24
BD2	2 x 4⅝	9.21	7.68	4.39	3.99	3.68
BD3	2 x 4⅝	10.23	8.53	4.88	4.43	4.09
BE1	2 x 5⅛	8.43	7.03	4.02	3.65	3.37
BE2	2 x 5⅛	9.75	8.13	4.65	4.23	3.90
BE3	2 x 5⅛	11.28	9.40	5.38	4.89	4.51
BF1	2 x 5⅝	$ 9.12	$ 7.60	$ 4.35	$ 3.95	$ 3.65
BF2	2 x 5⅝	10.77	8.98	5.13	4.67	4.31
BF3	2 x 5⅝	12.18	10.15	5.81	5.28	4.87
CB1	2½ x 3⅛	8.34	6.95	3.98	3.61	3.34
CB2	2½ x 3⅛	9.81	8.18	4.68	4.25	3.92
CB3	2½ x 3⅛	10.50	8.75	5.01	4.55	4.20
CC1	2½ x 4⅛	10.98	9.15	5.23	4.76	4.39
CC2	2½ x 4⅛	12.36	10.30	5.89	5.36	4.94
CC3	2½ x 4⅛	14.25	11.88	6.79	6.18	5.70
CD1	2½ x 4⅝	11.40	9.50	5.43	4.94	4.56
CD2	2½ x 4⅝	13.05	10.88	6.22	5.66	5.22
CD3	2½ x 4⅝	15.36	12.80	7.32	6.66	6.14
CE1	2½ x 5⅛	12.21	10.18	5.82	5.29	4.88
CE2	2½ x 5⅛	14.16	11.80	6.75	6.14	5.66
CE3	2½ x 5⅛	16.77	13.98	7.99	7.27	6.71
CF1	2½ x 5⅝	13.08	10.90	6.23	5.67	5.23
CF2	2½ x 5⅝	16.14	13.45	7.69	6.99	6.46
CF3	2½ x 5⅝	18.06	15.05	8.61	7.83	7.22
DC1	3 x 4⅛	14.04	11.70	6.69	6.08	5.62
DC2	3 x 4⅛	16.11	13.43	7.68	6.98	6.44
DC3	3 x 4⅛	19.11	15.93	9.11	8.28	7.64
DD1	3 x 4⅝	15.21	12.68	7.25	6.59	6.08
DD2	3 x 4⅝	17.91	14.93	8.54	7.76	7.16
DD3	3 x 4⅝	21.15	17.63	10.08	9.17	8.46
DE1	3 x 5⅛	16.17	13.48	7.71	7.01	6.47
DE2	3 x 5⅛	20.58	17.15	9.81	8.92	8.23
DE3	3 x 5⅛	24.12	20.10	11.50	10.45	9.65
DF1	3 x 5⅝	18.78	15.65	8.95	8.14	7.51
DF2	3 x 5⅝	21.78	18.15	10.38	9.44	8.71
DF3	3 x 5⅝	25.59	21.33	12.20	11.09	10.24

FOR INDUSTRIAL ELECTRONIC EQUIPMENT AND PARTS,
WE CAN SUPPLY ALL YOUR REQUIREMENTS,
OFFERING COMPLETE LINE WITH UP-TO-DATE STOCK, FAST DELIVERY AND INDUSTRIAL QUANTITY
CONVENIENCE. AS NEW PRODUCTS ARE DEVELOPED, WE WILL OBTAIN
THEM FOR YOUR IMMEDIATE AVAILABILITY.
WRITE FOR FULL INFORMATION ON NEW OR UNLISTED ITEMS.

SPRAGUE Electrolytic Capacitors

TYPE 36 DX POWERLYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

Similar to the type 36D, but with extended capacitance ratings (higher capacitance, smaller cases) required in new designs. Capacitors listed have outer plastic-film insulation; for bare case, change 14th digit of part number from **2** to **0**. Capacitors listed also have low-insert terminals; for high-insert or solder-lug terminals, change last character of part number from **A** to **B** or **C**, respectively.

Sprague Number	Cap., μF	*
10 WVDC		
36DX902G010AA2A	9000	AA1
36DX183G010AB2A	18,000	AB1
36DX273G010AC2A	27,000	AC1
36DX413G010AF2A	41,000	AF1
36DX583G010BC2A	58,000	BC1
36DX883G010BF2A	88,000	BF1
36DX104G010CC2A	100,000	CC1
36DX154G010CF2A	150,000	CF1
36DX154G010DC2A	150,000	DC1
36DX234G010DF2A	230,000	DF1
36DX394G010DJ2A	390,000	DJ1
15 WVDC		
36DX752G015AA2A	7500	AA1
36DX153G015AB2A	15,000	AB1
36DX223G015AC2A	22,000	AC1
36DX343G015AF2A	34,000	AF1
36DX503G015BC2A	50,000	BC1
36DX753G015BF2A	75,000	BF1
36DX833G015CC2A	83,000	CC1
36DX124G015CF2A	120,000	CF1
36DX124G015DC2A	120,000	DC1
36DX184G015DF2A	180,000	DF1
36DX304G015DJ2A	300,000	DJ1
25 WVDC		
36DX452G025AA2A	4500	AA1
36DX902G025AB2A	9000	AB1
36DX133G025AC2A	13,000	AC1
36DX203G025AF2A	20,000	AF1
36DX303G025BC2A	30,000	BC1
36DX453G025BF2A	45,000	BF1
36DX503G025CC2A	50,000	CC1
36DX753G025CF2A	75,000	CF1
36DX753G025DC2A	75,000	DC1
36DX114G025DF2A	110,000	DF1
36DX194G025DJ2A	190,000	DJ1
30 WVDC		
36DX402G030AA2A	4000	AA1
36DX802G030AB2A	8000	AB1
36DX123G030AC2A	12,000	AC1
36DX183G030AF2A	18,000	AF1
36DX263G030BC2A	26,000	BC1
36DX393G030BF2A	39,000	BF1
36DX443G030CC2A	44,000	CC1
36DX663G030CF2A	66,000	CF1
36DX663G030DC2A	66,000	DC1
36DX973G030DF2A	97,000	DF1
36DX164G030DJ2A	160,000	DJ1
40 WVDC		
36DX292G040AA2A	2900	AA1
36DX582G040AB2A	5800	AB1
36DX872G040AC2A	8700	AC1
36DX133G040AF2A	13,000	AF1
36DX203G040BC2A	20,000	BC1
36DX303G040BF2A	30,000	BF1
36DX343G040CC2A	34,000	CC1
36DX513G040CF2A	51,000	CF1
36DX513G040DC2A	51,000	DC1
36DX763G040DF2A	76,000	DF1
36DX124G040DJ2A	120,000	DJ1
50 WVDC		
36DX242G050AA2A	2400	AA1
36DX482G050AB2A	4800	AB2
36DX722G050AC2A	7200	AC1
36DX113G050AF2A	11,000	AF1
36DX163G050BC2A	16,000	BC1
36DX243G050BF2A	24,000	BF1
36DX273G050CC2A	27,000	CC1
36DX403G050CF2A	40,000	CF1
36DX413G050DC2A	41,000	DC1
36DX613G050DF2A	61,000	DF1
36DX104G050DJ2A	100,000	DJ1
75 WVDC		
36DX142G075AA2A	1400	AA2
36DX282G075AB2A	2800	AB2
36DX422G075AC2A	4200	AC2
36DX632G075AF2A	6300	AF2
36DX103G075BC2A	10,000	BC2
36DX153G075BF2A	15,000	BF2
36DX173G075CC2A	17,000	CC2
36DX253G075CF2A	25,000	CF2
36DX253G075DC2A	25,000	DC2
36DX373G075DF2A	37,000	DF2
36DX603G075DJ2A	60,000	DJ2
100 WVDC		
36DX851G100AA2A	850	AA2
36DX172G100AB2A	1700	AB2
36DX262G100AC2A	2600	AC2
36DX382G100AF2A	3800	AF2
36DX582G100BC2A	5800	BC2
36DX872G100BF2A	8700	BF2
100 WVDC (CONT'D)		
36DX982G100CC2A	9800	CC2
36DX153G100CF2A	15,000	CF2
36DX153G100DC2A	15,000	DC2
36DX213G100DF2A	21,000	DF2
36DX363G100DJ2A	36,000	DJ2
200 WVDC		
36DX301F200AA2A	300	AA3
36DX591F200AB2A	590	AB3
36DX851F200AC2A	850	AC3
36DX122F200AF2A	1200	AF3
36DX142F200BB2A	1400	BB1
36DX202F200BC2A	2000	BC3
36DX292F200BF2A	2900	BF3
36DX342F200CC2A	3400	CC3
36DX492F200CF2A	4900	CF3
36DX742F200DF2A	7400	DF3
36DX123F200DJ2A	12,000	DJ3
250 WVDC		
36DX251F250AA2A	250	AA3
36DX501F250AB2A	500	AB3
36DX741F250AC2A	740	AC3
36DX112F250AF2A	1100	AF3
36DX122F250BB2A	1200	BB1
36DX172F250BC2A	1700	BC3
36DX252F250BF2A	2500	BF3
36DX292F250CC2A	2900	CC3
36DX422F250CF2A	4200	CF3
36DX632F250DF2A	6300	DF3
36DX103F250DJ2A	10,000	DJ3
350 WVDC		
36DX131F350AA2A	130	AA3
36DX261F350AB2A	260	AB3
36DX381F350AC2A	380	AC3
36DX581F350AF2A	580	AF3
36DX611F350BB2A	610	BB1
36DX881F350BC2A	880	BC3
36DX132F350BF2A	1300	BF3
36DX152F350CC2A	1500	CC3
36DX222F350CF2A	2200	CF3
36DX332F350DF2A	3300	DF3
36DX512F350DJ2A	5100	DJ3
450 WVDC		
36DX800F450AA2A	80	AA3
36DX161F450AB2A	160	AB3
36DX231F450AC2A	230	AC3
36DX351F450AF2A	350	AF3
36DX381F450BB2A	380	BB1
36DX541F450BC2A	540	BC3
36DX801F450BF2A	800	BF3
36DX931F450CC2A	930	CC3
36DX132F450CF2A	1300	CF3
36DX202F450DF2A	2000	DF3
36DX312F450DJ2A	3100	DJ3

★CASE SIZES AND PRICES

Code	Size, Inches Dia. x Lgth.	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
AA1	1⅜ x 2⅛	$ 3.66	$ 3.05	$ 1.74	$ 1.59	$ 1.46
AA2	1⅜ x 2⅛	4.02	3.35	1.92	1.74	1.61
AA3	1⅜ x 2⅛	4.17	3.48	1.99	1.81	1.67
AB1	1⅜ x 3⅛	4.62	3.85	2.20	2.00	1.85
AB2	1⅛ x 3⅛	5.10	4.25	2.43	2.21	2.04
AB3	1⅜ x 3⅛	5.25	4.38	2.50	2.28	2.10
AC1	1⅜ x 4⅛	5.58	4.65	2.66	2.42	2.23
AC2	1⅜ x 4⅛	6.57	5.48	3.13	2.85	2.63
AC3	1⅜ x 4⅛	6.48	5.40	3.09	2.81	2.59
AF1	1⅜ x 5⅝	7.35	6.13	3.50	3.19	2.94
AF2	1⅜ x 5⅝	8.73	7.28	4.16	3.78	3.49
AF3	1⅜ x 5⅝	7.77	6.48	3.70	3.37	3.11
BB1	2 x 3⅛	8.85	7.38	4.22	3.84	3.54
BC1	2 x 4⅛	9.33	7.78	4.45	4.04	3.73
BC2	2 x 4⅛	12.21	10.18	5.82	5.29	4.88
BC3	2 x 4⅛	11.43	9.53	5.45	4.95	4.57
BF1	2 x 5⅝	$12.18	$10.15	$ 5.81	$ 5.28	$ 4.87
BF2	2 x 5⅝	15.45	12.88	7.36	6.70	6.18
BF3	2 x 5⅝	14.97	12.48	7.14	6.49	5.99
CC1	2½ x 4⅛	14.16	11.80	6.75	6.14	5.66
CC2	2½ x 4⅛	17.64	14.70	8.41	7.64	7.06
CC3	2½ x 4⅛	17.22	14.35	8.21	7.46	6.89
CF1	2½ x 5⅝	17.97	14.98	8.57	7.79	7.19
CF2	2½ x 5⅝	24.36	20.30	11.61	10.56	9.74
CF3	2½ x 5⅝	23.13	19.28	11.03	10.02	9.25
DF1	3 x 5⅝	26.13	21.78	12.46	11.32	10.45
DF2	3 x 5⅝	32.94	27.45	15.70	14.27	13.18
DF3	3 x 5⅝	33.15	27.63	15.80	14.37	13.26
DJ1	3 x 8⅝	43.14	35.95	20.56	18.69	17.26
DJ2	3 x 8⅝	56.88	47.40	27.11	24.65	22.75
DJ3	3 x 8⅝	52.05	43.38	24.81	22.56	20.82

WE CARRY MOST MAJOR BRANDS. IF YOU CAN'T FIND WHAT

YOU WANT, CALL OR WRITE US FOR INFORMATION.

SPRAGUE Electrolytic Capacitors

TYPE 39D POWERLYTIC® TUBULAR ELECTROLYTIC CAPACITORS

Type 39D electrolytics supplement the original type 36D Powerlytics by offering lower capacitance values in a small case size. Ideal for applications requiring the greatest possible capacitance for a given compact case, such as transistorized apparatus. All have end seals of an improved molded phenolic, an outer insulation of flexible plastic, and a pressure-sensitive safety vent. Welds at all critical anode and cathode terminals eliminate riveted or pressure connections, assuring freedom from open circuits even during operation in the microvolt or millivolt signal range. Operating temperature, up to +85° C.

Sprague Number	Cap., μF	WV DC	Size *	Net Each, Lots of			
				1-24	25-49	50-99	100-499
39D407G003EE4	400	3	A	$1.80	$0.90	$0.79	$0.59
39D907G003EJ4	900	3	B	1.88	.94	.83	.62
39D138G003EL4	1,300	3	C	1.94	.97	.85	.63
39D148G003GE4	1,400	3	G	2.00	1.00	.88	.65
39D188G003FJ4	1,800	3	D	2.00	1.00	.88	.65
39D218G003HE4	2,100	3	K	2.14	1.07	.94	.70
39D278G003FL4	2,700	3	E	2.12	1.06	.93	.69
39D298G003GJ4	2,900	3	H	2.16	1.08	.95	.71
39D308G003JE4	3,000	3	P	2.30	1.15	1.01	.75
39D368G003FP4	3,600	3	F	2.22	1.11	.98	.73
39D428G003HJ4	4,200	3	L	2.34	1.17	1.03	.76
39D438G003GL4	4,300	3	I	2.30	1.15	1.01	.75
39D578G003GP4	5,700	3	J	2.46	1.23	1.08	.80
39D608G003JJ4	6,000	3	Q	2.58	1.29	1.13	.84
39D858G003HP4	8,500	3	N	2.78	1.39	1.22	.91
39D908G003JL4	9,000	3	R	2.86	1.43	1.26	.93
39D109G003HS4	10,000	3	O	3.00	1.50	1.32	.98
39D129G003JP4	12,000	3	S	3.10	1.55	1.36	1.01
39D159G003JS4	15,000	3	T	3.40	1.70	1.49	1.11
39D189G003JT4	18,000	3	U	3.70	1.85	1.62	1.21
99D307G006EE4	300	6	A	1.80	.90	.79	.59
39D607G006EJ4	600	6	B	1.88	.94	.83	.62
39D907G006EL4	900	6	C	1.94	.97	.85	.63
39D108G006GE4	1,000	6	G	2.00	1.00	.88	.65
39D128G006FJ4	1,200	6	D	2.00	1.00	.88	.65
39D158G006HE4	1,500	6	K	2.14	1.07	.94	.70
39D198G006FL4	1,900	6	E	2.12	1.06	.93	.69
39D208G006GJ4	2,000	6	H	2.16	1.08	.95	.71
39D218G006JE4	2,100	6	P	2.30	1.15	1.01	.75
39D258G006FP4	2,500	6	F	2.22	1.11	.98	.73
39D308G006GL4	3,000	6	I	2.30	1.15	1.01	.75
39D408G006GP4	4,000	6	J	2.46	1.23	1.08	.80
39D428G006JJ4	4,200	6	Q	2.58	1.29	1.13	.84
39D608G006HP4	6,000	6	N	2.78	1.39	1.22	.91
39D638G006JL4	6,300	6	R	2.86	1.43	1.26	.93
39D758G006HS4	7,500	6	O	3.00	1.50	1.32	.98
39D858G006JP4	8,500	6	S	3.10	1.55	1.36	1.01
39D109G006JS4	10,000	6	T	3.40	1.70	1.49	1.11
39D129G006JT4	12,000	6	U	3.70	1.85	1.62	1.21
39D257G010EE4	250	10	A	1.80	.90	.79	.59
39D507G010EJ4	500	10	B	1.88	.94	.83	.62
39D807G010EL4	800	10	C	1.94	.97	.85	.63
39D857G010GE4	850	10	G	2.00	1.00	.88	.65
39D108G010FJ4	1,000	10	D	2.00	1.00	.88	.65
39D128G010HE4	1,200	10	K	2.14	1.07	.94	.70
39D168G010FL4	1,600	10	E	2.12	1.06	.93	.69
39D178G010GJ4	1,700	10	H	2.16	1.08	.95	.71
39D218G010FP4	2,100	10	F	2.22	1.11	.98	.73
39D258G010GL4	2,500	10	I	2.30	1.15	1.01	.75
39D348G010GP4	3,400	10	J	2.46	1.23	1.08	.80
39D358G010JJ4	3,500	10	Q	2.58	1.29	1.13	.84
39D508G010HP4	5,000	10	N	2.78	1.39	1.22	.91
39D528G010JL4	5,200	10	R	2.86	1.43	1.26	.93
39D638G010HS4	6,300	10	O	3.00	1.50	1.32	.98
39D718G010JP4	7,100	10	S	3.10	1.55	1.36	1.01
39D888G010JS4	8,800	10	T	3.40	1.70	1.49	1.11
39D109G010JT4	10,000	10	U	3.70	1.85	1.62	1.21
39D207G015EE4	200	15	A	1.80	.90	.79	.59
39D407G015EJ4	400	15	B	1.88	.94	.83	.62
39D607G015EL4	600	15	C	1.94	.97	.85	.63
39D807G015FJ4	800	15	D	2.00	1.00	.88	.65
39D957G015HE4	950	15	K	2.14	1.07	.94	.70
39D128G015FL4	1,200	15	E	2.12	1.06	.93	.69
39D138G015GJ4	1,300	15	H	2.16	1.08	.95	.71
39D168G015FP4	1,600	15	F	2.22	1.11	.98	.73
39D198G015GL4	1,900	15	I	2.30	1.15	1.01	.75
39D258G015GP4	2,500	15	J	2.46	1.23	1.08	.80
39D268G015JJ4	2,600	15	Q	2.58	1.29	1.13	.84
39D388G015HP4	3,800	15	N	2.78	1.39	1.22	.91
39D408G015JL4	4,000	15	R	2.86	1.43	1.26	.93
39D478G015HS4	4,700	15	O	3.00	1.50	1.32	.98
39D538G015JP4	5,300	15	S	3.10	1.55	1.36	1.01
39D668G015JS4	6,600	15	T	3.40	1.70	1.49	1.11
39D808G015JT4	8,000	15	U	3.70	1.85	1.62	1.21
39D107G025EE4	100	25	A	1.80	.90	.79	.59
39D207G025EJ4	200	25	B	1.88	.94	.83	.62
39D357G025EL4	350	25	C	1.94	.97	.85	.63
39D457G025FJ4	450	25	D	2.00	1.00	.88	.65
39D507G025HE4	500	25	K	2.14	1.07	.94	.70
39D707G025FL4	700	25	E	2.12	1.06	.93	.69
39D757G025GJ4	750	25	H	2.16	1.08	.95	.71
39D807G025JE4	800	25	P	2.30	1.15	1.01	.75
39D957G025FP4	950	25	F	2.22	1.11	.98	.73
39D108G025GL4	1,000	25	I	2.30	1.15	1.01	.75
39D118G025HJ4	1,100	25	L	2.34	1.17	1.03	.76
39D158G025GP4	1,500	25	J	2.46	1.23	1.08	.80
39D168G025JJ4	1,600	25	Q	2.58	1.29	1.13	.84
39D178G025HL4	1,700	25	M	2.56	1.28	1.12	.84
39D228G025HP4	2,200	25	N	2.78	1.39	1.22	.91
39D248G025JL4	2,400	25	R	2.86	1.43	1.26	.93
39D288G025HS4	2,800	25	O	3.00	1.50	1.32	.98
39D328G025JP4	3,200	25	S	3.10	1.55	1.36	1.01
39D408G025JS4	4,000	25	T	3.40	1.70	1.49	1.11
39D478G025JT4	4,700	25	U	3.70	1.85	1.62	1.21
39D756G030EE4	75	30	A	1.80	.90	.79	.59
39D157G030EJ4	150	30	B	1.88	.94	.83	.62
39D257G030EL4	250	30	C	$1.94	$0.97	$0.85	$0.63
39D357G030FJ4	350	30	D	2.00	1.00	.88	.65
39D407G030HE4	400	30	K	2.14	1.07	.94	.70
39D507G030FL4	500	30	E	2.12	1.06	.93	.69
39D607G030JE4	600	30	P	2.30	1.15	1.01	.75
39D707G030FP4	700	30	F	2.22	1.11	.98	.73
39D857G030GL4	850	30	I	2.30	1.15	1.01	.75
39D118G030GP4	1,100	30	J	2.46	1.23	1.08	.80
39D128G030HL4	1,200	30	M	2.56	1.28	1.12	.84
39D178G030HP4	1,700	30	N	2.78	1.39	1.22	.91
39D188G030JL4	1,800	30	R	2.86	1.43	1.26	.93
39D218G030HS4	2,100	30	O	3.00	1.50	1.32	.98
39D248G030JP4	2,400	30	S	3.10	1.55	1.36	1.01
39D308G030JS4	3,000	30	T	3.40	1.70	1.49	1.11
39D368G030JT4	3,600	30	U	3.70	1.85	1.62	1.21
39D756G040EE4	75	40	A	1.80	.90	.79	.59
39D157G040EJ4	150	40	B	1.88	.94	.83	.62
39D157G040EL4	200	40	C	1.94	.97	.85	.63
39D257G040GE4	250	40	G	2.00	1.00	.88	.65
39D307G040FJ4	300	40	D	2.00	1.00	.88	.65
39D357G040HE4	350	40	K	2.14	1.07	.94	.70
39D457G040FL4	450	40	E	2.12	1.06	.93	.69
39D507G040GJ4	500	40	H	2.16	1.08	.95	.71
39D607G040FP4	600	40	F	2.22	1.11	.98	.73
39D757G040GL4	750	40	I	2.30	1.15	1.01	.75
39D108G040GP4	1,000	40	J	2.46	1.23	1.08	.80
39D118G040HL4	1,100	40	M	2.56	1.28	1.12	.84
39D158G040HP4	1,600	40	N	2.78	1.39	1.22	.91
39D168G040JL4	1,600	40	R	2.86	1.43	1.26	.93
39D198G040HS4	1,900	40	O	3.00	1.50	1.32	.98
39D218G040JP4	2,100	40	S	3.10	1.55	1.36	1.01
39D268G040JS4	2,600	40	T	3.40	1.70	1.49	1.11
39D328G040JT4	3,200	40	U	3.70	1.85	1.62	1.21
39D506G050EE4	50	50	A	1.80	.90	.79	.59
39D107G050EJ4	100	50	B	1.88	.94	.83	.62
39D157G050EL4	150	50	C	1.94	.97	.85	.63
39D207G050FJ4	200	50	D	2.00	1.00	.88	.65
39D257G050HE4	250	50	K	2.14	1.07	.94	.70
39D357G050FL4	350	50	E	2.12	1.06	.93	.69
39D457G050FP4	450	50	F	2.22	1.11	.98	.73
39D507G050GL4	500	50	I	2.30	1.15	1.01	.75
39D707G050GP4	700	50	J	2.46	1.23	1.08	.80
39D757G050JJ4	750	50	Q	2.58	1.29	1.13	.84
39D807G050HL4	800	50	M	2.56	1.28	1.12	.84
39D118G050HP4	1,100	50	N	2.78	1.39	1.22	.91
39D138G050HS4	1,300	50	O	3.00	1.50	1.32	.98
39D158G050JP4	1,500	50	S	3.10	1.55	1.36	1.01
39D198G050JS4	1,900	50	T	3.40	1.70	1.49	1.11
39D238G050JT4	2,300	50	U	3.70	1.85	1.62	.121
39D306G075EE4	30	75	A	1.80	.90	.79	.59
39D756G075EJ4	75	75	B	1.88	.94	.83	.62
39D107G075EL4	100	75	C	1.94	.97	.85	.63
39D157G075FJ4	150	75	D	2.00	1.00	.88	.65
39D207G075FL4	200	75	E	2.12	1.06	.93	.69
39D257G075JE4	250	75	P	2.30	1.15	1.01	.75
39D307G075FP4	300	75	F	2.22	1.11	.98	.73
39D357G075GL4	350	75	I	2.30	1.15	1.01	.75
39D457G075GP4	450	75	J	2.46	1.23	1.08	.80
39D507G075HL4	500	75	M	2.56	1.28	1.12	.84
39D707G075HP4	700	75	N	2.78	1.39	1.22	.91
39D757G075JL4	750	75	R	2.86	1.43	1.26	.93
39D857G075HS4	850	75	O	3.00	1.50	.132	.98
39D108G075JP4	1,000	75	S	3.10	1.55	1.36	1.01
39D128G075JS4	1,200	75	T	3.40	1.70	1.49	1.11
39D158G075JT4	1,500	75	U	3.70	1.85	1.62	1.21
39D156F100EE4	15	100	A	1.80	.90	.79	.59
39D356F100EJ4	35	100	B	1.88	.94	.83	.62
39D556F100EL4	55	100	C	1.94	.97	.85	.63
39D606F100GE4	60	100	G	2.00	1.00	.88	.65
39D756F100FJ4	75	100	D	2.00	1.00	.88	.65
39D906F100HE4	90	100	K	2.14	1.07	.94	.70
39D117F100FL4	110	100	E	2.12	1.06	.93	.69
39D127F100GJ4	120	100	H	2.16	1.08	.95	.71
39D137F100JE4	130	100	P	2.30	1.15	1.01	.75
39D157F100FP4	150	100	F	2.22	1.11	.98	.73
39D187F100HJ4	180	100	L	2.34	1.17	1.03	.76
39D197F100GL4	190	100	I	2.30	1.15	1.01	.75
39D257F100GP4	250	100	J	2.46	1.23	1.08	.80
39D267F100JJ4	260	100	Q	2.58	1.29	1.13	.84
39D287F100HL4	280	100	M	2.56	1.28	1.12	.84
39D377F100HP4	370	100	N	2.78	1.39	1.22	.91
39D397F100JL4	390	100	R	2.86	1.43	1.26	.93
39D467F100HS4	460	100	O	3.00	1.50	1.32	.98
39D527F100JP4	520	100	S	3.10	1.55	1.36	1.01
39D657F100JS4	650	100	T	3.40	1.70	1.49	1.11
39D787F100JT4	780	100	U	3.70	1.85	1.62	1.21
39D106F150EE4	10	150	A	1.80	.90	.79	.59
39D256F150EJ4	25	150	B	1.88	.94	.83	.62
39D406F150EL4	40	150	C	1.94	.97	.85	.63
39D506F150FJ4	50	150	D	2.00	1.00	.88	.65
39D606F150HE4	60	150	K	2.14	1.07	.94	.70
39D806F150FL4	80	150	E	2.12	1.06	.93	.69
39D856F150GJ4	85	150	H	2.16	1.08	.95	.71
39D886F150JE4	88	150	P	2.30	1.15	1.01	.75
39D107F150FP4	100	150	F	2.22	1.11	.98	.73
39D127F150GL4	120	150	I	2.30	1.15	1.01	.75

TYPE 39D CONTINUED ON THE FOLLOWING PAGE

TYPE 39D POWERLYTIC® TUBULAR ELECTROLYTIC CAPACITORS (CONT'D)

Sprague Number	Cap., µF	WV DC	Size *	Net Each, Lots of 1-24	25-49	50-99	100-499
39D267F150JL4	260	150	R	$2.86	$1.43	$1.26	$0.93
39D317F150HS4	310	150	O	3.00	1.50	1.32	.98
39D357F150JP4	350	150	S	3.10	1.55	1.36	1.01
39D447F150JS4	440	150	T	3.40	1.70	1.49	1.11
39D537F150JT4	530	150	U	3.70	1.85	1.62	1.21
39D905F200EE4	9	200	A	1.80	.90	.79	.59
39D156F200EJ4	15	200	B	1.88	.94	.83	.62
39D256F200EL4	25	200	C	1.94	.97	.85	.63
39D306F200GE4	30	200	G	2.00	1.00	.88	.65
39D356F200FJ4	35	200	D	2.00	1.00	.88	.65
39D406F200HE4	40	200	K	2.14	1.07	.94	.70
39D556F200FL4	55	200	E	2.12	1.06	.93	.69
39D606F200GJ4	60	200	H	2.16	1.08	.95	.71
39D756F200FP4	75	200	F	2.22	1.11	.98	.73
39D806F200HJ4	80	200	L	2.34	1.17	1.03	.76
39D906F200GL4	90	200	I	2.30	1.15	1.01	.75
39D127F200GP4	120	200	J	2.46	1.23	1.08	.80
39D137F200HL4	130	200	M	2.46	1.23	1.08	.80
39D177F200HP4	170	200	N	2.78	1.39	1.22	.91
39D187F200JL4	180	200	R	2.86	1.43	1.26	.93
39D227F200HS4	220	200	O	3.00	1.50	1.32	.98
39D257F200JP4	250	200	S	3.10	1.55	1.36	1.01
39D317F200JS4	310	200	T	3.40	1.70	1.49	1.11
39D377F200JT4	370	200	U	3.70	1.85	1.62	1.21
39D705F250EE4	7	250	A	1.80	.90	.79	.59
39D156F250EJ4	15	250	B	1.88	.94	.83	.62
39D206F250EL4	20	250	C	1.94	.97	.85	.63
39D306F250FJ4	30	250	D	2.00	1.00	.88	.65
39D356F250HE4	35	250	K	2.14	1.07	.94	.70
39D456F250FL4	45	250	E	2.12	1.06	.93	.69
39D506F250JE4	50	250	P	2.30	1.15	1.01	.75
39D606F250FP4	60	250	F	2.22	1.11	.98	.73
39D706F250GL4	70	250	I	2.30	1.15	1.01	.75
39D956F250GP4	95	250	J	2.46	1.23	1.08	.80
39D107F250HL4	100	250	M	2.56	1.28	1.12	.84
39D147F250HP4	140	250	N	2.78	1.39	1.22	.91
39D157F250JL4	150	250	R	2.86	1.43	1.26	.93
39D187F250HS4	180	250	O	3.00	1.50	1.32	.98
39D207F250JP4	200	250	S	3.10	1.55	1.36	1.01
39D257F250JS4	250	250	T	3.40	1.70	1.49	1.11
39D307F250JT4	300	250	U	3.70	1.85	1.62	1.21
39D505F300EE4	5	300	A	1.80	.90	.79	.59
39D106F300EJ4	10	300	B	1.88	.94	.83	.62
39D156F300EL4	15	300	C	1.94	.97	.85	.63
39D206F300FJ4	20	300	D	2.00	1.00	.88	.65
39D256F300HE4	25	300	K	2.14	1.07	.94	.70
39D306F300FL4	30	300	E	2.12	1.06	0.93	0.69
39D127F300HS4	120	300	O	3.00	1.50	1.32	.98
39D137F300JP4	130	300	S	3.10	1.55	1.36	1.01
39D117F300JS4	170	300	T	$3.40	$1.70	$1.49	$1.11
39D207F300JT4	200	300	U	3.70	1.85	1.62	1.21
39D405F350EE4	4	350	A	1.80	.90	.79	.59
39D805F350EJ4	8	350	B	1.88	.94	.83	.62
39D126F350EL4	12	350	C	1.94	.97	.85	.63
39D156F350FJ4	15	350	D	2.00	1.00	.88	.65
39D206F350FL4	20	350	E	2.12	1.06	.93	.69
39D256F350GJ4	25	350	H	2.16	1.08	.95	.71
39D306F350FP4	30	350	F	2.22	1.11	.98	.73
39D406F350GL4	40	350	I	2.30	1.15	1.01	.75
39D506F350GP4	50	350	J	2.30	1.15	1.01	.75
39D606F350HL4	60	350	M	2.56	1.28	1.12	.84
39D806F350HP4	80	350	N	2.78	1.39	1.22	.91
39D107F350HS4	100	350	O	3.00	1.50	1.32	.98
39D117F350JP4	110	350	S	3.10	1.55	1.36	1.01
39D137F350JS4	130	350	T	3.40	1.70	1.49	1.11
39D167F350JT4	160	350	U	3.70	1.85	1.62	1.21
39D205F400EE4	2	400	A	1.80	.90	.79	.59
39D505F400EJ4	5	400	B	1.88	.94	.83	.62
39D106F400FJ4	10	400	D	2.00	1.00	.88	.65
39D156F400FL4	15	400	E	2.12	1.06	.93	.69
39D206F400FP4	20	400	F	2.22	1.11	.98	.73
39D256F400GL4	25	400	I	2.30	1.15	1.01	.75
39D356F400GP4	35	400	J	2.46	1.23	1.08	.80
39D406F400HL4	40	400	M	2.56	1.28	1.12	.84
39D556F400HP4	55	400	N	2.78	1.39	1.22	.91
39D656F400HS4	65	400	O	3.00	1.50	1.32	.98
39D756F400JP4	75	400	S	3.10	1.55	1.36	1.01
39D906F400JS4	90	400	T	3.40	1.70	1.49	1.11
39D117F400JT4	110	400	U	3.70	1.85	1.62	1.21
39D105F450EE4	1	450	A	1.80	.90	.79	.59
39D305F450EJ4	3	450	B	1.88	.94	.83	.62
39D505F450EL4	5	450	C	1.94	.97	.85	.63
39D106F450FL4	10	450	E	2.12	1.06	.93	.69
39D156F450FP4	15	450	F	2.22	1.11	.98	.73
39D206F450GL4	20	450	I	2.30	1.15	1.01	.75
39D256F450GP4	25	450	J	2.46	1.23	1.08	.80
39D356F450HP4	35	450	N	2.78	1.39	1.22	.91
39D456F450HS4	45	450	O	3.00	1.50	1.32	.98
39D506F450JP4	50	450	S	3.10	1.55	1.36	1.01
39D656F450JS4	65	450	T	3.40	1.70	1.49	1.11
39D756F450JT4	75	450	U	3.70	1.85	1.62	1.21

*SIZE

Size in inches (dia. x lg.): **A,** 9/16 x 1¼; **B,** 9/16 x 1¾; **C,** 9/16 x 2¼; **D,** 11/16 x 1¾; **E,** 11/16 x 2¼; **F,** 11/16 x 2¾; **G,** 13/16 x 1¼; **H,** 13/16 x 1¾; **I,** 13/16 x 2¼; **J,** 13/16 x 2¾; **K,** 15/16 x 1¼; **L,** 15/16 x 1¾; **M,** 15/16 x 2¼; **N,** 15/16 x 2¾; **O,** 15/16 x 3¼; **P,** 1 1/16 x 1¼; **Q,** 1 1/16 x 1¾; **R,** 1 1/16 x 2¼; **S,** 1 1/16 x 2¾; **T,** 1 1/16 x 3¼; **U,** 1 1/16 x 3¾.

TYPE 225P FILMITE® "E" ORANGE DROP CAPACITORS

Designed for PC board use with radial leads. Similar in appearance to PS Series, above. Used in TV sets, radios and commercial equipment. Sections are wound from polyester film and thin gauge foil; wax-free conformal epoxy coating protects against moisture. For operation up to 85° C. Tolerance, ±10%.

100 VDC

Sprague No. 225P-	µF	Net Each, Lots of 1-24	25 Up	50-99	100-249*
10291WD3	.001	$0.27	$0.169	$0.131	$0.105
12291WD3	.0012	.27	.169	.131	.105
15291WD3	.0015	.27	.169	.131	.105
18291WD3	.0018	.27	.169	.131	.105
22291WD3	.0022	.27	.169	.131	.105
27291WD3	.0027	.27	.169	.131	.105
33291WD3	.0033	.27	.169	.131	.105
39291WD3	.0039	.27	.169	.131	.105
47291WD3	.0047	.27	.169	.131	.105
56291WD3	.0056	.27	.169	.131	.105
68291WD3	.0068	.27	.169	.131	.105
82291WD3	.0082	.27	.169	.131	.105
10391WD3	.01	.27	.169	.131	.105
12391WD3	.012	.27	.169	.131	.105
15391WD3	.015	.27	.169	.131	.105
18391WD3	.018	.27	.169	.131	.105
22391WD3	.022	.27	.169	.131	.105
27391WD3	.027	.27	.169	.131	.105
33391WD3	.033	.27	.169	.131	.105
39391WD3	.039	.33	.189	.147	.118
47391WD3	.047	.33	.189	.147	.118
56391WD3	.056	.33	.189	.147	.118
68391WD3	.068	.33	.189	.147	.118
82391WD3	.082	.33	.189	.147	.118
10491WD3	.1	.33	.189	.147	.118
12491XD3	.12	.45	.272	.212	.169
15491XD3	.15	.45	.272	.212	.169

100 VDC (CONT'D)

Sprague No. 225P-	µF	Net Each, Lots of 1-24	25 Up	50-99	100-249*
18491XD3	.18	$0.51	$0.317	$0.247	$0.197
22491XD3	.22	.51	.317	.247	.197
27491XD3	.27	.63	.385	.299	.239
33491XD3	.33	.63	.385	.299	.239
39491XD3	.39	.99	.614	.478	.382
47491XD3	.47	.99	.614	.478	.382
56491YD3	.56	1.14	.695	.541	.433
68491YD3	.68	1.14	.695	.541	.433
82491YD3	.82	1.41	.864	.672	.538
10591YD3	1.0	1.41	.864	.672	.538

200 VDC

Sprague No. 225P-	µF	Net Each, Lots of 1-24	25 Up	50-99	100-249*
10292XD3	.001	$0.33	$0.196	$0.152	$0.122
15292XD3	.0015	.33	.196	.152	.122
22292XD3	.0022	.33	.196	.152	.122
33292XD3	.0033	.33	.196	.152	.122
47292XD3	.0047	.33	.196	.152	.122
68292XD3	.0068	.33	.196	.152	.122
10392XD3	.01	.33	.196	.152	.122
15392XD3	.015	.36	.218	.170	.136
22392XD3	.022	.36	.218	.170	.136
33392XD3	.033	.42	.252	.196	.157
47392XD3	.047	.42	.252	.196	.157

200 VDC (CONT'D)

Sprague No. 225P-	µF	Net Each, Lots of 1-24	25 Up	50-99	100-249*
68392XD3	.068	$0.42	$0.252	$0.196	$0.157
10492XD3	.1	.42	.252	.196	.157
15492XD3	.15	.45	.272	.212	.169
22492XD3	.22	.51	.317	.247	.197
33492YD3	.33	.63	.385	.299	.239
47492YD3	.47	.99	.614	.478	.382
68492YD3	.68	1.41	.864	.672	.538

400 VDC

10294XD3	.001	$.33	$ .196	$ .152	$ .122
15294XD3	.0015	.33	.196	.152	.122
22294XD3	.0022	.33	.196	.152	.122
33294XD3	.0033	.33	.196	.152	.122
47294XD3	.0047	.33	.196	.152	.122
68294XD3	.0068	.33	.196	.152	.122
10394XD3	.01	.33	.196	.152	.122
15394XD3	.015	.36	.218	.17	.136
22394XD3	.022	.36	.218	.17	.136
33394XD3	.033	.42	.252	.196	.157
47394XD3	.047	.42	.252	.196	.157
68394XD3	.068	.45	.272	.212	.169
10494XD3	.1	.51	.317	.247	.197
15494YD3	.15	.63	.385	.299	.239
22494YD3	.22	.99	.614	.478	.382
33494YD3	.33	1.41	.864	.672	.538
47494YD3	.47	2.70	1.676	1.304	1.043

*When ordering, include final suffix **XD3** (e.g., 225P1249R75**XD3**). *1–24, 25 Up supplied in Kleer-Pak; all others, bulk-pack. Write for 250 Up bulk-pack prices.

SPRAGUE Electrolytic Capacitors

TYPE 601D EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

Supplement Type 600D Extralytic capacitors with larger case sizes and higher capacitance values. Unique new electrolyte, high-gain etched foil, and improved oxide system for long life with superior electrical characteristics. Designed to operate at a temperature range of −55° C to +85° C. Pressure-sensitive safety vent. Tolerance: −10, +75% thru 50 WVDC; −10, +50%, 75 WVDC up.

SPRAGUE
TYPE 601D

5 WVDC; 7 V SURGE

Sprague Number	Cap., μF	Size *
601D757G005FE4	750	A
601D128G005GE4	1200	G
601D158G005FJ4	1500	B
601D178G005HE4	1700	M
601D238G005FL4	2300	C
601D248G005GJ4	2400	H
601D278G005FP4	2700	D
601D358G005FS4	3500	E
601D368G005GL4	3600	I
601D428G005FT4	4200	F
601D438G005GP4	4300	J
601D478G005JJ4	4700	T
601D528G005HL4	5200	O
601D558G005GS4	5500	K
601D618G005HP4	6100	P
601D678G005GT4	6700	L
601D718G005JL4	7100	U
601D798G005HS4	7900	Q
601D838G005JP4	8300	V
601D968G005HT4	9600	R
601D109G005JS4	10000	W
601D139G005JT4	13000	X

7.5 WVDC; 10 V SURGE

601D657G7R5FE4	650	A
601D108G7R5GE4	1000	G
601D138G7R5FJ4	1300	B
601D148G7R5HE4	1400	M
601D198G7R5FL4	1900	C
601D208G7R5GJ4	2000	H
601D228G7R5FP4	2200	D
601D298G7R5FS4	2900	E
601D308G7R5GL4	3000	I
601D358G7R5FT4	3500	F
601D368G7R5GP4	3600	J
601D408G7R5JJ4	4000	T
601D448G7R5HL4	4400	O
601D468G7R5GS4	4600	K
601D518G7R5HP4	5100	P
601D568G7R5GT4	5600	L
601D608G7R5JL4	6000	U
601D668G7R5HS4	6600	Q
601D708G7R5JP4	7000	V
601D818G7R5HT4	8100	R
601D908G7R5JS4	9000	W
601D119G7R5JT4	11000	X

10 WVDC; 15 V SURGE

601D547G010FE4	540	A
601D857G010GE4	850	G
601D108G010FJ4	1000	B
601D128G010HE4	1200	M
601D168G010FL4	1600	C
601D178G010GJ4	1700	H
601D188G010FP4	1800	D
601D248G010FS4	2400	E
601D258G010GL4	2500	I
601D298G010FT4	2900	F
601D308G010GP4	3000	J
601D338G010JJ4	3300	T
601D368G010HL4	3600	O
601D388G010GS4	3800	K
601D428G010HP4	4200	P
601D478G010GT4	4700	L
601D508G010JL4	5000	U
601D558G010HS4	5500	Q
601D588G010JP4	5800	V
601D678G010HT4	6700	R
601D758G010JS4	7500	W
601D918G010JT4	9100	X

15 WVDC; 20 V SURGE

Sprague Number	Cap., μF	Size *
601D407G015FE4	400	A
601D657G015GE4	650	G
601D807G015FJ4	800	B
601D937G015HE4	930	M
601D128G015FL4	1200	C
601D138G015GJ4	1300	H
601D148G015FP4	1400	D
601D188G015FS4	1800	E
601D198G015GL4	1900	I
601D228G015FT4	2200	F
601D258G015JJ4	2500	T
601D278G015HL4	2700	O
601D298G015GS4	2900	K
601D328G015HP4	3200	P
601D358G015GT4	3500	L
601D388G015JL4	3800	U
601D428G015HS4	4200	Q
601D448G015JP4	4400	V
601D518G015HT4	5100	R
601D578G015JS4	5700	W
601D698G015JT4	6900	X

20 WVDC; 30 V SURGE

601D297G020FE4	290	A
601D467G020GE4	460	G
601D587G020FJ4	580	B
601D667G020HE4	660	M
601D907G020GJ4	900	H
601D108G020FP4	1000	D
601D138G020FS4	1300	E
601D168G020FT4	1600	F
601D188G020JJ4	1800	T
601D198G020HL4	1900	O
601D208G020GS4	2000	K
601D238G020HP4	2300	P
601D258G020GT4	2500	L
601D278G020JL4	2700	U
601D298G020HS4	2900	Q
601D318G020JP4	3100	V
601D368G020HT4	3600	R
601D408G020JS4	4000	W
601D498G020JT4	4900	X

25 WVDC; 40 V SURGE

601D227G025FE4	220	A
601D357G025GE4	350	G
601D447G025FJ4	440	B
601D507G025HE4	500	M
601D667G025FL4	660	C
601D687G025JE4	680	S
601D707G025GJ4	700	H
601D777G025FP4	770	D
601D997G025FS4	990	E
601D108G025GL4	1000	I
601D128G025FT4	1200	F
601D138G025JJ4	1300	T
601D158G025GS4	1500	K
601D178G025HP4	1700	P
601D198G025GT4	1900	L
601D208G025JL4	2000	U
601D228G025HS4	2200	Q
601D238G025JP4	2300	V
601D278G025HT4	2700	R
601D308G025JS4	3000	W
601D378G025JT4	3700	X

30 WVDC; 45 V SURGE

Sprague Number	Cap., μF	Size *
601D197G030FE4	190	A
601D317G030GE4	310	G
601D397G030FJ4	390	B
601D447G030HE4	440	M
601D587G030FL4	580	C
601D607G030JE4	600	S
601D627G030GJ4	620	H
601D687G030FP4	680	D
601D877G030FS4	870	E
601D887G030HJ4	880	N
601D937G030GL4	930	I
601D108G030FT4	1000	F
601D128G030JJ4	1200	T
601D148G030GS4	1400	K
601D158G030HP4	1500	P
601D178G030GT4	1700	L
601D188G030JL4	1800	U
601D208G030HS4	2000	Q
601D218G030JP4	2100	V
601D248G030HT4	2400	R
601D278G030JS4	2700	W
601D338G030JT4	3300	X

40 WVDC; 60 V SURGE

601D147G040FE4	140	A
601D227G040GE4	220	G
601D277G040FJ4	270	B
601D307G040HE4	300	M
601D407G040FL4	400	C
601D437G040JE4	430	S
601D447G040GJ4	440	H
601D487G040FP4	480	D
601D627G040FS4	620	E
601D637G040HJ4	630	N
601D667G040GL4	660	I
601D767G040FT4	760	F
601D777G040GP4	770	J
601D867G040JJ4	860	T
601D957G040HL4	950	O
601D108G040GS4	1000	K
601D118G040HP4	1100	P
601D128G040GT4	1200	L
601D148G040HS4	1400	Q
601D158G040JP4	1500	V
601D178G040HT4	1700	R
601D198G040JS4	1900	W
601D238G040JT4	2300	X

50 WVDC; 75 V SURGE

601D117G050FE4	110	A
601D177G050GE4	170	G
601D227G050FJ4	220	B
601D257G050HE4	250	M
601D337G050FL4	330	C
601D347G050JE4	340	S
601D357G050GJ4	350	H
601D387G050FP4	380	D
601D507G050FS4	500	E
601D607G050FT4	600	F
601D687G050JJ4	680	T
601D757G050HL4	750	O
601D797G050GS4	790	K
601D877G050HP4	870	P
601D957G050GT4	950	L
601D108G050JL4	1000	U
601D118G050HS4	1100	Q
601D158G050JS4	1500	W
601D188G050JT4	1800	X

75 WVDC; 100 V SURGE

Sprague Number	Cap., μF	Size *
601D456F075FE4	45	A
601D756F075GE4	75	G
601D956F075FJ4	95	B
601D107F075HE4	100	M
601D147F075FL4	140	C
601D157F075GJ4	150	H
601D167F075FP4	160	D
601D217F075FS4	210	E
601D227F075GL4	220	I
601D267F075FT4	260	F
601D297F075JJ4	290	T
601D327F075HL4	320	O
601D347F075GS4	340	K
601D387F075HP4	380	P
601D407F075GT4	400	L
601D447F075JL4	440	U
601D497F075HS4	490	Q
601D507F075JP4	500	V
601D607F075HT4	600	R
601D667F075JS4	660	W
601D807F075JT4	800	X

100 WVDC; 150 V SURGE

601D256F100FE4	25	A
601D456F100GE4	45	G
601D556F100FJ4	55	B
601D656F100HE4	65	M
601D806F100FL4	80	C
601D906F100GJ4	90	H
601D956F100FP4	95	D
601D127F100FS4	120	E
601D137F100GL4	130	I
601D157F100FT4	150	F
601D187F100JJ4	180	T
601D207F100GS4	200	K
601D237F100HP4	230	P
601D257F100GT4	250	L
601D287F100JL4	280	U
601D307F100HS4	300	Q
601D327F100JP4	320	V
601D377F100HT4	370	R
601D427F100JS4	420	W
601D507F100JT4	500	X

150 WVDC; 200 V SURGE

601D186F150FE4	18	A
601D306F150GE4	30	G
601D356F150FJ4	35	B
601D456F150HE4	45	M
601D556F150FL4	55	C
601D606F150GJ4	60	H
601D656F150FP4	65	D
601D856F150FS4	85	E
601D906F150HJ4	90	N
601D956F150GL4	95	I
601D107F150FT4	100	F
601D137F150JJ4	130	T
601D147F150GS4	140	K
601D167F150HP4	160	P
601D177F150GT4	170	L
601D197F150JL4	190	U
601D217F150HS4	210	Q
601D237F150JP4	230	V
601D267F150HT4	260	R
601D297F150JS4	290	W
601D367F150JT4	360	X

200 WVDC; 250 V SURGE

601D166F200FE4	16	A
601D256F200GE4	25	G
601D306F200FJ4	30	B
601D356F200HE4	35	M
601D456F200FL4	45	C
601D506F200GJ4	50	H
601D556F200FP4	55	D
601D706F200FS4	70	E
601D756F200GL4	75	I
601D856F200FT4	85	F
601D906F200GP4	90	J
601D107F200GS4	100	K
601D117F200HL4	110	O
601D137F200HP4	130	P
601D147F200GT4	140	L
601D167F200JL4	160	U
601D177F200HS4	170	Q
601D187F200JP4	180	V
601D217F200HT4	210	R
601D247F200JS4	240	W
601D297F200JT4	290	X

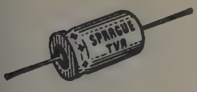
TYPE 601D OEM INDUSTRIAL PRICING

Prices shown are for sleeved units as listed in tables, above.

*	Net Each, Lots of					*	Net Each, Lots of				
Size	1-24	25-49	50-99	100-499	500-999	Size	1-24	25-49	50-99	100-499	500-999
A	$3.48	$1.74	$1.53	$1.14	$1.09	M	$3.96	$1.98	$1.74	$1.29	$1.24
B	3.70	1.85	1.62	1.21	1.16	N	4.36	2.18	1.91	1.42	1.37
C	3.88	1.94	1.70	1.27	1.22	O	4.72	2.36	2.07	1.54	1.48
D	4.06	2.03	1.78	1.32	1.27	P	5.16	2.58	2.26	1.68	1.62
E	4.28	2.14	1.88	1.40	1.34	Q	5.52	2.76	2.42	1.80	1.73
F	4.48	2.24	1.97	1.46	1.41	R	5.92	2.96	2.60	1.93	1.86
G	3.70	1.85	1.62	1.21	1.16	S	4.36	2.18	1.91	1.42	1.37
H	3.94	1.97	1.73	1.28	1.24	T	4.80	2.40	2.11	1.56	1.51
I	4.24	2.12	1.86	1.38	1.33	U	5.32	2.66	2.33	1.73	1.67
J	4.52	2.26	1.98	1.47	1.42	V	5.76	2.88	2.53	1.88	1.81
K	4.72	2.36	2.07	1.54	1.48	W	6.36	3.18	2.79	2.07	1.99
L	5.04	2.52	2.21	1.64	1.58	X	6.84	3.42	3.00	2.23	2.14

***Size (Dia. x Lg., In.):** Sleeved Units: **A,** .687 x 1.250; **B,** .687 x 1.750; **C,** .687 x 2.250; **D,** .687 x 2.750; **E,** .687 x 3.250; **F,** .687 x 3.750; **G,** .812 x 1.250; **H,** .812 x 1.750; **I,** .812 x 2.250; **J,** .812 x 2.750; **K,** .812 x 3.250; **L,** .812 x 3.750; **M,** .937 x 1.250; **N,** .937 x 1.750; **O,** .937 x 2.250; **P,** .937 x 2.750; **Q,** .937 x 3.250; **R,** .937 x 3.750; **S,** 1.062 x 1.250; **T,** 1.062 x 1.750; **U,** 1.062 x 2.250; **V,** 1.062 x 2.750; **W,** 1.062 x 3.250; **X,** 1.062 x 3.750. For Bare Units: Subtract .062 dia. x .125″ lg. from sleeved sizes.

SPRAGUE TYPE TVA ATOM® TUBULAR ELECTROLYTIC CAPACITORS



Small, dependable dry electrolytic. Low leakage; long shelf life. Withstands high temp. (85° C); high ripple currents and high surge voltages. Metal case with thermoplastic outer insulating sleeve except as noted.

POLARIZED SINGLE UNITS

Sprague No. TVA-	µF	WV DC	Case Sizes Dia. x Lgth.	Net Each, Lots of* 1-49	50-99	100-249	250-499
1080	1000	1	5/8 x 2 1/8	$1.59	$0.91	$0.649	$0.543
1081	1	3	1/4 x 17/32	.75	.416	.296	.248
1081.1	2	3	1/4 x 17/32	.75	.416	.296	.248
1081.2	3	3	1/4 x 17/32	.75	.416	.296	.248
1081.3	4	3	1/4 x 17/32	.75	.416	.296	.248
1081.4	5	3	1/4 x 17/32	.78	.44	.314	.263
1081.5	6	3	1/4 x 17/32	.78	.44	.314	.263
1081.6	8	3	1/4 x 17/32	.78	.44	.314	.263
1082	10	3	1/4 x 17/32	.78	.44	.314	.263
1082.5	15	3	1/4 x 17/32	.78	.44	.314	.263
1083	20	3	1/4 x 17/32	.81	.458	.326	.273
1084	25	3	1/4 x 17/32	.81	.458	.326	.273
1084.5	30	3	1/4 x 17/32	.81	.458	.326	.273
1085	50	3	1/4 x 23/32	.84	.477	.34	.285
1085.5	65	3	1/4 x 23/32	.84	.477	.34	.285
1088	75	3	5/16 x 23/32	.93	.529	.377	.316
1089	100	3	5/16 x 23/32	.93	.529	.377	.316
1089.5	130	3	5/16 x 23/32	.93	.529	.377	.316
1090	150	3	5/16 x 27/32	1.08	.614	.437	.366
1091	200	3	5/16 x 27/32	1.08	.614	.437	.366
1091.5	250	3	3/8 x 27/32	1.08	.614	.437	.366
1092	300	3	3/8 x 27/32	1.08	.614	.437	.366
1093	400	3	3/8 x 31/32	1.11	.628	.448	.375
1094	500	3	3/8 x 1 9/32	1.14	.638	.455	.381
1095	600	3	3/8 x 1 9/32	1.14	.638	.455	.381
1097	750	3	3/8 x 1 17/32	1.17	.658	.469	.392
1097.1	800	3	3/8 x 1 17/32	1.17	.658	.469	.392
1097.2	900	3	7/16 x 1 9/32	1.53	.871	.621	.519
1097.3	1000	3	7/16 x 1 17/32	1.74	.99	.705	.59
1097.4	1200	3	7/16 x 1 17/32	1.74	.99	.705	.59
1097.5	1500	3	1/2 x 1 17/32	1.77	1.014	.723	.605
1097.6	1800	3	1/2 x 1 17/32	1.77	1.014	.723	.605
1097.7	2000	3	1/2 x 1 17/32	1.77	1.014	.723	.605
1097.8	2200	3	1/2 x 1 13/16	1.89	1.069	.762	.637
1097.9	2500	3	1/2 x 1 13/16	1.89	1.069	.762	.637
1098	3000	3	3/4 x 1 21/32	2.07	1.188	.846	.708
1099	4000	3	3/4 x 1 21/32	2.07	1.188	.846	.708
1099.1	5000	3	3/4 x 1 29/32	2.25	1.286	.917	.767
1099.6	10000	3	7/8 x 2 5/32	2.94	1.682	1.199	1.003
1099.80	1	6	1/4 x 17/32	.75	.416	.296	.248
1099.81	2	6	1/4 x 17/32	.75	.416	.296	.248
1099.82	3	6	1/4 x 17/32	.75	.416	.296	.248
1099.83	4	6	1/4 x 17/32	.75	.416	.296	.248
1099.84	5	6	1/4 x 17/32	.78	.44	.314	.263
1099.85	6	6	1/4 x 17/32	.78	.44	.314	.263
1099.86	8	6	1/4 x 17/32	.78	.44	.314	.263
1099.87	10	6	1/4 x 17/32	.78	.44	.314	.263
1099.89	15	6	1/4 x 17/32	.78	.44	.314	.263
1099.90	20	6	1/4 x 17/32	.81	.458	.326	.273
1099.91	25	6	1/4 x 23/32	.84	.477	.34	.285
1099.93	35	6	1/4 x 23/32	.84	.477	.34	.285
1100	50	6	1/4 x 23/32	.84	.477	.34	.285
1100.5	75	6	5/16 x 23/32	.93	.529	.377	.316
1100.6	90	6	5/16 x 23/32	.93	.529	.377	.316
1101	100	6	5/16 x 27/32	.96	.552	.393	.329
1101.2	140	6	5/16 x 27/32	.96	.552	.393	.329
1101.5	150	6	3/8 x 27/32	1.08	.619	.441	.369
1101.7	200	6	3/8 x 27/32	1.08	.619	.441	.369
1102	250	6	3/8 x 31/32	1.11	.628	.448	.375
1102.1	300	6	3/8 x 31/32	1.23	.698	.497	.416
1102.3	400	6	3/8 x 1 9/32	1.26	.708	.504	.422
1103	500	6	3/8 x 1 17/32	1.26	.717	.511	.428
1103.2	600	6	3/8 x 1 17/32	1.26	.717	.511	.428
1103.4	700	6	7/16 x 1 9/32	1.35	.767	.547	.457
1103.8	800	6	7/16 x 1 17/32	1.38	.792	.564	.472
1103.9	950	6	7/16 x 1 17/32	1.56	.881	.628	.525
1104	1000	6	1/2 x 1 9/32	1.74	.99	.705	.59
1104.1	1200	6	1/2 x 1 17/32	1.77	1.014	.723	.605
1105	1500	6	1/2 x 1 17/32	1.83	1.039	.74	.62
1105.1	1800	6	1/2 x 1 25/32	1.89	1.069	.762	.637
1106	2000	6	1/2 x 1 25/32	1.89	1.069	.762	.637
1106.5	2500	6	3/4 x 1 21/32	1.95	1.103	.786	.658
1107	3000	6	3/4 x 1 29/32	2.07	1.188	.846	.708
1108	4000	6	7/8 x 1 29/32	2.25	1.286	.917	.767
1109	5000	6	7/8 x 1 29/32	2.25	1.286	.917	.767
1115	10000	6	1 x 2 13/32	3.30	1.88	1.34	1.121
1128	1000	10	1/2 x 1 13/16	1.74	.99	.705	.59
1129.2	3000	10	7/8 x 1 21/32	2.07	1.188	.846	.708
1129.4	4000	10	7/8 x 1 29/32	2.25	1.286	.917	.767
1129.5	5000	10	1 x 2 5/32	2.94	1.682	1.199	1.003
1129.8	10000	10	1 1/8 x 2 11/16	3.30	1.88	1.34	1.121
1129.80	1	12	1/4 x 17/32	.75	.416	.296	.248
1129.81	2	12	1/4 x 17/32	.75	.416	.296	.248
1129.82	3	12	1/4 x 17/32	.75	.416	.296	.248
1129.83	4	12	1/4 x 17/32	.75	.416	.296	.248
1129.84	5	12	1/4 x 17/32	.78	.44	.314	.263
1129.85	6	12	1/4 x 17/32	.78	.44	.314	.263
1129.86	8	12	1/4 x 17/32	.78	.44	.314	.263
1129.87	10	12	1/4 x 17/32	.78	.44	.314	.263
1129.89	15	12	1/4 x 17/32	.78	.44	.314	.263
1129.90	20	12	1/4 x 23/32	.84	.477	.34	.285
1129.91	25	12	1/4 x 23/32	.84	.477	.34	.285
1129.92	30	12	1/4 x 23/32	.84	.477	.34	.285
1129.94	50	12	5/16 x 23/32	.87	.49	.349	.292
1129.95	60	12	5/16 x 23/32	.87	.49	.349	.292

POLARIZED SINGLE UNITS (CONT'D)

Sprague No. TVA-	µF	WV DC	Case Sizes Dia. x Lgth.	Net Each, Lots of* 1-49	50-99	100-249	250-499
1129.96	75	12	5/16 x 27/32	$0.96	$0.537	$0.383	$0.32
1129.97	90	12	3/8 x 23/32	.96	.537	.383	.32
1130	100	12	5/16 x 27/32	.96	.552	.393	.329
1130.2	140	12	3/8 x 27/32	.96	.557	.397	.332
1130.3	150	12	3/8 x 31/32	1.11	.633	.451	.378
1130.5	190	12	3/8 x 31/32	1.11	.633	.451	.378
1130.6	200	12	3/8 x 1 9/32	1.20	.673	.48	.401
1131	250	12	3/8 x 1 9/32	1.20	.673	.48	.401
1131.1	290	12	3/8 x 1 9/32	1.32	.747	.532	.445
1131.2	390	12	3/8 x 1 17/32	1.35	.774	.552	462
1131.3	400	12	7/16 x 1 9/32	1.38	.784	.559	.468
1131.5	450	12	7/16 x 1 9/32	1.38	.784	.559	.468
1132	500	12	7/16 x 1 17/32	1.38	.792	.564	.472
1132.2	600	12	7/16 x 1 17/32	1.38	.792	.564	.472
1132.4	800	12	1/2 x 1 9/16	1.65	.938	.668	.559
1132.5	900	12	1/2 x 1 13/16	1.74	.99	.705	.59
1133	1000	12	1/2 x 1 13/16	1.47	.831	.592	.496
1133.4	1200	12	1/2 x 1 13/16	1.74	.99	.705	.59
1133.5	1500	12	3/4 x 1 21/32	2.07	1.188	.846	.708
1134	2000	12	7/8 x 1 21/32	2.07	1.188	.846	.708
1134.5	2500	12	7/8 x 1 21/32	2.07	1.188	.846	.708
1135	3000	12	7/8 x 2 5/32	2.22	1.267	.903	.755
1136	4000	12	15/16 x 2 5/32	2.76	1.583	1.128	.944
1136.1	5000	12	1 x 2 13/32	3.12	1.781	1.269	1.062
1137	10000	12	1 1/4 x 2 11/16	3.45	1.979	1.41	1.18
1140	1	16	1/4 x 17/32	.75	.416	.296	.248
1141	2	16	1/4 x 17/32	.75	.416	.296	.248
1142	3	16	1/4 x 17/32	.75	.416	.296	.248
1143	4	16	1/4 x 17/32	.75	.416	.296	.248
1144	5	16	1/4 x 17/32	.78	.44	.314	.263
1144.1	6	16	1/4 x 17/32	.78	.44	.314	.263
1144.2	8	16	1/4 x 17/32	.78	.44	.314	.263
1145	10	16	1/4 x 17/32	.78	.44	.314	.263
1146	15	16	1/4 x 23/32	.81	.458	.326	.273
1147	20	16	1/4 x 23/32	.84	.477	.34	.285
1148	25	16	1/4 x 23/32	.84	.477	.34	.285
1149	30	16	5/16 x 23/32	.87	.49	.349	.292
1149.1	35	16	5/16 x 23/32	.87	.49	.349	.292
1150	50	16	5/16 x 23/32	.87	.49	.349	.292
1151	75	16	5/16 x 27/32	.96	.537	.383	.32
1152	85	16	3/8 x 23/32	.96	.537	.383	.32
1153	90	16	5/16 x 27/32	.96	.552	.393	.329
1160	100	16	3/8 x 27/32	.99	.554	.395	.33
1160.2	130	16	3/8 x 27/32	.99	.554	.395	.33
1160.3	150	16	3/8 x 31/32	1.11	.633	.451	.378
1160.4	175	16	3/8 x 31/32	1.11	.633	.451	.378
1160.5	180	16	3/8 x 31/32	1.11	.633	.451	.378
1160.6	200	16	3/8 x 1 9/32	1.20	.673	.48	.401
1161	250	16	3/8 x 1 9/32	1.20	.673	.48	.401
1161.1	300	16	3/8 x 1 17/32	1.35	.774	.552	.462
1161.2	350	16	3/8 x 1 17/32	1.35	.774	.552	.462
1161.5	400	16	7/16 x 1 9/32	1.38	.784	.559	.468
1161.6	450	16	7/16 x 1 17/32	1.38	.792	.564	.472
1162	500	16	7/16 x 1 17/32	1.38	.792	.564	.472
1162.2	600	16	7/16 x 1 17/32	1.38	.792	.564	.472
1162.3	800	16	1/2 x 1 9/16	1.65	.938	.668	.559
1163	1000	16	1/2 x 1 13/16	1.74	.99	.705	.59
1164	1200	16	1/2 x 1 13/16	1.74	.99	.705	.59
1175.2	1500	16	13/16 x 1 21/32	2.07	1.188	.846	.708
1170*	2000	16	13/16 x 1 21/32	2.07	1.188	.846	.708
1175.3	2500	16	7/8 x 1 29/32	2.43	1.385	.987	.826
1175	3000	16	7/8 x 1 29/32	2.43	1.385	.987	.826
1175.4	4000	16	15/16 x 2 5/32	2.76	1.583	1.128	.944
1175.5	5000	16	1 x 2 5/32	3.12	1.781	1.269	1.062
1175.6	6000	16	1 1/8 x 2 5/32	3.30	1.88	1.34	1.121
1175.7	8000	16	1 1/8 x 2 11/16	3.39	1.93	1.375	1.151
1175.8	10000	16	1 1/4 x 2 11/16	3.45	1.979	1.41	1.18
1175.11	15000	16	1 1/4 x 3 11/16	4.62	2.647	1.886	1.578
1175.13	20000	16	1 3/8 x 4 5/32	6.33	3.632	2.588	2.165
1180	150	20	3/8 x 31/32	1.11	.633	.451	.378
1190	1500	20	7/8 x 1 21/32	2.34	1.338	.954	.798
1194	2300	20	1 x 1 21/32	2.52	1.432	1.021	.854
1200	1	25	1/4 x 17/32	.75	.416	.296	.248
1201	2	25	1/4 x 17/32	.75	.416	.296	.248
1201.1	3	25	1/4 x 17/32	.75	.416	.296	.248
1202	4	25	1/4 x 17/32	.75	.416	.296	.248
1203	5	25	1/4 x 17/32	.78	.44	.314	.263
1203.1	6	25	1/4 x 17/32	.78	.44	.314	.263
1203.3	8	25	1/4 x 17/32	.78	.44	.314	.263
1204	10	25	1/4 x 23/32	.81	.458	.326	.273
1204.2	15	25	1/4 x 23/32	.81	.458	.326	.273
1204.5	20	25	5/16 x 23/32	.87	.495	.353	.295
1205	25	25	5/16 x 23/32	.87	.495	.353	.295
1205.1	30	25	5/16 x 23/32	.87	.495	.353	.295
1205.2	35	25	5/16 x 23/32	.87	.495	.353	.295
1205.7	40	25	5/16 x 27/32	.90	.515	.367	.307
1206	50	25	5/16 x 27/32	.90	.515	.367	.307
1206.1	75	25	3/8 x 27/32	.96	.544	.388	.325
1207	100	25	3/8 x 31/32	1.11	.633	.451	.378
1207.5	150	25	3/8 x 1 9/32	1.20	.678	.483	.404
1207.7	200	25	3/8 x 1 17/32	1.38	.784	.559	.468
1208	250	25	7/16 x 1 9/32	1.56	.891	.635	.531
1208.5	300	25	7/16 x 1 17/32	1.62	.93	.663	.555
1208.6	350	25	7/16 x 1 17/32	1.62	.93	.663	.555
1208.7	400	25	1/2 x 1 5/16	1.65	.935	.666	.558
1208.8	450	25	1/2 x 1 9/16	2.04	1.158	.825	.69
1209	500	25	1/2 x 1 9/16	2.04	1.158	.825	.69
1209.2	600	25	1/2 x 1 13/16	2.07	1.188	.846	.708
1209.4	800	25	3/4 x 1 21/32	2.37	1.358	.968	.81
1211	1000	25	13/16 x 1 21/32	3.36	1.912	1.363	1.14
1212	1500	25	7/8 x 1 29/32	3.87	2.212	1.576	1.319
1213	2000	25	1 x 1 29/32	4.11	2.353	1.677	1.403

*1-99, Kleer-Pak; 100 Up Bulk-Pack. 500 Up Bulk-Pack prices on request. *Mounting strap attached.

TYPE TVA ATOM® ELECTROLYTICS CONTINUED ON NEXT PAGE

TYPE TVA ATOM® TUBULAR ELECTROLYTIC CAPACITORS (CONT'D)

POLARIZED SINGLE UNITS (CONT'D)

Sprague No. TVA-	µF	WV DC	Case Sizes Dia. x Lgth.	Net Each, Lots of*			
				1-49	50-99	100-249	250-499
1213.5	2500	25	1 x 1 29/32	$4.11	$2.353	$1.677	$1.403
1214†	3000	25	1 x 2 5/32	4.77	2.736	1.95	1.631
1214.2	4000	25	1 1/8 x 2 11/16	5.19	2.969	2.116	1.77
1214.5	5000	25	1 1/8 x 2 11/16	5.19	2.969	2.116	1.77
1214.8	8000	25	1 1/4 x 3 11/16	7.17	4.109	2.928	2.45
1214.10	10000	25	1 3/8 x 3 11/16	7.35	4.206	2.997	2.508
1222†	900	30	7/8 x 1 21/32	3.24	1.843	1.313	1.099
1222.1	1000	30	15/16 x 1 29/32	3.54	2.016	1.437	1.202
1223	200	35	7/16 x 1 17/32	1.59	.905	.645	.54
1225	300	35	1/2 x 1 9/16	1.62	.93	.663	.555
1227	500	35	1/2 x 1 13/16	2.04	1.158	.825	.69
1229	5500	35	1 x 3 13/32	5.88	3.365	2.398	2.006
1300	1	50	1/4 x 17/32	.75	.416	.296	.248
1301	2	50	1/4 x 17/32	.75	.416	.296	.248
1302	3	50	1/4 x 17/32	.75	.416	.296	.248
1302.7	4	50	1/4 x 17/32	.75	.416	.296	.248
1303	5	50	1/4 x 23/32	.81	.458	.326	.273
1303.1	6	50	1/4 x 23/32	.81	.458	.326	.273
1303.2	8	50	1/4 x 23/32	.81	.458	.326	.273
1304	10	50	5/16 x 23/32	.81	.458	.326	.273
1305	15	50	5/16 x 23/32	.81	.458	.326	.273
1305.5	20	50	5/16 x 27/32	.87	.495	.353	.295
1306	25	50	5/16 x 27/32	.87	.495	.353	.295
1306.2	35	50	3/8 x 27/32	.93	.534	.381	.319
1306.5	40	50	3/8 x 31/32	1.02	.574	.409	.342
1308	50	50	3/8 x 31/32	1.02	.574	.409	.342
1309.3	60	50	3/8 x 1 9/32	1.08	.611	.435	.364
1309.4	75	50	3/8 x 1 9/32	1.08	.611	.435	.364
1310	100	50	3/8 x 1 17/32	1.11	.633	.451	.378
1310.1	120	50	7/16 x 1 9/32	1.20	.678	.483	.404
1310.2	125	50	7/16 x 1 17/32	1.26	.717	.511	.428
1311	150	50	7/16 x 1 17/32	1.26	.717	.511	.428
1311.5	200	50	1/2 x 1 5/16	1.59	.905	.645	.54
1312	250	50	1/2 x 1 5/16	1.59	.905	.645	.54
1312.1	300	50	1/2 x 1 9/16	1.62	.93	.663	.555
1312.2	350	50	1/2 x 1 13/16	1.83	1.049	.748	.625
1313	400	50	1/2 x 1 13/16	1.83	1.049	.748	.625
1315	500	50	3/4 x 1 21/32	2.10	1.20	.855	.715
1315.2	600	50	13/16 x 1 21/32	2.10	1.20	.855	.715
1315.4	800	50	7/8 x 1 21/32	3.24	1.843	1.313	1.099
1316	1000	50	15/16 x 1 29/32	3.54	2.016	1.437	1.202
1318	1500	50	15/16 x 2 5/32	4.32	2.479	1.767	1.478
1318.2	2000	50	1 1/8 x 2 5/32	4.89	2.796	1.992	1.667
1318.3	2500	50	1 1/8 x 2 11/16	5.19	2.969	2.116	1.77
1318.4	3000	50	1 1/4 x 2 11/16	5.49	3.149	2.244	1.878
1318.5	4000	50	1 1/4 x 3 5/32	5.85	3.34	2.38	1.991
1318.7	5000	50	1 3/8 x 3 1/8	6.54	3.738	2.664	2.229
1318.10	8000	50	1 3/8 x 4 5/32	7.41	4.24	3.022	2.528
1319	250	60	1/2 x 1 9/16	1.59	.905	.645	.54
1319.5	500	75	1 x 2 21/32	2.94	1.682	1.199	1.003
1319.7	1000	75	1 x 2 21/32	3.54	2.016	1.437	1.202
1319.8†	1500	75	1 x 3 21/32	5.67	3.248	2.315	1.937
1319.9	2000	75	1 3/8 x 2 3/8	5.88	3.365	2.398	2.006
1320	10	90	3/8 x 27/32	1.08	.619	.441	.369
1321	16	90	3/8 x 31/32	1.11	.631	.45	.376
1330	1	100	1/4 x 17/32	.87	.495	.353	.295
1331	2	100	1/4 x 23/32	.87	.495	.353	.295
1332	3	100	5/16 x 23/32	.90	.512	.365	.305
1333	4	100	5/16 x 23/32	.90	.512	.365	.305
1334	5	100	5/16 x 27/32	.99	.554	.395	.33
1335	6	100	5/16 x 27/32	.99	.554	.395	.33
1336	8	100	3/8 x 27/32	1.05	.594	.423	.354
1337	10	100	3/8 x 27/32	1.08	.619	.441	.369
1338	15	100	3/8 x 31/32	1.11	.631	.45	.376
1339	20	100	3/8 x 1 9/32	1.17	.668	.476	.398
1340	25	100	3/8 x 1 17/32	1.23	.693	.494	.413
1341	30	100	3/8 x 1 17/32	1.23	.693	.494	.413
1342	40	100	7/16 x 1 17/32	1.32	.752	.536	.448
1343	50	100	1/2 x 1 9/16	1.62	.93	.663	.555
1344	60	100	1/2 x 1 9/16	1.62	.93	.663	.555
1345	75	100	1/2 x 1 13/16	1.83	1.049	.748	.625
1345.2	85	100	3/4 x 1 13/32	1.83	1.049	.748	.625
1346	100	100	3/4 x 1 13/32	1.83	1.049	.748	.625
1347	150	100	13/16 x 1 21/32	1.95	1.108	.79	.661
1348	200	100	7/8 x 1 29/32	2.13	1.217	.867	.726
1349	250	100	7/8 x 1 29/32	2.13	1.217	.867	.726
1350	300	100	1 x 1 29/32	2.37	1.361	.97	.811
1375	400	100	1 x 2 5/32	2.76	1.583	1.128	.944
1376	500	100	1 1/8 x 2 5/32	2.94	1.682	1.199	1.003
1377	600	100	1 1/8 x 2 11/16	3.51	2.011	1.433	1.199
1379	800	100	1 1/8 x 2 11/16	3.51	2.011	1.433	1.199
1380	1000	100	1 1/4 x 2 11/16	3.63	2.083	1.484	1.242
1382	1500	100	1 1/4 x 3 11/16	4.86	2.788	1.987	1.662
1384	2000	100	1 3/8 x 4 5/32	6.72	3.847	2.741	2.294
1400	1	150	1/4 x 17/32	.87	.495	.353	.295
1400.1	2	150	1/4 x 23/32	.87	.495	.353	.295
1400.2	3	150	5/16 x 23/32	.99	.554	.395	.33
1402	4	150	5/16 x 27/32	.99	.554	.395	.33
1403	5	150	5/16 x 27/32	.99	.554	.395	.33
1403.1	6	150	3/8 x 27/32	1.05	.594	.423	.354
1403.2	7	150	3/8 x 27/32	1.05	.594	.423	.354
1405	8	150	3/8 x 27/32	1.05	.594	.423	.354
1406	10	150	3/8 x 31/32	1.11	.633	.451	.378
1407	12	150	3/8 x 1 9/32	1.14	.643	.458	.384
1408	15	150	3/8 x 1 9/32	1.14	.643	.458	.384
1409	16	150	3/8 x 1 17/32	1.23	.693	.494	.413
1410	20	150	3/8 x 1 17/32	1.26	.717	.511	.428
1411	25	150	7/16 x 1 9/32	1.32	.752	.536	.448
1412	30	150	7/16 x 1 17/32	1.62	.93	.663	.555
1412.1	35	150	1/2 x 1 17/32	1.62	.93	.663	.555
1413	40	150	1/2 x 1 17/32	1.62	.93	.663	.555

POLARIZED SINGLE UNITS (CONT'D)

Sprague No. TVA-	µF	WV DC	Case Sizes Dia. x Lgth.	Net Each, Lots of*			
				1-49	50-99	100-249	250-499
1414	50	150	1/2 x 1 13/16	$1.74	$0.99	$0.705	$0.59
1415	60	150	13/16 x 1 13/32	1.83	1.049	.748	.625
1416	75	150	7/8 x 1 13/32	1.95	1.108	.79	.661
1418	80	150	7/8 x 1 13/32	1.95	1.108	.79	.661
1418.1	85	150	7/8 x 1 21/32	2.01	1.15	.82	.686
1420	100	150	7/8 x 1 21/32	2.01	1.15	.82	.686
1422	150	150	7/8 x 2 5/32	2.13	1.207	.86	.72
1422.5	160	150	1 x 1 29/32	2.19	1.247	.889	.743
1423	200	150	1 x 2 5/32	2.67	1.522	1.084	.907
1424*†	250	150	1 1/8 x 2 5/32	4.53	2.588	1.844	1.543
1425	300	150	1 1/8 x 2 11/16	3.51	2.011	1.433	1.199
1426	350	150	1 x 3 5/32	3.51	2.011	1.433	1.199
1426.1	400	150	1 1/4 x 2 11/16	4.14	2.373	1.691	1.415
1428	500	150	1 1/4 x 3 5/32	4.14	2.373	1.691	1.415
1429	1000	150	1 3/8 x 4 5/32	6.36	3.634	2.59	2.167
1430	80	175	13/16 x 1 29/32	2.01	1.15	.82	.686
1434	1	200	1/4 x 23/32	.93	.534	.381	.319
1435	2	200	5/16 x 23/32	.93	.534	.381	.319
1436	3	200	5/16 x 27/32	.93	.534	.381	.319
1437	4	200	3/8 x 27/32	.93	.534	.381	.319
1438	5	200	3/8 x 27/32	1.23	.698	.497	.416
1439	6	200	3/8 x 31/32	1.26	.717	.511	.428
1440	8	200	3/8 x 1 9/32	1.35	.762	.543	.454
1441	10	200	3/8 x 1 9/32	1.35	.762	.543	.454
1442	15	200	7/16 x 1 9/32	1.56	.891	.635	.531
1442.1	20	200	7/16 x 1 17/32	1.65	.938	.668	.559
1442.2	25	200	1/2 x 1 9/16	1.74	.987	.703	.589
1442.3	30	200	1/2 x 1 13/16	1.80	1.029	.733	.614
1442.5	40	200	13/16 x 1 13/32	1.80	1.029	.733	.614
1443	50	200	13/16 x 1 21/32	1.95	1.108	.79	.661
1443.1	60	200	7/8 x 1 21/32	2.04	1.168	.832	.696
1444	75	200	13/16 x 2 5/32	2.34	1.336	.952	.797
1444.2	85	200	7/8 x 1 29/32	2.43	1.393	.993	.83
1445	100	200	7/8 x 2 5/32	2.58	1.467	1.045	.875
1446	120	200	1 x 1 29/32	2.73	1.551	1.105	.925
1447*†	150	200	1 x 2 5/32	4.29	2.447	1.744	1.459
1480*†	200	200	1 1/8 x 2 11/16	4.86	2.773	1.976	1.653
1484	500	200	1 1/4 x 3 11/16	5.13	2.942	2.096	1.754
1500	1	250	5/16 x 23/32	.93	.534	.381	.319
1500.1	2	250	3/8 x 23/32	.93	.534	.381	.319
1500.2	3	250	3/8 x 27/32	.93	.534	.381	.319
1501	4	250	3/8 x 31/32	.93	.534	.381	.319
1502	5	250	3/8 x 1 9/32	1.35	.762	.543	.454
1502.1	6	250	3/8 x 1 9/32	1.35	.762	.543	.454
1503	8	250	3/8 x 1 9/32	1.38	.792	.564	.472
1504	10	250	7/16 x 1 9/32	1.41	.804	.573	.479
1505	12	250	7/16 x 1 17/32	1.44	.811	.578	.484
1506	15	250	1/2 x 1 9/16	1.56	.891	.635	.531
1507	16	250	1/2 x 1 9/16	1.56	.891	.635	.531
1508	20	250	1/2 x 1 13/16	1.74	.99	.705	.59
1509	25	250	3/4 x 1 13/32	1.80	1.029	.733	.614
1510	30	250	13/16 x 1 13/32	1.80	1.029	.733	.614
1511	40	250	7/8 x 1 13/32	1.92	1.089	.776	.649
1512	50	250	7/8 x 1 21/32	1.98	1.128	.804	.673
1513	60	250	7/8 x 1 29/32	2.04	1.168	.832	.696
1515	70	250	7/8 x 1 29/32	2.37	1.361	.97	.811
1520	75	250	7/8 x 2 5/32	2.49	1.415	1.008	.844
1521	85	250	7/8 x 2 5/32	2.49	1.415	1.008	.844
1522	100	250	1 x 1 29/32	2.61	1.484	1.058	.885
1524	125	250	7/8 x 2 5/8	2.73	1.551	1.105	.925
1525	150	250	1 1/8 x 2 5/32	2.82	1.603	1.142	.956
1526	160	250	1 x 2 5/32	2.83	1.603	1.142	.956
1528†	200	250	1 1/4 x 2 11/16	5.01	2.867	2.043	1.71
1528.2	225	250	1 x 3 5/32	3.63	2.083	1.484	1.242
1528.3	250	250	1 x 3 5/32	4.50	2.573	1.834	1.534
1528.5	300	250	1 1/4 x 3 5/32	4.71	2.697	1.922	1.608
1528.7	400	250	1 1/4 x 3 11/16	4.77	2.721	1.939	1.623
1528.8	450	250	1 3/8 x 3 11/16	5.91	3.389	2.415	2,021
1528.9	500	250	1 3/8 x 3 11/16	5.91	3.389	2.415	2.021
1529	600	250	1 3/8 x 4 5/32	6.36	3.634	2.59	2.167
1530	6	275	3/8 x 1 17/32	1.38	.779	.555	.465
1540	1	300	5/16 x 23/32	1.38	.787	.561	.469
1541	2	300	3/8 x 27/32	1.38	.787	.561	.469
1542	3	300	3/8 x 31/32	1.38	.792	.564	.472
1543	4	300	3/8 x 1 9/32	1.38	.792	.564	.472
1544	5	300	3/8 x 1 9/32	1.38	.792	.564	.472
1545	6	300	3/8 x 1 17/32	1.38	.792	.564	.472
1546	8	300	7/16 x 1 17/32	1.44	.811	.578	.484
1547	10	300	7/16 x 1 17/32	1.44	.811	.578	.484
1548	12	300	1/2 x 1 9/16	1.56	.896	.638	.534
1549	15	300	1/2 x 1 9/16	1.56	.896	.638	.534
1550	20	300	1/2 x 1 13/16	1.74	.995	.709	.593
1551	25	300	3/4 x 1 21/32	1.89	1.074	.765	.64
1552	30	300	3/4 x 1 29/32	1.98	1.128	.804	.673
1553	40	300	13/16 x 1 29/32	1.98	1.128	.804	.673
1570	50	300	7/8 x 1 29/32	2.31	1.316	.938	.785
1570.1	60	300	7/8 x 2 5/32	2.43	1.385	.987	.826
1571	75	300	1 x 2 5/32	2.64	1.509	1.075	.90
1571.2	85	300	1 x 2 13/32	2.73	1.559	1.111	.929
1573	100	300	1 1/8 x 2 5/32	2.91	1.66	1.183	.99
1575*†	140	300	1 x 3 5/32	5.19	2.974	2.119	1.773
1576*†	150	300	1 1/4 x 2 11/16	5.64	3.224	2.297	1.922
1578*†	200	300	1 1/4 x 3 5/32	6.18	3.535	2.519	2.108
1580	300	300	1 3/8 x 3 11/16	5.61	3.204	2.283	1.91
1582	400	300	1 3/8 x 4 5/32	6.36	3.634	2.59	2.167
1599	1	350	5/16 x 27/32	1.38	.792	.564	.472
1600	2	350	3/8 x 27/32	1.38	.792	.564	.472
1600.1	3	350	3/8 x 31/32	1.38	.792	.564	.472
1601	4	350	3/8 x 1 9/32	1.38	.792	.564	.472
1602.5	5	350	3/8 x 1 17/32	1.41	.799	.569	.476
1602.6	6	350	3/8 x 1 17/32	1.41	.799	.569	.476

*1–99, Kleer-Pak; 100 Up Bulk-Pack. 500 Up Bulk-Pack prices on request. *Mounting strap attached. †Single ended with two 8-inch flexible leads.

TYPE TVA ATOM® ELECTROLYTICS CONTINUED ON NEXT PAGE

SPRAGUE TYPE TVA ATOM® TUBULAR ELECTROLYTIC CAPACITORS

TYPE TVA ATOM® ELECTROLYTIC CAPACITORS (CONT'D)

POLARIZED SINGLE UNITS (CONT'D)

Sprague No. TVA-	µF	WV DC	Case Sizes Dia. x Lgth.	Net Each, Lots of* 1-49	50-99	100-249	250-499
1603	8	350	7/16 x 1 17/32	$1.44	$0.811	$0.578	$0.484
1604	10	350	½ x 1 9/16	1.56	.896	.638	.534
1605	12	350	½ x 1 9/16	1.56	.896	.638	.534
1607	15	350	½ x 1 13/16	1.68	.96	.684	.572
1607.1	16	350	¾ x 1 13/32	1.68	.96	.684	.572
1608	20	350	¾ x 1 21/32	1.83	1.049	.748	.625
1609	25	350	¾ x 1 29/32	1.89	1.074	.765	.64
1610	30	350	⅞ x 1 21/32	1.98	1.128	.804	.673
1611	40	350	⅞ x 1 29/32	2.01	1.15	.82	.686
1612	50	350	⅞ x 2 5/32	2.43	1.385	.987	.826
1613	60	350	15/16 x 2 5/32	2.43	1.385	.987	.826
1614	75	350	1 x 2 13/32	2.73	1.559	1.111	.819
1615	85	350	1⅛ x 2 5/32	2.85	1.633	1.164	.974
1620	100	350	1 x 2 21/32	2.94	1.682	1.199	1.003
1622*	150	350	1¼ x 2 11/16	3.63	2.081	1.483	1.24
1623	160	350	1 x 3 21/32	3.51	2.011	1.433	1.199
1624*	200	350	1¼ x 3 5/32	6.84	3.911	2.787	2.332
1627	250	350	1⅜ x 3 11/16	5.61	3.204	2.283	1.91
1628*	300	350	1⅜ x 4 5/32	7.98	4.572	3.258	2.726
1640	1	385	⅜ x 27/32	1.47	.831	.592	.496
1641	2	385	⅜ x 1 9/32	1.47	.831	.592	.496
1643	4	385	7/16 x 1 9/32	1.50	.851	.606	.507
1645	1	400	⅜ x 27/32	1.47	.831	.592	.496
1646	2	400	⅜ x 1 9/32	1.47	.831	.592	.496
1647	3	400	⅜ x 1 17/32	1.47	.831	.592	.496
1648	4	400	7/16 x 1 9/32	1.50	.851	.606	.507
1649	5	400	7/16 x 1 17/32	1.50	.851	.606	.507
1650	6	400	½ x 1 5/16	1.50	.851	.606	.507
1651	8	400	½ x 1 9/16	1.56	.896	.638	.534
1652	10	400	½ x 1 13/16	1.62	.93	.663	.555
1653	12	400	½ x 1 13/16	1.68	.95	.677	.566
1654	15	400	¾ x 1 21/32	1.68	.96	.684	.572
1655	16	400	¾ x 1 21/32	1.68	.96	.684	.572
1656	20	400	¾ x 1 29/32	1.83	1.049	.748	.625
1657	25	400	⅞ x 1 21/32	2.07	1.188	.846	.708
1658	30	400	15/16 x 1 21/32	2.22	1.267	.903	.755
1659	40	400	15/16 x 1 29/32	2.43	1.385	.987	.826
1660	50	400	1 x 2 5/32	2.64	1.509	1.075	.90
1661	60	400	1 x 2 13/32	2.82	1.603	1.142	.956
1662	75	400	1⅛ x 2 5/32	2.82	1.618	1.153	.965
1663	85	400	1⅛ x 2 11/16	3.51	2.011	1.433	1.199
1664	100	400	1¼ x 2 11/16	3.63	2.081	1.484	1.242
1665	150	400	1¼ x 3 5/32	4.17	2.39	1.703	1.425
1666	200	400	1¼ x 3 11/16	4.62	2.635	1.878	1.571
1667	250	400	1⅜ x 4 5/32	6.36	3.634	2.59	2.167
1700	1	450	⅜ x 27/32	1.47	.831	.592	.496
1701	2	450	⅜ x 1 9/32	1.47	.831	.592	.496
1701.1	3	450	7/16 x 1 9/32	1.47	.831	.592	.496
1702	4	450	7/16 x 1 17/32	1.50	.851	.606	.507
1703	5	450	½ x 1 5/16	1.50	.851	.606	.507
1703.1	6	450	½ x 1 9/16	1.56	.891	.635	.531
1704	8	450	½ x 1 13/16	1.62	.93	.663	.555
1705	10	450	½ x 1 13/16	1.62	.93	.663	.555
1706	12	450	¾ x 1 21/32	1.68	.95	.677	.566
1707	15	450	¾ x 1 29/32	1.68	.96	.684	.572
1708	16	450	⅞ x 1 21/32	1.89	1.069	.762	.637
1709	20	450	13/16 x 2 5/32	1.89	1.069	.762	.637
1710	25	450	15/16 x 1 29/32	2.07	1.188	.846	.748
1711	30	450	1 x 1 29/32	2.43	1.385	.987	.826
1712	40	450	15/16 x 2 13/32	2.61	1.484	1.058	.885
1713	50	450	1⅛ x 2 5/32	2.82	1.603	1.142	.956
1714	60	450	1⅛ x 2 5/32	2.88	1.643	1.171	.979
1715	75	450	1¼ x 2 11/16	3.63	2.083	1.484	1.242
1716	80	450	1 x 3 21/32	3.63	2.083	1.484	1.242
1717	85	450	1¼ x 2 11/16	3.63	2.083	1.484	1.242
1718	100	450	1¼ x 3 5/32	4.26	2.439	1.738	1.454
1718.3	120	450	1¼ x 3 11/16	4.32	2.472	1.761	1.474
1719*	150	450	1⅜ x 3 11/16	7.74	4.431	3.158	2.642
1719.2	160	450	1⅜ x 3 11/16	5.91	3.389	2.415	2.021
1720*	200	450	1⅜ x 4 5/32	6.72	3.847	2.741	2.294
1790	1	475	½ x 1 13/32	2.01	1.138	.811	.679
1791	2	475	⅝ x 1 5/32	1.47	.831	.592	.496
1792	3	475	⅝ x 1 13/32	1.47	.831	.592	.496
1800	4	475	⅝ x 1 21/32	1.50	.851	.606	.507
1800.1	5	475	⅝ x 1 21/32	1.56	.891	.635	.531
1800.2	6	475	11/16 x 1 21/32	1.56	.891	.635	.531
1801	8	475	¾ x 1 13/32	1.65	.938	.668	.559
1802	10	475	¾ x 1 21/32	1.74	.99	.705	.59
1802.1	12	475	¾ x 1 29/32	1.83	1.034	.737	.617
1803	15	475	13/16 x 1 29/32	1.83	1.034	.737	.617
1803.1	16	475	⅞ x 1 21/32	1.83	1.039	.74	.62
1804	20	475	13/16 x 2 5/32	2.07	1.188	.846	.708
1890	1	500	½ x 1 5/32	1.65	.94	.67	.561
1895	3	500	⅝ x 1 13/32	1.65	.94	.67	.561
1901	5	500	¾ x 1 5/32	1.65	.94	.67	.561
1902	8	500	¾ x 1 21/32	1.89	1.074	.765	.64
1903	10	500	¾ x 1 21/32	1.89	1.074	.765	.64
1904	12	500	⅞ x 1 29/32	2.04	1.17	.834	.698
1905	16	500	⅞ x 2 5/32	2.76	1.573	1.121	.938
1906	20	500	⅞ x 2 5/32	2.94	1.682	1.199	1.003
1907	30	500	1 x 1 29/32	2.94	1.682	1.199	1.003
1908	40	500	1 x 2 13/32	3.60	2.066	1.472	1.232
1910	60	500	1 x 3 13/32	3.87	2.214	1.578	1.32
1920	15	525	⅞ x 2 5/32	2.16	1.23	.876	.733
1930	2	550	⅝ x 1 5/32	1.89	1.074	.765	.64
1960	4	600	13/16 x 2⅜	4.53	2.595	1.849	1.547
1962	8	600	1 1/16 x 2⅞	5.13	2.942	2.096	1.754
1963	10	600	1 1/16 x 3 3/16	5.22	2.979	2.123	1.776
1965	16	600	1 1/16 x 4 3/16	5.58	3.187	2.271	1.90
1966	20	600	1 1/16 x 3⅞	5.94	3.402	2.424	2.028

*Single ended with two 8-inch flexible leads. *1–99 Kleer-Pak; 100 Up Bulk-Pack. 250 Up Bulk-Pack prices on request.

NON-POLARIZED SINGLE UNITS

Sprague No. TVAN-	µF	WV NP	Case Sizes Dia. x Lgth.	Net Each, Lots of* 1-49	50-99	100-249	250-499
1095	500	3	⅜ x 1 17/32	$1.08	$0.609	$0.434	$0.363
1100.1	50	6	⅜ x 23/32	.93	.532	.379	.317
1101.5	125	6	⅜ x 31/32	.96	.552	.393	.329
1103.1	500	6	½ x 1 13/16	1.83	1.039	.74	.62
1109	2	10	¼ x 17/32	.81	.453	.323	.27
1110	5	10	¼ x 17/32	.81	.453	.323	.27
1111	6	10	¼ x 17/32	.81	.453	.323	.27
1112	8	10	¼ x 17/32	.81	.453	.323	.27
1112.4	10	10	¼ x 23/32	.84	.47	.335	.28
1115	30	10	5/16 x 27/32	.93	.532	.379	.317
1117	50	10	⅜ x 23/32	.93	.532	.379	.317
1120	160	10	⅜ x 1 9/32	1.05	.589	.42	.351
1121	170	10	⅜ x 1 9/32	1.05	.589	.42	.351
1125	450	10	⅝ x 1 21/32	1.89	1.071	.763	.639
1126	500	10	⅝ x 1 21/32	1.89	1.071	.763	.639
1129	2000	10	⅞ x 2 5/32	2.52	1.442	1.028	.86
1132.1	500	12	⅝ x 2⅛	2.25	1.282	.913	.764
1150	4	15	¼ x 17/32	.81	.453	.323	.27
1155	10	15	¼ x 23/32	.84	.47	.335	.28
1162.1	500	15	⅝ x 2⅛	2.61	1.487	1.06	.886
1163.1	1000	15	¾ x 2⅛	2.40	1.376	.98	.82
1176	2.5	20	¼ x 17/32	.81	.453	.323	.27
1200	1	25	¼ x 23/32	.81	.453	.323	.27
1202	2	25	¼ x 17/32	.81	.453	.323	.27
1202.2*	4	25	¼ x 23/32	1.05	.589	.42	.351
1203.1	5	25	¼ x 23/32	.84	.47	.335	.28
1203.8*	8	25	5/16 x 23/32	1.11	.626	.446	.373
1204.1	10	25	5/16 x 23/32	.87	.497	.354	.296
1204.3	16	25	5/16 x 27/32	.93	.532	.379	.317
1204.6	20	25	⅜ x 27/32	.93	.534	.381	.319
1205.1	25	25	⅜ x 1 23/32	.96	.539	.384	.322
1205.5	35	25	⅜ x 27/32	.93	.534	.381	.319
1206.1	50	25	⅜ x 31/32	.96	.552	.393	.329
1207.1	100	25	⅜ x 1 17/32	1.08	.609	.434	.363
1215	3	30	¼ x 23/32	.84	.47	.335	.28
1220	20	30	⅜ x 27/32	.93	.534	.381	.319
1230	10	40	5/16 x 27/32	.93	.532	.379	.317
1232	20	40	⅜ x 31/32	.96	.552	.393	.329
1301.1	2	50	¼ x 23/32	.93	.532	.379	.317
1302.1	3	50	¼ x 23/32	.93	.532	.379	.317
1302.5*	4	50	¼ x 23/32	1.17	.656	.467	.391
1303.1	5	50	5/16 x 23/32	.87	.497	.354	.296
1303.4	8	50	5/16 x 27/32	.93	.532	.379	.317
1304.1	10	50	5/16 x 27/32	.93	.532	.379	.317
1306.1	25	50	⅜ x 1 9/32	1.05	.589	.42	.351
1306.2	30	50	⅜ x 1 9/32	1.05	.589	.42	.351
1308.1	50	50	7/16 x 1 9/32	1.23	.693	.494	.413
1309.2	60	50	7/16 x 1 17/32	1.29	.73	.52	.435
1310.1	100	50	½ x 1 9/16	1.74	.985	.702	.587
1333	10	100	½ x 1⅝	2.31	1.314	.936	.783
1335	20	100	⅝ x 1 21/32	2.31	1.314	.936	.783
1340	40	100	¾ x 1 21/32	2.52	1.445	1.03	.861
1402.1	4	150	9/16 x 1 21/32	2.16	1.235	.88	.736
1406.1	10	150	¾ x 1 13/32	2.16	1.239	.883	.739
1413.1	40	150	¾ x 2⅛	2.76	1.581	1.127	.943
1435.1	2	200	½ x 1 13/32	2.04	1.163	.829	.693
1436	4	200	1 x 1 29/32	3.24	1.851	1.319	1.103
1440	60	200	1 x 2 21/32	3.93	2.249	1.603	1.341
1560	1	300	½ x 1 13/32	2.22	1.259	.897	.751
1568	20	300	⅞ x 1 29/32	3.18	1.808	1.289	1.078
1602	5	350	¾ x 1 21/32	2.46	1.40	.998	.835
1604.1	10	350	1 x 1 29/32	2.97	1.697	1.209	1.012
1608.1	20	350	1 x 2 5/32	3.33	1.907	1.359	1.137
1650*	10	400	⅞ x 1 29/32	3.48	1.987	1.416	1.184
1652	20	400	1 x 2 5/32	3.99	2.286	1.629	1.363
1705.1	10	450	1 x 1 29/32	3.63	2.076	1.479	1.238

*Mounting straps attached. *1–99 Kleer-Pak; 100 Up Bulk-Pack. 250 Up Bulk-Pack prices on request.

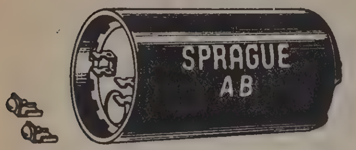
DUAL UNITS

No. TVA-	µF at WVDC	Net Each, Lots of* 1-49	50-99	100-249	250-499
2175	1500–1000 at 20	$5.40	$5.40	$5.40	$5.40
2231†	2000– 500 at 30	5.25	5.25	5.25	5.25
2315*	10– 10 at 50	1.32	1.32	1.32	1.32
2330†	100– 500 at 75	5.49	5.49	5.49	5.49
2335	200 at 85/150 at 25	2.49	2.49	2.49	2.49
2420*	16– 16 at 150	2.88	1.648	1.172	.976

*Mounting strap attached. †Kraftboard case construction. *1–99, Kleer-Pak; 100–Up Bulk-Pack.

SPRAGUE Capacitors

TYPE AB PLASTIC-ENCASED ELECTROLYTICS



- **For intermittent duty cycles in motor starting applications.**
- **Housed in molded phenolic cases for protection against moisture, dirt, grease, etc.**
- **Dual-blade universal terminals for use with "quick-connect" connectors. Terminals also have notches and eyes for wrapping leads if connections are to be soldered.**
- **Operating Temperature: −30° C to +65° C.**
- **Included are two clip-on terminal adapters, equipped with screws, for lead wires without soldering.**
- **Only a single end cap and clip-type bracket are needed for easy mounting on any modern motor.**

125 VOLTS AC, 60 Hz

120,000 starts min. with two ¾-sec starts per minute.

Sprague Number	μF Min.-Max.	Dia. x L. Inches	Net Each
AB-1201	21–25	1 7/16 x 2 3/4	**$1.53**
AB-1202	25–30	1 7/16 x 2 3/4	**1.53**
AB-1203	30–36	1 7/16 x 2 3/4	**1.53**
AB-1204	38–46	1 7/16 x 2 3/4	**1.53**
AB-1205	43–53	1 7/16 x 2 3/4	**1.53**
AB-1207	53–64	1 7/16 x 2 3/4	**1.56**
AB-1208	64–77	1 7/16 x 2 3/4	**1.62**
AB-1209	72–88	1 7/16 x 2 3/4	**1.65**
AB-1210	88–108	1 7/16 x 2 3/4	**1.86**
AB-1213	108–130	1 7/16 x 2 3/4	**2.04**
AB-1216	124–149	1 7/16 x 2 3/4	**2.13**
AB-1219	130–156	1 7/16 x 2 3/4	**2.13**
AB-1222	145–175	1 7/16 x 2 3/4	**2.31**
AB-1225	161–193	1 7/16 x 2 3/4	**2.34**
AB-1228	189–227	1 7/16 x 2 3/4	**2.70**
AB-1230	200–240	1 7/16 x 2 3/4	**2.82**
AB-1231	216–259	1 7/16 x 3 3/8	**2.91**
AB-1234	233–280	1 7/16 x 3 3/8	**3.24**
AB-1237	243–292	1 7/16 x 3 3/8	**3.39**
AB-1240	270–324	1 7/16 x 3 3/8	**3.42**
AB-1242	324–388	1 13/16 x 3 3/8	**3.90**
AB-1243	340–408	1 13/16 x 3 3/8	**3.99**
AB-1246	378–440	1 13/16 x 3 3/8	**4.32**
AB-1249	400–480	1 13/16 x 3 3/8	**4.35**
AB-1252	430–516	1 13/16 x 3 3/8	**5.01**
AB-1255	460–552	1 13/16 x 3 3/8	**5.46**
AB-1258	540–648	1 13/16 x 4 3/8	**5.88**
AB-1261	590–708	1 13/16 x 4 3/8	**6.12**
AB-1262	705–845	2 1/16 x 4 3/8	**7.08**
AB-1263	800–920	2 1/16 x 4 3/8	**7.77**
AB-1265	1000–1200	2 9/16 x 4 3/8	**8.70**

165 VOLTS AC, 60 Hz

60,000 starts min. with one 1-sec start per minute.

Sprague Number	μF Min.-Max.	Dia. x L. Inches	Net Each
AB-1613	108–130	1 7/16 x 3 3/8	**$2.10**
AB-1616	124–149	1 7/16 x 3 3/8	**2.32**
AB-1619	130–156	1 13/16 x 3 3/8	**2.43**
AB-1622	145–175	1 13/16 x 3 3/8	**2.69**
AB-1625	161–193	1 13/16 x 3 3/8	**2.75**
AB-1628	189–227	1 13/16 x 3 3/8	**3.12**
AB-1631	216–259	1 13/16 x 3 3/8	**3.16**
AB-1634	233–280	1 13/16 x 4 3/8	**3.61**
AB-1637	243–292	1 13/16 x 4 3/8	**3.71**
AB-1640	270–324	1 13/16 x 4 3/8	**3.95**
AB-1643	340–408	2 1/16 x 4 3/8	**4.98**
AB-1646	378–440	2 1/16 x 4 3/8	**5.18**
AB-1649	400–480	2 1/16 x 4 3/8	**5.30**

250 VOLTS AC, 60 Hz

40,000 starts min. with 40 1-sec starts per hour.

Sprague Number	μF Min.-Max.	Dia. x L. Inches	Net Each
AB-2501	21–25	1 7/16 x 2 3/4	**$2.10**
AB-2502	25–30	1 7/16 x 2 3/4	**2.13**
AB-2503	30–36	1 7/16 x 3 3/8	**2.28**
AB-2504	36–43	1 7/16 x 3 3/8	**2.35**
AB-2505	43–53	1 7/16 x 3 3/8	**2.39**
AB-2506	47–56	1 7/16 x 3 3/8	**2.47**
AB-2507	53–64	1 13/16 x 3 3/8	**2.78**
AB-2508	64–77	1 13/16 x 3 3/8	**3.02**
AB-2509	72–88	1 13/16 x 3 3/8	**3.19**
AB-2510	88–108	1 13/16 x 4 3/8	**3.77**
AB-2512	108–130	1 13/16 x 4 3/8	**4.29**
AB-2516	124–149	1 13/16 x 4 3/8	**4.59**
AB-2519	130–156	1 13/16 x 4 3/8	**5.25**
AB-2522	145–175	2 1/16 x 4 3/8	**5.29**
AB-2525	161–193	2 1/16 x 4 3/8	**5.63**
AB-2528	189–227	2 1/16 x 4 3/8	**6.33**
AB-2531	216–259	2 9/16 x 4 3/8	**6.70**
AB-2532	233–280	2 9/16 x 4 3/8	**7.19**
AB-2533	280–333	2 9/16 x 4 3/8	**7.29**

330 VOLTS AC, 60 Hz

40,000 starts min. with 40 1-sec starts per hour.

Sprague Number	μF Min.-Max.	Dia. x L. Inches	Net Each
AB-3201	21–25	1 7/16 x 3 3/8	**$2.17**
AB-3202	25–30	1 7/16 x 3 3/8	**2.33**
AB-3203	30–36	1 13/16 x 3 3/8	**2.61**
AB-3204	36–43	1 13/16 x 3 3/8	**2.82**
AB-3205	43–53	1 13/16 x 3 3/8	**2.98**
AB-3207	53–64	1 13/16 x 4 3/8	**3.25**
AB-3208	64–77	1 13/16 x 4 3/8	**3.98**
AB-3209	72–88	2 1/16 x 4 3/8	**4.36**
AB-3210	88–108	2 1/16 x 4 3/8	**4.83**
AB-3213	108–130	2 9/16 x 4 3/8	**5.83**
AB-3216	124–149	2 9/16 x 4 3/8	**6.26**
AB-3219	130–156	2 9/16 x 4 3/8	**6.44**
AB-3222	145–175	2 9/16 x 4 3/8	**6.90**
AB-3225	161–193	2 9/16 x 4 3/8	**7.42**
AB-3226	189–227	2 9/16 x 4 3/8	**8.37**
AB-3227	216–259	2 9/16 x 4 3/8	**8.50**

HYPASS® CAPACITORS

- Three-terminal network feed-thru capacitors.
- Bypass VHF currents where ordinary capacitors are ineffective.
- Suppress TVI from short-wave transmitters, diathermy machines, electronic heating apparatus, etc.
- Install leads in series with circuit being filtered and ground the case.
- Eliminate interference caused by line-conducted radiation between neighboring TV sets.

Sprague No.	μF	WVDC	Dia. x L. Inches	Net Each
48P18*	.5	50	1 x 1 13/16	**$6.18**
48P100	.5	50	1 x 1 13/16	**8.97**
48P10*	.25	200	3/4 x 1 13/16	**3.93**
80P5*†	.25	200	3/4 x 1 13/16	**4.44**
48P14*	.5	200	1 x 1 13/16	**4.92**
48P9*	.1	250‡	11/16 x 1 13/16	**4.74**
48P6*	.1	400	11/16 x 1 13/16	**4.74**
80P1*†	.1	400	11/16 x 1 13/16	**4.77**
46P12	.002	600	1/4 x 1 3/8	**4.92**
46P8	.005	600	1/4 x 1 5/8	**4.80**
47P6	.01	600	7/16 x 1 1/4	**4.83**
47P8	.02	600	7/16 x 1 1/2	**4.86**
80P3*†	.1	600	11/16 x 1 13/16	**4.83**
48P12*	.25	600	1 x 1 13/16	**4.92**
48P16*	.5	600	1 x 2 1/4	**5.28**
47P12	.005	1000	7/16 x 1 1/4	**4.92**
47P13	.01	1000	7/16 x 1 1/2	**4.98**
47P14	.005	2500	1 x 1 9/16	**6.12**
47P15	.01	2500	1 x 1 9/16	**6.33**
47P16	.002	5000	1 x 1 9/16	**6.12**

*Has female screw terminals. †Bulkhead mounting. ‡WVAC.

WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR

UNLISTED ITEMS. NO SPECIAL ORDER NUMBERS NECESSARY,

JUST USE THE MANUFACTURER'S MODEL NUMBERS.

SPRAGUE Capacitors

192P PACER® FILMITE® "E" CAPACITORS

Extended foil film sections are terminated in end caps with wire leads, to assure the best possible non-inductive section. Protected by heat shrinkable plastic sleeve or epoxy coating. Designed for operation to 85° C. Tolerance, ±10%.

80 WVDC

Sprague No.	μF	Dia. x L. Inches	Net Each, Lots of* 1-24	25-49	50-99	100-249
192P2229R8	.0022	.138 x 5/16	$0.57	$0.337	$0.262	$0.213
192P2729R8	.0027	.138 x 5/16	.57	.337	.262	.213
192P3329R8	.0033	.138 x 5/16	.57	.337	.262	.213
192P3929R8	.0039	.138 x 5/16	.57	.337	.262	.213
192P4729R8	.0047	.138 x 5/16	.57	.337	.262	.213
192P5629R8	.0056	.170 x 3/8	.57	.337	.262	.213
192P6829R8	.0068	.170 x 3/8	.57	.337	.262	.213
192P8229R8	.0082	.170 x 3/8	.57	.337	.262	.213
192P1039R8	.01	.170 x 3/8	.51	.315	.245	.20
192P1239R8	.012	.170 x 7/16	.57	.339	.263	.186
192P1539R8	.015	.170 x 7/16	.60	.362	.282	.23
192P1839R8	.018	.170 x 1/2	.60	.367	.285	.233
192P2239R8	.022	.170 x 1/2	.60	.375	.292	.237
192P2739R8	.027	.204 x 7/16	.63	.379	.295	.24
192P3339R8	.033	.204 x 7/16	.63	.384	.299	.243
192P3939R8	.039	.204 x 9/16	.63	.394	.306	.249
192P4739R8	.047	.204 x 9/16	.66	.403	.314	.255
192P5639R8	.056	.225 x 9/16	.66	.415	.322	.263
192P6839R8	.068	.225 x 9/16	.72	.436	.339	.276
192P8239R8	.082	.290 x 1/2	.75	.455	.354	.288
192P1049R8	.1	.290 x 1/2	.75	.464	.361	.294
192P1249R8	.12	.290 x 5/8	.87	.549	.427	.348
192P1549R8	.15	.290 x 5/8	.93	.589	.459	.374
192P1849R8	.18	.318 x 5/8	1.02	.649	.505	.411
192P2249R8	.22	.318 x 5/8	1.02	.713	.555	.452
192P2749R8	.27	.318 x 7/8	1.02	.763	.594	.483
192P3349R8	.33	.318 x 7/8	1.05	.805	.626	.51
192P3949R8	.39	.318 x 1 3/16	1.14	.853	.663	.54

200 WVDC

Sprague No.	μF	Dia. x L. Inches	Net Each, Lots of* 1-24	25-49	50-99	100-249
192P10192	.0001	.138 x 5/16	$0.48	$0.289	$0.225	$0.183
192P12192	.00012	.138 x 5/16	.48	.289	.225	.183
192P15192	.00015	.138 x 5/16	.48	.289	.225	.183
192P18192	.00018	.138 x 5/16	.48	.289	.225	.183
192P22192	.00022	.138 x 5/16	.48	.289	.225	.183
192P27192	.00027	.138 x 5/16	.48	.289	.225	.183
192P33192	.00033	.138 x 5/16	.48	.289	.225	.183
192P39192	.00039	.138 x 5/16	.48	.289	.225	.183
192P47192	.00047	.138 x 5/16	.48	.289	.225	.183
192P56192	.00056	.138 x 5/16	.45	.263	.204	.167
192P68192	.00068	.138 x 5/16	.45	.263	.204	.167
192P82192	.00082	.138 x 5/16	.45	.263	.204	.167
192P10292	.001	.138 x 5/16	.39	.233	.181	.147
192P12292	.0012	.138 x 5/16	.39	.233	.181	.147
192P15292	.0015	.138 x 5/16	.39	.233	.181	.147
192P18292	.0018	.170 x 5/16	.39	.233	.171	.147
192P22292	.0022	.170 x 5/16	$0.39	$0.235	$0.182	$0.149
192P27292	.0027	.170 x 5/16	.39	.235	.182	.149
192P33292	.0033	.170 x 5/16	.39	.235	.182	.149
192P39292	.0039	.170 x 7/16	.39	.237	.184	.15
192P47292	.0047	.170 x 7/16	.42	.239	.186	.152
192P56292	.0056	.170 x 7/16	.42	.242	.188	.153
192P68292	.0068	.170 x 7/16	.42	.244	.189	.155
192P82292	.0082	.170 x 1/2	.42	.256	.199	.162
192P10392	.01	.170 x 1/2	.45	.261	.203	.165
192P12392	.012	.204 x 7/16	.45	.265	.206	.168
192P15392	.015	.204 x 7/16	.45	.267	.208	.17
192P18392	.018	.204 x 9/16	.45	.275	.214	.174
192P22392	.022	.204 x 9/16	.48	.28	.218	.177
192P27392	.027	.225 x 9/16	.48	.296	.231	.188
192P33392	.033	.225 x 9/16	.51	.311	.241	.197
192P39392	.039	.290 x 1/2	.54	.327	.255	.207
192P47392	.047	.290 x 1/2	.57	.341	.265	.216
192P56392	.056	.290 x 5/8	.60	.36	.28	.228
192P68392	.068	.290 x 5/8	.63	.379	.295	.24
192P82392	.082	.318 x 5/8	.66	.398	.309	.252
192P10492	.1	.318 x 5/8	.66	.415	.322	.263
192P12492	.12	.318 x 7/8	.72	.436	.339	.276
192P15492	.15	.318 x 7/8	.81	.498	.387	.315
192P18492	.18	.318 x 1 3/16	.84	.528	.411	.335
192P22492	.22	.318 x 1 3/16	.93	.587	.457	.372

400 WVDC

Sprague No.	μF	Dia. x L. Inches	Net Each, Lots of* 1-24	25-49	50-99	100-249
192P47194	.00047	.170 x 3/8	$0.48	$0.289	$0.225	$0.183
192P56194	.00056	.170 x 3/8	.48	.289	.225	.183
192P68194	.00068	.170 x 3/8	.48	.277	.216	.176
192P82194	.00082	.170 x 3/8	.48	.296	.231	.188
192P10294	.001	.170 x 3/8	.48	.296	.231	.188
192P12294	.0012	.170 x 3/8	.48	.296	.231	.188
192P15294	.0015	.170 x 3/8	.48	.296	.231	.188
192P18294	.0018	.170 x 7/16	.51	.301	.234	.191
192P22294	.0022	.170 x 7/16	.51	.301	.234	.191
192P27294	.0027	.204 x 7/16	.51	.301	.234	.191
192P33294	.0033	.204 x 7/16	.51	.301	.234	.191
192P39294	.0039	.204 x 7/16	.51	.301	.234	.191
192P47294	.0047	.204 x 7/16	.51	.301	.234	.191
192P56294	.0056	.225 x 9/16	.51	.303	.236	.192
192P68294	.0068	.225 x 9/16	.51	.303	.236	.192
192P82294	.0082	.225 x 9/16	.51	.305	.238	.194
192P10394	.01	.225 x 9/16	.51	.305	.238	.194
192P12394	.012	.290 x 1/2	.54	.334	.26	.212
192P15394	.015	.290 x 1/2	.57	.341	.265	.216
192P18394	.018	.290 x 5/8	.60	.36	.28	.228
192P22394	.022	.290 x 5/8	.60	.375	.292	.237
192P27394	.027	.318 x 5/8	.63	.394	.306	.249
192P33394	.033	.318 x 5/8	.66	.403	.314	.255
192P39394	.039	.318 x 7/8	.72	.447	.348	.284
192P47394	.047	.318 x 7/8	.75	.464	.361	.294
192P56394	.056	.318 x 1 3/16	.78	.476	.371	.302
192P68394	.068	.318 x 1 3/16	.78	.491	.381	.311

*Quantities of 1–24 supplied in Kleer-Pak; larger quantities in bulk pack. Prices on 250–499 and 500–999 quantities available on request.

TYPE 260P METALLIZED FILMITE® "K" POLYCARBONATE-FILM CAPACITORS

Metallized Filmite "K" polycarbonate-film capacitors in hermetically sealed tubular metal cases. Designed for applications such as low-frequency tuned circuits, analog computer reference, and precision timing and integrating circuits. Capacitor secrions are of non-inductive construction. Will operate at full rated VDC over temp. range of −55° C to +105° C. With insulating sleeve. **Rated:** 200 WVDC. **Tolerance:** ±5%.

Sprague Number	Cap., μF	Size, In. Dia. x L.	Net Each, Lots of 1-9	10-24	25-49	50-99
260P10352S4	.01	.175 x 3/4	$7.21	$5.768	$3.605	$2.884
260P15352S4	.015	.195 x 3/4	7.27	5.816	3.635	2.908
260P22352S4	.022	.235 x 3/4	7.33	5.864	3.665	2.932
260P33352S4	.033	.235 x 3/4	7.33	5.864	3.665	2.932
260P47352S4	.047	.312 x 7/8	7.39	5.912	3.695	2.956
260P68352S4	.068	.312 x 7/8	7.39	5.912	3.695	2.956
260P10452S4	.1	.312 x 7/8	7.39	5.912	3.695	2.956
260P15452S4	.15	.312 x 1 1/8	7.87	6.296	3.935	3.148
260P22452S4	.22	.400 x 7/8	8.05	6.44	4.025	3.22
260P33452S4	.33	.400 x 1 1/8	8.59	6.872	4.295	3.436
260P47452S4	.47	.400 x 1 3/8	$ 9.13	$ 7.304	$ 4.565	$ 3.652
260P68452S4	.68	.562 x 1 1/8	10.115	8.092	5.058	4.046
260P10552S4	1.0	.562 x 1 3/8	11.195	8.956	5.598	4.478
260P20552S4	2.0	.670 x 1 5/8	14.305	11.444	7.153	5.722
260P30552S4	3.0	.750 x 1 7/8	16.15	12.92	8.075	6.46
260P40552S4	4.0	.750 x 2 1/8	18.01	14.408	9.005	7.204
260P50552S4	5.0	.750 x 2 3/8	19.69	15.752	9.845	7.876
260P70552S4	7.0	1.000 x 1 7/8	23.35	18.68	11.675	9.34
260P80552S4	8.0	1.000 x 2 1/8	25.27	20.216	12.635	10.108
260P10652S4	10.0	1.000 x 2 5/8	29.95	23.96	14.975	11.98

TYPE 193D DOMINO® MOLDED SOLID ELECTROLYTE TANTALEX® CAPACITORS

Fully molded construction. Epoxy case provides mechanical protection during handling and mounting as well as excellent stability in severe operating and storage environments. Leadless design minimizes inductance and saves space. Exposed terminal pads on bottom of capacitor can be attached to substrates or circuit board by any conventional method. Capacitance tolerance is ±10%. Operating temperature range is −55° C to +85° C; this may be extended to +125° C at 2/3 of rated working voltage. The catalog numbers listed in the table are preferred values and have flush solderable pads. Non-preferred values and units with extended solderable pads are available in minimum quantities of 100 pieces per value on a non-cancellable, non-returnable basis.

Sprague Number 193D-	Cap., μF	WV DC	Surge VDC	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
1 7X9003E2	100	3	4	$1.892	$1.419	$0.946	$0.715	$0.572
335X9006B2	3.3	6	8	1.232	.924	.616	.462	.374
336X9006D2	33	6	8	1.452	1.089	.726	.55	.44
686X9006E2	68	6	8	1.892	1.419	.946	.715	.572
105X9010A2	1.0	10	13	1.188	.891	.594	.451	.352
225X9010B2	2.2	10	13	1.232	.924	.616	.462	.374
685X9010C2	6.8	10	13	1.276	.957	.638	.484	.385
476X9010E2	47	10	13	1.892	1.419	.946	.715	.572
475X9015C2	4.7	15	20	1.276	.957	.638	.484	.385
106X9015D2	10	15	20	1.452	1.089	.726	.55	.44
474X9020A2	.47	20	26	1.188	.891	.594	.451	.352
105X9020B2	1.0	20	26	1.232	.924	.616	.462	.374
335X9020C2	3.3	20	26	1.276	.957	.638	.484	.385
685X9020D2	6.8	20	26	1.452	1.089	.726	.55	.44
226X9020E2	22	20	26	1.892	1.419	.946	.715	.572
104X9035A2	.1	35	46	1.188	.891	.594	.451	.352
224X9035A2	.22	35	46	1.188	.891	.594	.451	.352
155X9035C2	1.5	35	46	1.276	.957	.638	.484	.385
395X9035D2	3.9	35	46	1.452	1.089	.726	.55	.44
106X9035E2	10	35	46	1.892	1.419	.946	.715	.572

SPRAGUE Electrolytic Capacitors

TYPE TE LITTL-LYTIC® CAPACITORS

Ultra small; excellent, dependable replacement units for transistorized equipment presently on the market. Hermetically sealed in metal case. Low leakage current; long shelf life. Furnished with clear plastic outer insulating sleeves. Rated 85° C.

3 WVDC

No. TE-	Cap. µF	†	Net Each, Lots of*				
			1-24	25-49	50-99	100-249	250-499
1050	1	A	$.75	$.44	$.352	$.251	$.209
1051	2	A	.75	.44	.352	.251	.209
1052	3	A	.75	.44	.352	.251	.209
1052.1	4	A	.75	.44	.352	.251	.209
1052.2	5	A	.75	.44	.352	.251	.209
1052.3	6	A	.75	.44	.352	.251	.209
1052.5	8	A	.75	.44	.352	.251	.209
1053	10	A	.75	.44	.352	.251	.209
1053.5	15	A	.75	.44	.352	.251	.209
1054	20	A	.75	.44	.352	.251	.209
1055	25	A	.75	.44	.352	.251	.209
1055.5	30	A	.75	.44	.352	.251	.209
1058	50	B	.75	.44	.352	.251	.209
1058.5	65	B	.75	.44	.352	.251	.209
1059	75	C	.87	.498	.398	.284	.236
1059.5	100	C	.87	.498	.398	.284	.236
1060.1	130	C	.87	.498	.398	.284	.236
1061	150	D	.90	.521	.417	.297	.248
1064	200	D	.90	.521	.417	.297	.248
1065	250	F	.90	.521	.417	.297	.248
1066	300	F	.90	.521	.417	.297	.248
1067	400	G	.93	.532	.425	.303	.253
1068	500	H	1.02	.589	.472	.336	.28
1069.1	600	H	1.02	.589	.472	.336	.28
1070.1	800	I	1.02	.589	.472	.336	.28

6 WVDC

1080	1	A	$.75	$.44	$.352	$.251	$.209
1081	2	A	.75	.44	.352	.251	.209
1082	3	A	.75	.44	.352	.251	.209
1083	4	A	.75	.44	.352	.251	.209
1084	5	A	.75	.44	.352	.251	.209
1085	6	A	.75	.44	.352	.251	.209
1086	8	A	.75	.44	.352	.251	.209
1087	10	A	.75	.44	.352	.251	.209
1089	15	A	.75	.44	.352	.251	.209
1090	20	A	.75	.44	.352	.251	.209
1091	25	B	.75	.44	.352	.251	.209
1093	35	B	.75	.44	.352	.251	.209
1100	50	B	.75	.44	.352	.251	.209
1101.5	75	C	.87	.498	.398	.284	.236
1101.7	90	C	.87	.498	.398	.284	.236
1102	100	D	.90	.521	.417	.297	.248
1102.5	140	D	.90	.521	.417	.297	.248
1103	150	F	.90	.526	.421	.30	.25
1104	200	F	.90	.526	.421	.30	.25
1105	250	G	.93	.532	.425	.303	.253
1106	300	H	.93	.532	.425	.303	.253

*500–999 Quantity price Available on Request.

6 WVDC (CONT'D)

No. TE-	Cap. µF	†	Net Each, Lots of*				
			1-24	25-49	50-99	100-249	250-499
1107	400	H	1.02	$.589	$.472	$.336	$.28
1107.5	500	I	1.02	.632	.505	.36	.30
1108.5	600	I	1.02	.632	.505	.36	.30

12 WVDC

1120	1	A	$.75	$.44	$.352	$.251	$.209
1121	2	A	.75	.44	.352	.251	.209
1122	3	A	.75	.44	.352	.251	.209
1123	4	A	.75	.44	.352	.251	.209
1127	5	A	.75	.44	.352	.251	.209
1127.1	6	A	.75	.44	.352	.251	.209
1127.3	8	A	.75	.44	.352	.251	.209
1128	10	A	.75	.44	.352	.251	.209
1129	15	A	.75	.44	.352	.251	.209
1130	20	B	.75	.44	.352	.251	.209
1131	25	B	.75	.44	.352	.251	.209
1132.1	30	B	.75	.44	.352	.251	.209
1133	50	C	.87	.498	.398	.284	.236
1133.5	60	C	.87	.498	.398	.284	.236
1134	75	D	.90	.521	.417	.297	.248
1134.5	90	E	.90	.521	.417	.297	.248
1135	100	D	.90	.521	.417	.297	.248
1135.5	140	F	.90	.526	.421	.30	.25
1136	150	G	.93	.532	.425	.303	.253
1136.5	190	G	.93	.532	.425	.303	.253
1137	200	H	1.02	.589	.472	.336	.28
1138	250	H	1.02	.589	.472	.336	.28
1139	290	H	1.02	.589	.472	.336	.28
1140	390	I	1.02	.632	.505	.36	.30

16 WVDC

1148	1	A	$.75	$.44	$.352	$.251	$.209
1149	2	A	.75	.44	.352	.251	.209
1150	3	A	.75	.44	.352	.251	.209
1151	4	A	.75	.44	.352	.251	.209
1152	5	A	.75	.44	.352	.251	.209
1153	6	A	.75	.44	.352	.251	.209
1154	8	A	.75	.44	.352	.251	.209
1155	10	A	.75	.44	.352	.251	.209
1156	15	B	.75	.44	.352	.251	.209
1157	20	B	.75	.44	.352	.251	.209
1157.1	25	B	.75	.44	.352	.251	.209
1158	30	C	.87	.498	.398	.284	.236
1159	35	C	.87	.498	.398	.284	.236
1160	50	C	.87	.498	.398	.284	.236
1161	75	D	.90	.521	.417	.297	.248
1161.5	85	E	.90	.521	.417	.297	.248
1161.7	90	D	.90	.521	.417	.297	.248
1162	100	F	.90	.526	.421	.30	.25
1162.5	130	F	.90	.526	.421	.30	.25
1163	150	G	.93	.532	.425	.303	.253
1163.7	180	G	.93	.532	.425	.303	.253
1164	200	H	1.02	.589	.472	.336	.28
1164.5	250	H	1.02	.589	.472	.336	.28
1165.5	300	I	1.02	.632	.505	.36	.30
1166	350	I	1.02	.632	.505	.36	.30

†SIZES

Dia. x lg.: A—.260 x .536; B—.260 x .723; C—.322 x .723; D—.322 x .848; E—.385 x .723; F—.385 x .848; G—.385 x .973; H—.385 x 1.286; I—.385 x 1.536.

25 WVDC

No. TE-	Cap. µF	†	Net Each, Lots of*				
			1-24	25-49	50-99	100-249	250-499
1200	1	A	$.75	$.44	$.352	$.251	$.209
1201	2	A	.75	.44	.352	.251	.209
1201.1	3	A	.75	.44	.352	.251	.209
1201.2	4	A	.75	.44	.352	.251	.209
1202	5	A	.75	.44	.352	.251	.209
1203	6	A	.75	.44	.352	.251	.209
1203.5	8	A	.75	.44	.352	.251	.209
1204	10	B	.75	.44	.352	.251	.209
1205	15	B	.75	.44	.352	.251	.209
1206	20	C	.87	.498	.398	.284	.236
1207	25	C	.87	.498	.398	.284	.236
1207.5	30	C	.87	.498	.398	.284	.236
1208	35	C	.87	.498	.398	.284	.236
1209	50	D	.90	.521	.417	.297	.248
1210	75	F	.90	.526	.421	.30	.25
1211	100	G	.93	.532	.425	.303	.253
1212	150	H	1.02	.589	.472	.336	.28
1213	200	I	1.02	.632	.505	.36	.30

50 WVDC

1300	1	A	$.75	$.44	$.352	$.251	$.209
1301	2	A	.75	.44	.352	.251	.209
1302	3	A	.75	.44	.352	.251	.209
1302.1	4	A	.75	.44	.352	.251	.209
1303	5	B	.75	.44	.352	.251	.209
1303.1	6	B	.75	.44	.352	.251	.209
1303.3	8	B	.75	.44	.352	.251	.209
1304	10	C	.87	.498	.398	.284	.236
1304.2	15	C	.87	.498	.398	.284	.236
1305	20	D	.90	.521	.417	.297	.248
1305.5	25	D	.90	.521	.417	.297	.248
1306	35	F	.90	.526	.421	.30	.25
1307	50	G	.93	.532	.425	.303	.253
1308	75	H	1.02	.589	.472	.336	.28
1309	100	I	1.02	.632	.505	.36	.30

100 WVDC

1400	1	A	$.81	$.484	$.387	$.276	$.23
1401	2	B	.81	.484	.387	.276	.23
1402	3	C	.93	.547	.438	.312	.259
1403	4	C	.93	.547	.438	.312	.259
1404	5	D	.96	.574	.459	.327	.273
1405	6	D	.96	.574	.459	.327	.273
1406	8	F	1.02	.579	.463	.33	.275
1407	10	F	1.02	.579	.463	.33	.275
1408	15	G	1.02	.584	.467	.333	.278
1409	20	H	1.02	.647	.518	.369	.308
1410	25	I	1.02	.695	.556	.396	.33
1411	30	I	1.02	.695	.556	.396	.33

150 WVDC

1500	1	A	$.81	$.484	$.387	$.276	$.23
1501	2	B	.81	.484	.387	.276	.23
1502	3	C	.93	.547	.438	.312	.259
1503	4	D	1.02	.574	.459	.327	.273
1504	5	D	1.02	.574	.459	.327	.273
1505	6	F	1.02	.579	.463	.33	.275
1505.5	7	F	1.02	.579	.463	.33	.275
1506	8	F	1.02	.579	.463	.33	.275
1507	10	G	1.02	.584	.467	.333	.278
1508.1	15	H	1.02	.647	.518	.369	.308
1509	20	I	1.02	.695	.556	.396	.33

TYPE 502D VERTI-LYTIC® MINIATURE ELECTROLYTICS

For space-saving vertical installations on high-density printed wiring boards. Welds at all critical anode and cathode terminations. Metal encased with thermoplastic insulating sleeve. .200″ lead spacing. **Operating Temperature:** −20° C to 85° C. **Size** (Last four digits of type no. indicate size, Dia″/L″): **BB1C**—.335/.531; **CC1C**—.413/.577; **CD1C**—.413/.669; **CE1C**—.413/.827; **CG1C**—.413/.827; **DG1C**—.531/.827; **DK1C**—.531/1.024.

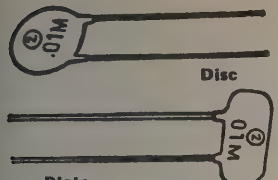
SPRAGUE
502 D

Sprague Number 502D-	WVDC, VDC Surge	Cap., µF	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-Up
157G003CC1C	3, 4	150	$0.60	$0.410	$0.328	$0.246	$0.205
476G006CC1C	6, 8	47	.60	.410	.328	.246	.205
107G6R3BB1C	6.3, 8	100	.60	.410	.328	.246	.205
477G6R3CG1C	6.3, 8	470	.66	.458	.366	.275	.229
687G6R3DG1C	6.3, 8	680	.75	.525	.420	.315	.263
108G6R3DK1C	6.3, 8	1000	.96	.688	.550	.413	.344
686G010BB1C	10, 13	68	.60	.410	.328	.246	.205
227G010CD1C	10, 13	220	.66	.458	.366	.275	.229
337G010CG1C	10, 13	330	.66	.458	.366	.275	.229
477G010DG1C	10, 13	470	.66	.458	.366	.275	.229
687G010DK1C	10, 13	680	.75	.525	.420	.315	.263
476G016BB1C	16, 16	47	.60	.410	.328	.246	.205
107G016CD1C	16, 16	100	.66	.458	.366	.275	.229
157G016CD1C	16, 16	150	.66	.458	.366	.275	.229
227G016CG1C	16. 16	220	.66	.458	.366	.275	.229
337G016DG1C	16, 16	330	.66	.458	.366	.275	.229
477G016DK1C	16, 16	470	.75	.525	.420	.315	.263
156G025BB1C	25, 35	15	.60	.410	.328	.246	.205
226G025BB1C	25, 35	22	.60	.410	.328	.246	.205
336G025BB1C	25, 35	33	.60	.410	.328	.246	.205
476G025CD1C	25, 35	47	.60	.410	.328	.246	.205

Sprague Number 502D-	WVDC, VDC Surge	Cap., µF	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-Up
476G025CD1C	25, 35	68	$0.60	$0.410	$0.328	$0.246	$0.205
107G025CG1C	25, 35	100	.66	.458	.366	.275	.229
157G025DG1C	25, 35	150	.66	.458	.366	.275	.229
227G025DG1C	25, 35	220	.66	.458	.366	.275	.229
337G025DK1C	25, 35	330	.66	.458	.366	.275	.229
476G035CD1C	35, 44	47	.60	.410	.328	.246	.205
157G035DG1C	35, 44	150	.66	.458	.366	.275	.229
227G035DK1C	35, 44	220	.75	.525	.420	.315	.263
105F050BB1C	50, 63	1.0	.60	.410	.328	.246	.205
155F050BB1C	50, 63	1.5	.60	.410	.328	.246	.205
225F050BB1C	50, 63	2.2	.60	.410	.328	.246	.205
225G050CC1C	50, 63	2.2	.60	.410	.328	.246	.205
335F050BB1C	50, 63	3.3	.60	.410	.328	.246	.205
475F050BB1C	50, 63	4.7	.60	.410	.328	.246	.205
685F050BB1C	50, 63	6.8	.60	.410	.328	.246	.205
106F050BB1C	50, 63	10	.60	.410	.328	.246	.205
156F050BB1C	50, 63	15	.60	.410	.328	.246	.205
226F050CD1C	50, 63	22	.60	.410	.328	.246	.205
336F050CD1C	50, 63	33	.66	.458	.366	.275	.229
476F050CG1C	50, 63	47	.66	.458	.366	.275	.229
686F050CG1C	50, 63	68	.66	.458	.366	.275	.229
107F050DG1C	50, 63	100	.66	.458	.366	.275	.229

SPRAGUE Ceramic Capacitors

CERA-MITE® CERAMIC CAPACITORS



Tiny, tough and dependable. Fine replacement for molded micas and tubular ceramics. Silvered flat-plate design has low self-inductance for high bypass efficiency in TV circuits. Heavy moisture-proof insulating coat. For 85° C use. Std. Tol.: ±20% except as indicated.

GENERAL APPLICATION

Extra small for use anywhere. Ideal where TC is not important.

500 WVDC (discs)

Sprague No.	pF	Net Ea.
5GAS-S10	10,000	$0.15
5GAS-S20	20,000	.21
5GA-S25	25,000	.24
5GA-S40	40,000	.48
5GA-S50	50,000	.48
5GA-P10	100,000	.84

1000 WVDC (discs)

Sprague No.	pF	Net Ea.
5GA-V50	5	$0.15
5GA-V68	6.8	.15
5GA-V75	7.5	.15
5GA-V82	8.2	.15
5GA-Q10	10	.15
5GA-Q12	12	.15
5GA-Q15	15	.15
5GA-Q18	18	.15
5GA-Q20	20	.15
5GA-Q22	22	.15
5GA-Q25	25	.15
5GA-Q27	27	.15
5GA-Q30	30	.15
5GA-Q33	33	.15
5GA-Q39	39	.15
5GA-Q47	47	.15
5GA-Q50	50	.15
5GA-Q56	56	.15
5GA-Q68	68	.15
5GA-Q75	75	.15
5GA-Q82	82	.15
5GA-T10	100	.15
5GA-T12	120	.15
5GA-T15	150	.15
5GA-T18	180	.15
5GA-T20	200	.15
5GA-T22	220	.15
5GA-T25	250	.15
5GA-T27	270	.15
5GA-T30	300	.15
5GA-T33	330	.15
5GA-T36	360	.15
5GA-T39	390	.15
5GA-T47	470	.15
5GA-T50	500	.15
5GA-T56	560	.15
5GA-T68	680	.15
5GA-T75	750	.15
5GA-T80	800	.15
5GA-T82	820	.15
5GA-D10	1000	.15
5GA-D12	1200	.15
5GA-D15	1500	.15
5GA-D18	1800	.15
5GA-D20	2000	.15
5GA-D22	2200	.15
5GA-D25	2500	.15
5GA-D27	2700	.15
5GA-D30	3000	.15
5GA-D33	3300	.15
5GA-D39	3900	.15
5GA-D40	4000	.15
5GA-D47	4700	.15
5GA-D50	5000	.15
5GA-D68	6800	.18
5GA-D82	8200	.18
5GA-S10	10,000	.21
5GA-S15	15,000	.30
5GA-S20	20,000	.33

3000 WVDC (discs)

Std. Tol.: 1.5 pF, ±.25 pF; 3.3–5 pF, ±.5 pF; 6–68 pF, ±10%.

Sprague No.	pF	Net Ea.
30GA-V15	1.5	$0.30
30GA-V33	3.3	.30
30GA-V47	4.7	.30
30GA-V50	5	.30
30GA-V60	6	.30
30GA-V68	6.8	.30
30GA-V75	7.5	.30
30GA-V82	8.2	.30

3000 WVDC (Cont'd)

Sprague No.	pF	Net Ea.
30GA-Q10	10	$0.30
30GA-Q12	12	.30
30GA-Q15	15	.30
30GA-Q18	18	.30
30GA-Q20	20	.30
30GA-Q22	22	.30
30GA-Q25	25	.30
30GA-Q27	27	.30
30GA-Q30	30	.30
30GA-Q33	33	.30
30GA-Q39	39	.30
30GA-Q47	47	.30
30GA-Q50	50	.30
30GA-Q56	56	.30
30GA-Q60	60	.30
30GA-Q62	62	.30
30GA-Q68	68	.30
30GA-Q75	75	.30
30GA-Q82	82	.30
30GA-T10	100	.30
30GA-T12	120	.30
30GA-T15	150	.30
30GA-T18	180	.30
30GA-T20	200	.30
30GA-T22	220	.30
30GA-T25	250	.30
30GA-T27	270	.30
30GA-T30	300	.30
30GA-T33	330	.30
30GA-T39	390	.30
30GA-T40	400	.30
30GA-T47	470	.30
30GA-T50	500	.30
30GA-T56	560	.30
30GA-T68	680	.33
30GA-T75	750	.33
30GA-T82	820	.33
30GA-D10	1000	.33
30GA-D12	1200	.33
30GA-D15	1500	.33
30GA-D20	2000	.51
30GA-D22	2200	.51
30GA-D25	2500	.51
30GA-D27	2700	.51
30GA-D30	3000	.51
30GA-D33	3300	.51
30GA-D39	3900	.66
30GA-D40	4000	.66
30GA-D47	4700	.72
30GA-D50	5000	.72
30GA-D60	6000	1.02
30GA-D68	6800	1.02
30GA-D80	8000	1.11
30GA-D82	8200	1.11
30GA-S10	10,000	1.11

6000 WVDC (discs)

Sprague No.	pF	Net Ea.
60GA-V15	1.5	$1.59
60GA-V47	4.7	1.59
60GA-V68	6.8	1.59
60GA-Q10	10	1.59
60GA-Q12	12	1.59
60GA-Q15	15	1.59
60GA-Q18	18	1.59
60GA-Q20	20	1.59
60GA-Q22	22	1.59
60GA-Q25	25	1.59
60GA-Q27	27	1.59
60GA-Q30	30	1.59
60GA-Q33	33	1.59
60GA-Q39	39	1.59
60GA-Q47	47	1.59
60GA-Q50	50	1.59
60GA-Q56	56	1.59
60GA-Q60	60	1.59
60GA-Q68	68	1.59
60GA-Q75	75	1.59
60GA-Q82	82	1.59
60GA-T10	100	1.59
60GA-T12	120	1.59
60GA-T15	150	1.59
60GA-T18	180	1.59
60GA-T20	200	1.59
60GA-T22	220	1.59
60GA-T25	250	1.59
60GA-T27	270	1.59
60GA-T30	300	1.59
60GA-T33	330	1.59
60GA-T39	390	1.59
60GA-T40	400	1.59
60GA-T47	470	1.59
60GA-T50	500	1.59
60GA-T56	560	1.59
60GA-T68	680	1.59
60GA-T75	750	1.59
60GA-T82	820	1.59
60GA-D10	1000	1.59
60GA-D12	1200	1.59
60GA-D15	1500	1.59
60GA-D22	2200	1.71
60GA-D25	2500	2.55
60GA-D27	2700	2.55
60GA-D30	3000	2.55
60GA-D33	3300	2.55
60GA-D39	3900	2.67
60GA-D47	4700	2.67

7500 WVDC (discs)

Std. Tol.: 4.7 pF, ±.5 pF; 8.2–18 pF, ±10%.

Sprague No.	pF	Net Ea.
75GA-V47	4.7	$2.46
75GA-V82	8.2	2.46
75GA-Q10	10	2.46
75GA-Q12	12	2.46
75GA-Q15	15	2.46
75GA-Q18	18	2.46
75GA-Q20	20	2.46
75GA-Q22	22	2.46
75GA-Q30	30	2.46
75GA-Q33	33	2.46
75GA-Q47	47	2.46
75GA-Q56	56	2.46
75GA-T10	100	2.46
75GA-T22	220	2.46
75GA-T47	470	2.46
75GA-T50	500	2.46
75GA-T56	560	2.46
75GA-T68	680	2.46
75GA-T75	750	2.46
75GA-T82	820	2.46
75GA-D10	1000	2.46
75GA-D12	1200	2.55
75GA-D15	1500	2.61
75GA-D18	1800	2.79
75GA-D20	2000	2.79
75GA-D22	2200	2.79
75GA-D25	2500	2.79

TEMPERATURE-STABLE

Used where minimum capacitance change with temperature is an important consideration. Rated 1000 WVDC. Std. Tol., ±10%.

Sprague No.	pF	Net Ea.
10TS-V33	3.3	$0.15
10TS-V50	5	.15
10TS-V68	6.8	.15
10TS-V75	7.5	.15
10TS-V82	8.2	.15
10TS-Q10	10	.15
10TS-Q12	12	.15
10TS-Q15	15	.15
10TS-Q18	18	.15
10TS-Q20	20	.15
10TS-Q22	22	.15
10TS-Q25	25	.15
10TS-Q27	27	.15
10TS-Q30	30	.15
10TS-Q33	33	.15
10TS-Q39	39	.15
10TS-Q47	47	.15
10TS-Q50	50	.15
10TS-Q56	56	.15
10TS-Q68	68	.15
10TS-Q75	75	.15
10TS-Q82	82	.15
10TS-Q91	91	.15
10TS-T10	100	.15
10TS-T12	120	.15
10TS-T15	150	.15
10TS-T18	180	.15
10TS-T20	200	.15
10TS-T22	220	.15
10TS-T25	250	.15
10TS-T27	270	.15
10TS-T30	300	.15
10TS-T33	330	.15
10TS-T39	390	.15
10TS-T47	470	.15
10TS-T50	500	.15
10TS-T56	560	.15
10TS-T68	680	.15
10TS-T75	750	.15
10TS-T82	820	.15
10TS-D10	1000	.18
10TS-D12	1200	.18
10TS-D15	1500	.18
10TS-D18	1800	.27
10TS-D20	2000	.27
10TS-D22	2200	.27
10TS-D25	2500	.30
10TS-D27	2700	.30
10TS-D30	3000	.36
10TS-D33	3300	.36
10TS-D39	3900	.36
10TS-D40	4000	.36
10TS-D47	4700	.60
10TS-D50	5000	.60
10TS-D56	5600	.60
10TS-D68	6800	.60
10TS-D75	7500	.66
10TS-D82	8200	.84
10TS-S10	10000	1.02

SEMI-STABLE

WVDC: 250, 2SS; 1000, 10SS. Std. Tol.: ±10%.

Sprague No.	pF	Net Ea.
2SS-T75	750	$0.18
2SS-T82	820	.18
2SS-D10	1000	.18
2SS-D12	1200	.18
2SS-D15	1500	.18
2SS-D18	1800	.18
2SS-D20	2000	.18
2SS-D22	2200	.18
2SS-D27	2700	.18
2SS-D33	3300	.21
2SS-D39	3900	.21
2SS-D47	4700	.24
2SS-D50	5000	.24
2SS-D56	5600	.24
2SS-D68	6800	.30
2SS-D82	8200	.33
2SS-S10	10,000	.33
2SS-S12	12,000	.36
2SS-S15	15,000	.60
2SS-S18	18,000	.69
2SS-S20	20,000	.69
10SS-T47	470	.15
10SS-T50	500	.15
10SS-T56	560	.15
10SS-T68	680	.15
10SS-T75	750	.15
10SS-T82	820	.15
10SS-D10	1000	.15
10SS-D12	1200	.15
10SS-D15	1500	.18
10SS-D18	1800	.18
10SS-D20	2000	.18
10SS-D22	2200	.21
10SS-D27	2700	.21
10SS-D33	3300	.30
10SS-D39	3900	.30
10SS-D47	4700	.30
10SS-D50	5000	.30
10SS-D56	5600	.36
10SS-D68	6800	.45
10SS-D82	8200	.66
10SS-S10	10,000	.66
10SS-S12	12,000	.69
10SS-S15	15,000	.87
10SS-S18	18,000	1.20
10SS-S20	20,000	1.20
10SS-S22	22,000	1.20

HIGH-K TYPES

For bypass and coupling uses where added capacitance is not important. WVDC: 1000 except 5HKS-S10–TH-P10 500. Std. Tol.: GMV except 5HKS-S10–5HK-P10, +80 −20%; TH types ±20%.

Sprague No.	µF	Net Ea.
5HK-D10	.001	$0.15
5HK-D15	.0015	.15
5HK-D20	.002	.15
5HK-D22	.0022	.15
5HK-D33	.0033	.15
5HK-D39	.0039	.15
5HK-D47	.0047	.18
5HK-D50	.005	.18
5HK-D68	.0068	.18
5HK-D82	.0082	.21
5HK-S10	.01	.24
5HKS-S10	.01	.15
5HK-S15	.015	.21
5HK-S20	.02	.21
5HK-S25	.025	.24
5HK-S40	.04	.45
5HK-S50	.05	.48
5HK-P10	.1	.72
5HK-2D10	2 x .001	.69
5HK-2D15	2 x .0015	.69
5HK-2D20	2 x .002	.72
5HK-2D22	2 x .0022	.72
5HK-2D47	2 x .0047	.81
5HK-2S10	2 x .01	.90
5HK-2S20	2 x .02	1.08

AC DISC CERAMICS

For AC line bypass uses. Rated 125 VAC or 1400 VDC.

125L-D10	.001	$.27
125L-D15	.0015	.27
125L-D20	.002	.27
125L-D47	.0047	.36
125L-D50	.005	.36
125L-S10	.01	.36
125L-S20	.02	1.20
125L-2D50	2 x .005	.72
125L-2S10	2 x .01	1.23

(Cont'd on Following Page)

SPRAGUE Ceramic Capacitors

CERA-MITE® CERAMIC CAPACITORS (CONT'D)

TEMPERATURE-COMPENSATING

Eliminate oscillator drift in TV, FM, VHF and AM receivers. Rated 1000 WVDC. Std. Tol.: ±5%, 12 pF up; all others ±0.5 pF.

N030

Neg. temp. coef., 30 ppm/° C.

Sprague No.	pF	Net Ea.
10TCM-V10	1.0	$.24
10TCM-V12	1.2	.24
10TCM-V15	1.5	.24
10TCM-V18	1.8	.21
10TCM-V22	2.2	.21
10TCM-V27	2.7	.21
10TCM-V30	3.0	.21
10TCM-V33	3.3	.21
10TCM-V39	3.9	.21
10TCM-V47	4.7	.21
10TCM-V50	5.0	.21
10TCM-V56	5.6	.21
10TCM-V68	6.8	.21
10TCM-V82	8.2	.21
10TCM-Q10	10	.21
10TCM-Q12	12	.21
10TCM-Q15	15	.21
10TCM-Q18	18	.18
10TCM-Q20	20	.18
10TCM-Q22	22	.18
10TCM-Q25	25	.21
10TCM-Q27	27	.21
10TCM-Q30	30	.21
10TCM-Q33	33	.21
10TCM-Q39	39	.21
10TCM-Q47	47	.24
10TCM-Q50	50	.24
10TCM-Q56	56	.24
10TCM-Q68	68	.33
10TCM-Q75	75	.36
10TCM-Q82	82	.36
10TCM-T10	100	.36
10TCM-T12	120	.42
10TCM-T15	150	.48
10TCM-T18	180	.78
10TCM-T20	200	.78
10TCM-T22	220	.78
10TCM-T27	270	.87
10TCM-T30	300	1.38
10TCM-T33	330	1.38
10TCM-T39	390	1.38

N080

Neg. temp. coef., 80 ppm/° C.

Sprague No.	pF	Net Ea.
10TCN-V22	2.2	$.24
10TCN-V27	2.7	.24
10TCN-V30	3.0	.24
10TCN-V33	3.3	.24
10TCN-V39	3.9	.24
10TCN-V47	4.7	.24
10TCN-V50	5.0	.24
10TCN-V56	5.6	.24
10TCN-V68	6.8	.21
10TCN-V82	8.2	.21
10TCN-Q10	10	.21
10TCN-Q12	12	.21
10TCN-Q15	15	.21
10TCN-Q18	18	.21
10TCN-Q20	20	.18
10TCN-Q22	22	.18
10TCN-Q25	25	.18
10TCN-Q27	27	.18
10TCN-Q30	30	.21
10TCN-Q33	33	.21
10TCN-Q39	39	.21
10TCN-Q47	47	.21
10TCN-Q50	50	.24
10TCN-Q56	56	.24
10TCN-Q68	68	.24
10TCN-Q75	75	.33
10TCN-Q82	82	.33
10TCN-T10	100	.36
10TCN-T12	120	.36
10TCN-T15	150	.42
10TCN-T18	180	.48
10TCN-T20	200	.78
10TCN-T22	220	.78
10TCN-T27	270	.87
10TCN-T30	300	1.20
10TCN-T33	330	1.20
10TCN-T39	390	1.38
10TCN-T47	470	1.38

N150

Neg. temp. coef., 150 ppm/° C.

Sprague No.	pF	Net Ea.
10TCP-V22	2.2	$.24
10TCP-V27	2.7	.24
10TCP-V30	3.0	.24
10TCP-V33	3.3	.24
10TCP-V39	3.9	.24
10TCP-V47	4.7	.24
10TCP-V50	5.0	.21
10TCP-V56	5.6	.21
10TCP-V68	6.8	.21
10TCP-V82	8.2	.21
10TCP-Q10	10	.21
10TCP-Q12	12	.21
10TCP-Q15	15	.21
10TCP-Q18	18	.21
10TCP-Q20	20	.18
10TCP-Q22	22	.18
10TCP-Q25	25	.18
10TCP-Q27	27	.18
10TCP-Q30	30	.21
10TCP-Q33	33	.21
10TCP-Q39	39	.21
10TCP-Q47	47	.21
10TCP-Q50	50	.24
10TCP-Q56	56	.24
10TCP-Q68	68	.24
10TCP-Q75	75	.33
10TCP-Q82	82	.33
10TCP-T10	100	.36
10TCP-T12	120	.36
10TCP-T15	150	.42
10TCP-T18	180	.48
10TCP-T20	200	.78
10TCP-T22	220	.78
10TCP-T27	270	.87
10TCP-T30	300	1.20
10TCP-T33	330	1.20
10TCP-T39	390	1.38
10TCP-T47	470	1.38

N220

Neg. temp. coef., 220 ppm/° C.

Sprague No.	pF	Net Ea.
10TCR-V30	3.0	$.24
10TCR-V33	3.3	.24
10TCR-V39	3.9	.24
10TCR-V47	4.7	.24
10TCR-V50	5.0	.24
10TCR-V56	5.6	.24
10TCR-V68	6.8	.21
10TCR-V82	8.2	.21
10TCR-Q10	10	.21
10TCR-Q12	12	.21
10TCR-Q15	15	.21
10TCR-Q18	18	.21
10TCR-Q20	20	.18
10TCR-Q22	22	.18
10TCR-Q25	25	.18
10TCR-Q27	27	.18
10TCR-Q30	30	.18
10TCR-Q33	33	.18
10TCR-Q39	39	.21
10TCR-Q47	47	.21
10TCR-Q50	50	.21
10TCR-Q56	56	.21
10TCR-Q68	68	.24
10TCR-Q75	75	.33
10TCR-Q82	82	.33
10TCR-T10	100	.33
10TCR-T12	120	.36
10TCR-T15	150	.42
10TCR-T18	180	.48
10TCR-T20	200	.78
10TCR-T22	220	.78
10TCR-T27	270	.78
10TCR-T30	300	.87
10TCR-T33	330	.87
10TCR-T39	390	.87
10TCR-T47	470	1.38
10TCR-T56	560	1.38

N330

Neg. temp. coef., 330 ppm/° C.

Sprague No.	pF	Net Ea.
10TCS-V30	3.0	$.24
10TCS-V33	3.3	.24
10TCS-V39	3.9	.24
10TCS-V47	4.7	.24
10TCS-V50	5.0	.24
10TCS-V56	5.6	.24
10TCS-V68	6.8	.21
10TCS-V82	8.2	.21
10TCS-Q10	10	.21
10TCS-Q12	12	.21
10TCS-Q15	15	.21
10TCS-Q18	18	.21
10TCS-Q20	20	.21
10TCS-Q22	22	.21
10TCS-Q25	25	.18
10TCS-Q27	27	.18
10TCS-Q30	30	.18
10TCS-Q33	33	$.18
10TCS-Q39	39	.21
10TCS-Q47	47	.21
10TCS-Q50	50	.21
10TCS-Q56	56	.21
10TCS-Q68	68	.24
10TCS-Q75	75	.33
10TCS-Q82	82	.33
10TCS-T10	100	.33
10TCS-T12	120	.36
10TCS-T15	150	.42
10TCS-T18	180	.48
10TCS-T20	200	.78
10TCS-T22	220	.78
10TCS-T27	270	.78
10TCS-T30	300	.87
10TCS-T33	330	.87
10TCS-T39	390	1.20
10TCS-T47	470	1.38
10TCS-T56	560	1.38

N470

Neg. temp. coef., 470 ppm/° C.

10TCT-V30	3.0	$.24
10TCT-V33	3.3	.24
10TCT-V39	3.9	.24
10TCT-V47	4.7	.24
10TCT-V50	5.0	.24
10TCT-V56	5.6	.24
10TCT-V68	6.8	.24
10TCT-V82	8.2	.21
10TCT-Q10	10	.21
10TCT-Q12	12	.21
10TCT-Q15	15	.21
10TCT-Q18	18	.21
10TCT-Q20	20	.21
10TCT-Q22	22	.21
10TCT-Q25	25	.18
10TCT-Q27	27	.18
10TCT-Q30	30	.18
10TCT-Q33	33	.18
10TCT-Q39	39	.18
10TCT-Q47	47	.18
10TCT-Q50	50	.21
10TCT-Q56	56	.21
10TCT-Q68	68	.21
10TCT-Q75	75	.24
10TCT-Q82	82	.24
10TCT-T10	100	.24
10TCT-T12	120	.33
10TCT-T15	150	.36
10TCT-T18	180	.36
10TCT-T20	200	.42
10TCT-T22	220	.42
10TCT-T27	270	.78
10TCT-T30	300	.78
10TCT-T33	330	.78
10TCT-T39	390	.78
10TCT-T47	470	1.20
10TCT-T56	560	1.38
10TCT-T68	680	1.38
10TCT-T75	750	1.38

N750

Neg. temp. coef., 750 ppm/° C.

10TCU-V47	4.7	$.15
10TCU-V50	5.0	.15
10TCU-V56	5.6	.15
10TCU-V68	6.8	.15
10TCU-V82	8.2	.15
10TCU-Q10	10	.15
10TCU-Q12	12	.15
10TCU-Q15	15	.15
10TCU-Q18	18	.15
10TCU-Q20	20	.15
10TCU-Q22	22	.15
10TCU-Q25	25	.15
10TCU-Q27	27	.15
10TCU-Q30	30	.15
10TCU-Q33	33	.15
10TCU-Q39	39	.15
10TCU-Q47	47	.15
10TCU-Q50	50	.15
10TCU-Q56	56	.14
10TCU-Q68	68	.14
10TCU-Q75	75	.14
10TCU-Q82	82	.14
10TCU-T10	100	.18
10TCU-T12	120	.18
10TCU-T15	150	.24
10TCU-T18	180	.24
10TCU-T20	200	.27
10TCU-T22	220	.27
10TCU-T27	270	.33
10TCU-T30	300	.36
10TCU-T33	330	.36
10TCU-T39	390	.60
10TCU-T47	470	.60
10TCU-T56	560	.90
10TCU-T68	680	.90
10TCU-T75	750	1.05
10TCU-T82	820	1.05
10TCU-D10	1000	1.05

N1500

Neg. temp. coef., 1500 ppm/° C.

Sprague No.	pF	Net Ea.
10TCW-Q10	10	$.24
10TCW-Q12	12	.24
10TCW-Q15	15	.24
10TCW-Q18	18	.21
10TCW-Q20	20	.21
10TCW-Q22	22	.21
10TCW-Q25	25	.21
10TCW-Q27	27	.21
10TCW-Q30	30	.21
10TCW-Q33	33	.21
10TCW-Q39	39	.21
10TCW-Q47	47	.18
10TCW-Q50	50	.18
10TCW-Q56	56	.18
10TCW-Q68	68	.18
10TCW-Q75	75	.21
10TCW-Q82	82	.21
10TCW-T10	100	.21
10TCW-T12	120	.21
10TCW-T15	150	.27
10TCW-T18	180	.39
10TCW-T20	200	.39
10TCW-T22	220	.39
10TCW-T27	270	.39
10TCW-T30	300	.51
10TCW-T33	330	.51
10TCW-T39	390	.60
10TCW-T47	470	.84
10TCW-T56	560	.84
10TCW-T68	680	.93
10TCW-T75	750	1.17
10TCW-T82	820	1.17
10TCW-D10	1000	1.47
10TCW-D12	1200	1.47

N2200

Neg. temp. coef., 2200 ppm/° C.

Sprague No.	pF	Net Ea.
10TCY-Q10	10	$.24
10TCY-Q12	12	.24
10TCY-Q15	15	.24
10TCY-Q18	18	.24
10TCY-Q20	20	.24
10TCY-Q22	22	.24
10TCY-Q25	25	.21
10TCY-Q27	27	.21
10TCY-Q30	30	.21
10TCY-Q33	33	.21
10TCY-Q39	39	.21
10TCY-Q47	47	.21
10TCY-Q50	50	.21
10TCY-Q56	56	.21
10TCY-Q68	68	.21
10TCY-Q75	75	.18
10TCY-Q82	82	.18
10TCY-T10	100	.18
10TCY-T12	120	.18
10TCY-T15	150	.21
10TCY-T18	180	.21
10TCY-T20	200	.27
10TCY-T22	220	.27
10TCY-T27	270	.27
10TCY-T30	300	.39
10TCY-T33	330	.39
10TCY-T39	390	.39
10TCY-T47	470	.39
10TCY-T56	560	.51
10TCY-T68	680	.60
10TCY-T75	750	.84
10TCY-T82	820	.84
10TCY-D10	1000	.84
10TCY-D12	1200	.93
10TCY-D15	1500	1.17
10TCY-D18	1800	1.47
10TCY-D20	2000	1.47
10TCY-D22	2200	1.47

See following page for NPO (Discs), Hypercon Ceramic Discs and Miniaturized Ceramic Disc Capacitors.

QUANTITY PRICE INFORMATION AVAILABLE ON REQUEST.

SPRAGUE Capacitors

CERA-MITE® CERAMIC CAPACITORS (CONT'D)

HYPERCON® CERAMIC DISCS

Ultra-miniature discs for transistorized circuitry, bypass and coupling. Especially suited for any low voltage use where high capacitance and low power factors are important. Std. Tol.: HY-420–HY470 and HY-510–HY-550, +80 −20%; all others +50 −20%.

Sprague No.	µF	WVDC	Net Each
HY-340	.022	12	$0.15
HY-345	.033	12	.18
HY-350	.047	12	.18
HY-355	.068	12	.18
HY-360	.1	12	.21
HY-365	.15	12	.33
HY-370	.22	12	.33
HY-375	.33	12	.63
HY-380	.47	12	.63
HY-420	.01	16	.15
HY-425	.022	16	.15
HY-430	.033	16	.15
HY-435	.047	16	.18
HY-440	.068	16	.18
HY-450	.1	16	.21
HY-470	.2	16	.33
HY-625	.022	16	.15
HY-630	.033	16	.18
HY-635	.047	16	.18
HY-640	.068	16	.18
HY-650	.1	16	.21
HY-665	.15	16	.33
HY-670	.22	16	.33
HY-675	.33	16	.63
HY-510	.0047	25	.15
HY-520	.01	25	.15
HY-525	.022	25	.15
HY-530	.033	25	.15
HY-535	.047	25	.18
HY-540	.068	25	.18
HY-550	.1	25	.21
HY-720	.015	25	.15
HY-725	.022	25	.15
HY-730	.033	25	.18
HY-735	.047	25	.18
HY-740	.068	25	.18
HY-750	.1	25	.21
HY-765	.15	25	.33
HY-770	.22	25	.33

CERA-MITE® NPO (DISCS)

Zero temperature-coefficient capacitors used where capacitance change with temperature is undesirable. Superior to silvered-mica types in stability, high "Q" and insulation resistance. Rated 1000 WVDC. Std. Tol.: ±5%, 12 pF up; all others ±0.5 pF.

Sprague No.	pF	Net Each
10TCC-V10	1	$0.18
10TCC-V12	1.2	.18
10TCC-V15	1.5	.18
10TCC-V18	1.8	.15
10TCC-V22	2.2	.15
10TCC-V27	2.7	.15
10TCC-V30	3.0	.15
10TCC-V33	3.3	.15
10TCC-V39	3.9	.15
10TCC-V47	4.7	.15
10TCC-V50	5.0	.15
10TCC-V56	5.6	.15
10TCC-V68	6.8	.15
10TCC-V82	8.2	.15
10TCC-Q10	10	.15
10TCC-Q12	12	.15
10TCC-Q15	15	.15
10TCC-Q18	18	.15
10TCC-Q20	20	.15
10TCC-Q22	22	.15
10TCC-Q25	25	.15
10TCC-Q27	27	.15
10TCC-Q30	30	.15
10TCC-Q33	33	.15
10TCC-Q39	39	.15
10TCC-Q47	47	.18
10TCC-Q50	50	.24
10TCC-Q56	56	.24
10TCC-Q68	68	.24
10TCC-Q75	75	.27
10TCC-Q82	82	.27
10TCC-T10	100	.33
10TCC-T12	120	.33
10TCC-T15	150	.36
10TCC-T18	180	.60
10TCC-T20	200	.66
10TCC-T22	220	.66
10TCC-T27	270	.90
10TCC-T30	300	1.05
10TCC-T33	330	1.05
10TCC-T39	390	1.05

MINIATURIZED CERAMIC DISC CAPACITORS

Designed for transistorized circuitry. Small size allows easy fit into tight spaces. Moisture-proof coating protects against severe humidity and vibration. Coupling and bypass. High capacitance, low voltage. Standard tolerance, ±20%. Designed for 85° C continuous operation.

Sprague Number	Cap., µF	VDC	Net Each*
TGL-S50	.05	100	$0.27
TG-D50	.005	100	.15
TG-S10	.01	100	.15
TG-S20	.02	100	.15
TG-S25	.025	100	.18
TG-S30	.03	100	.18
TG-S50	.05	100	.39
TG-P10	.1	100	.51

*Quantity prices available on request.

TYPE 431P METFILM® "E" CAPACITORS

Small size and light weight axial-lead polyester-film capacitor; sections protected against moisture by an outer wrap of polyester-film tape. End seals are plastic resin which bonds with the film wrap and tinned leads to provide secure seal. Tolerance, ±10%.

50 WVDC

Sprague Number	Cap., µF	Net Each, Lots of*			
		1-24	25-49	50-99	100-249
431P4739R5	0.047	$ 1.98	$1.519	$0.886	$0.673
431P6839R5	0.068	2.04	1.56	.911	.692
431P1049R5	0.1	2.13	1.642	.958	.728
431P1549R5	0.15	2.25	1.724	1.006	.764
431P2249R5	0.22	2.34	1.806	1.054	.801
431P3349R5	0.33	2.61	2.012	1.174	.892
431P4749R5	0.47	2.88	2.217	1.294	.983
431P6849R5	0.68	3.12	2.422	1.413	1.074
431P1059R5	1.0	3.12	2.425	1.415	1.075
431P1559R5	1.5	3.63	2.804	1.636	1.243
431P2059R5	2.0	3.96	3.069	1.791	1.361
431P2559R5	2.5	4.20	3.259	1.901	1.445
431P3059R5	3.0	4.71	3.638	2.122	1.613
431P4059R5	4.0	6.21	4.775	2.785	2.117
431P5059R5	5.0	7.53	5.775	3.404	2.587
431P6059R5	6.0	8.58	6.563	3.868	2.94
431P7059R5	7.0	9.63	7.35	4.333	3.293
431P1069R5	10.0	11.46	8.775	5.173	3.931
431P1269R5	12.0	13.23	10.125	5.906	4.536
200 WVDC					
431P15392	0.015	$1.11	$0.862	$0.503	$0.382
431P22392	0.022	1.11	.862	.503	.382
431P33392	0.033	1.11	.862	.503	.382
431P47392	0.047	1.11	.862	.503	.382
431P68392	0.068	1.11	.862	.503	.382
431P10492	0.1	1.11	.862	.503	.382
431P15492	0.15	1.17	.903	.527	.40
431P22492	0.22	1.29	.985	.575	.437
431P33492	0.33	1.44	1.108	.646	.491
431P47492	0.47	1.59	1.232	.719	.546
431P68492	0.68	1.92	1.478	.862	.655
431P10592	1.0	2.04	1.554	.906	.689
431P15592	1.5	2.52	1.933	1.127	.857
431P20592	2.0	2.88	2.236	1.304	.991
431P25592	2.5	3.12	2.425	1.415	1.075
431P30592	3.0	3.39	2.615	1.525	1.159
431P40592	4.0	3.87	2.994	1.746	1.327
431P50592	5.0	4.35	3.373	1.967	1.495
431P60592	6.0	5.34	4.131	2.409	1.831
431P70592	7.0	6.48	5.002	2.918	2.218
431P10692	10.0	7.86	6.00	3.537	2.688
431P12692	12.0	8.67	6.638	3.913	2.974

400 WVDC

Sprague Number	Cap., µF	Net Each, Lots of*			
		1-24	25-49	50-99	100-249
431P33294	0.0033	$1.86	$1.421	$0.829	$0.63
431P47294	0.0047	1.86	1.421	.829	.63
431P68294	0.0068	1.86	1.421	.829	.63
431P10394	0.01	1.59	1.232	.719	.546
431P15394	0.015	1.77	1.355	.791	.601
431P22394	0.022	1.77	1.355	.791	.601
431P33394	0.033	1.77	1.355	.791	.601
431P47394	0.047	1.89	1.437	.838	.637
431P68394	0.068	1.89	1.437	.838	.637
431P10494	0.1	1.92	1.478	.862	.655
431P15494	0.15	1.98	1.519	.886	.673
431P22494	0.22	2.13	1.642	.958	.728
431P33494	0.33	2.19	1.683	.982	.746
431P47494	0.47	2.40	1.847	1.078	.819
431P68494	0.68	2.70	2.094	1.221	.928
431P10594	1.0	2.94	2.274	1.326	1.008
431P15594	1.5	4.50	3.486	2.034	1.546
600 WVDC					
431P15296	0.0015	$1.86	$1.421	$0.829	$0.63
431P22296	0.0022	1.86	1.421	.829	.63
431P33296	0.0033	1.86	1.421	.829	.63
431P47296	0.0047	1.86	1.421	.829	.63
431P68296	0.0068	1.98	1.516	.884	.672
431P10396	0.01	1.71	1.314	.766	.582
431P15396	0.015	1.89	1.437	.838	.637
431P22396	0.022	1.89	1.437	.838	.637
431P33396	0.033	1.89	1.437	.838	.637
431P47396	0.047	1.92	1.478	.862	.655
431P68396	0.068	1.92	1.478	.862	.655
431P10496	0.1	1.98	1.519	.886	.673
431P15496	0.15	2.13	1.642	.958	.728
431P22496	0.22	2.40	1.847	1.078	.819
431P33496	0.33	2.55	1.971	1.149	.874
431P47496	0.47	2.91	2.258	1.317	1.001
431P68496	0.68	3.93	3.038	1.773	1.347
431P10596	1.0	4.44	3.448	2.012	1.529
431P15596	1.5	5.97	4.623	2.697	2.05

*Quantities of 1–24, 25–49 and 50–99 are supplied in Kleer-Pak; quantities of 100–249 and 250–499 in bulk. Prices of 250–499 bulk quantities available on request.

BUNKER RAMO AMPHENOL MS/AN Insert Contacts

MANUFACTURED IN STRICT ACCORDANCE TO MIL-C-5015D SPECIFICATIONS

Contacts are non-rotating type with solder pockets pre-tinned. Inserts are all male or female; feature dimensional stability and high insulation and arc resistance. Sizes 20 and up have thicker inserts. Coupling rings made of solid aluminum bar stock for high strength. Number, in parenthesis, (1), (2), etc., indicates service voltage rating, per table below. Following letters (W,X,Y, and/or Z) give alternate pin positioning available per diagram, right.

SERVICE VOLTAGE RATING

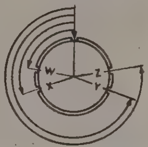
Where more than one rating is shown, (1,3) or (1-5) etc., some contacts have ratings different than other contacts; full information on request. (*) Indicates high voltage. (†) Thermocouple.

Key	(1)	(2)	(3)	(4)	(5)	(6)
Volts DC	250	700	1250	1750	2450	4200
Volts AC rms	200	500	900	1250	1750	3000

CURRENT RATING

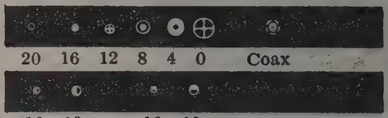
Contact Size	20	16	12	8	4	0
Amperes	10	22	41	73	135	245

ALTERNATE POSITIONS

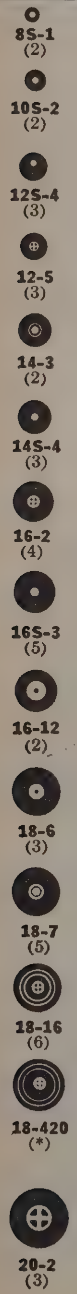


WIRE SIZE CODE

Wire size indicated by contact marking in diagrams. Compare diagrams with these codes to determine wire size.

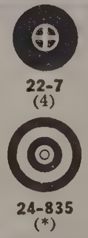


1 CONTACT



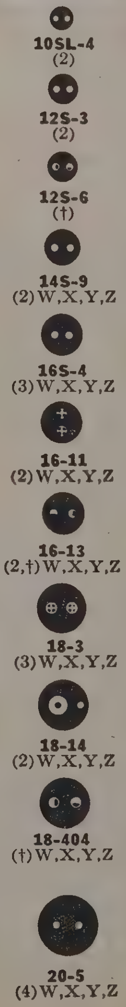
8S-1 (2)
10S-2 (2)
12S-4 (3)
12-5 (3)
14-3 (2)
14S-4 (3)
16-2 (4)
16S-3 (5)
16-12 (2)
18-6 (3)
18-7 (5)
18-16 (6)
18-420 (*)
20-2 (3)

1 CONTACT



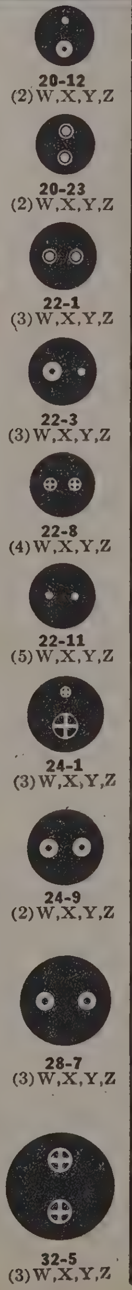
22-7 (4)
24-835 (*)

2 CONTACTS



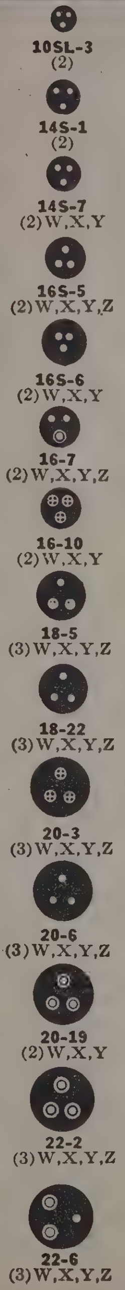
10SL-4 (2)
12S-3 (2)
12S-6 (†)
14S-9 (2) W,X,Y,Z
16S-4 (3) W,X,Y,Z
16-11 (2) W,X,Y,Z
16-13 (2,†) W,X,Y,Z
18-3 (3) W,X,Y,Z
18-14 (2) W,X,Y,Z
18-404 (†) W,X,Y,Z
20-5 (4) W,X,Y,Z

2 CONTACTS



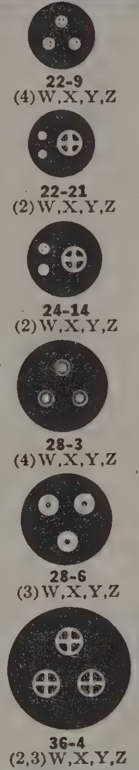
20-12 (2) W,X,Y,Z
20-23 (2) W,X,Y,Z
22-1 (3) W,X,Y,Z
22-3 (3) W,X,Y,Z
22-8 (4) W,X,Y,Z
22-11 (5) W,X,Y,Z
24-1 (3) W,X,Y,Z
24-9 (2) W,X,Y,Z
28-7 (3) W,X,Y,Z
32-5 (3) W,X,Y,Z

3 CONTACTS



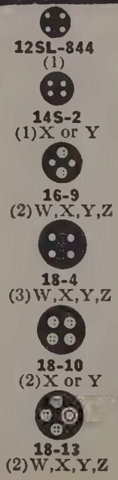
10SL-3 (2)
14S-1 (2)
14S-7 (2) W,X,Y
16S-5 (2) W,X,Y,Z
16S-6 (2) W,X,Y
16-7 (2) W,X,Y,Z
16-10 (2) W,X,Y
18-5 (3) W,X,Y,Z
18-22 (3) W,X,Y,Z
20-3 (3) W,X,Y,Z
20-6 (3) W,X,Y,Z
20-19 (2) W,X,Y
22-2 (3) W,X,Y,Z
22-6 (3) W,X,Y,Z

3 CONTACTS



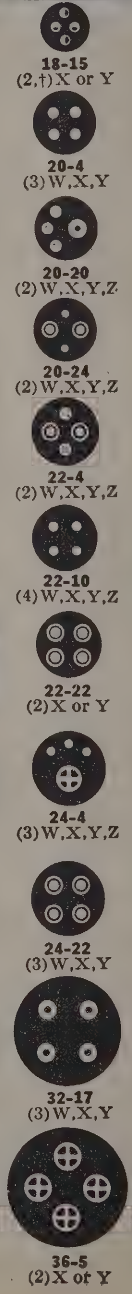
22-9 (4) W,X,Y,Z
22-21 (2) W,X,Y,Z
24-14 (2) W,X,Y,Z
28-3 (4) W,X,Y,Z
28-6 (3) W,X,Y,Z
36-4 (2,3) W,X,Y,Z

4 CONTACTS



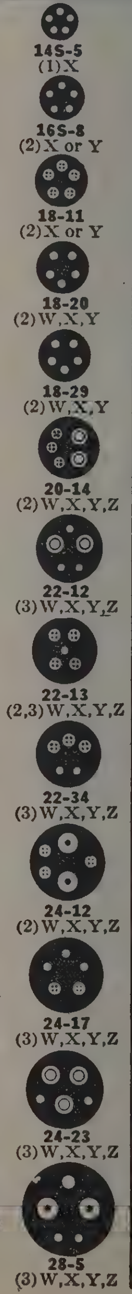
12SL-844 (1)
14S-2 (1) X or Y
16-9 (2) W,X,Y,Z
18-4 (3) W,X,Y,Z
18-10 (2) X or Y
18-13 (2) W,X,Y,Z

4 CONTACTS



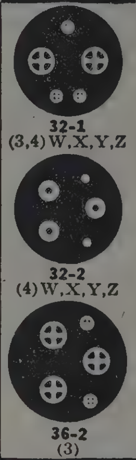
18-15 (2,†) X or Y
20-4 (3) W,X,Y
20-20 (2) W,X,Y,Z
20-24 (2) W,X,Y,Z
22-4 (2) W,X,Y,Z
22-10 (4) W,X,Y,Z
22-22 (2) X or Y
24-4 (3) W,X,Y,Z
24-22 (3) W,X,Y
32-17 (3) W,X,Y
36-5 (2) X or Y

5 CONTACTS



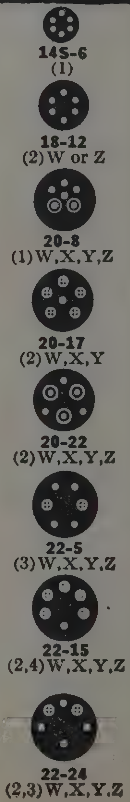
14S-5 (1) X
16S-8 (2) X or Y
18-11 (2) X or Y
18-20 (2) W,X,Y
18-29 (2) W,X,Y
20-14 (2) W,X,Y,Z
22-12 (3) W,X,Y,Z
22-13 (2,3) W,X,Y,Z
22-34 (3) W,X,Y,Z
24-12 (2) W,X,Y,Z
24-17 (3) W,X,Y,Z
24-23 (3) W,X,Y,Z
28-5 (3) W,X,Y,Z

5 CONTACTS



32-1 (3,4) W,X,Y,Z
32-2 (4) W,X,Y,Z
36-2 (3)

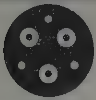
6 CONTACTS

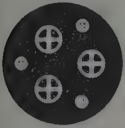


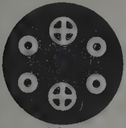
14S-6 (1)
18-12 (2) W or Z
20-8 (1) W,X,Y,Z
20-17 (2) W,X,Y
20-22 (2) W,X,Y,Z
22-5 (3) W,X,Y,Z
22-15 (2,4) W,X,Y,Z
22-24 (2,3) W,X,Y,Z

BUNKER RAMO AMPHENOL MS/AN Insert Contacts

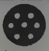
6 CONTACTS

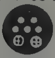

28-22
(3)W,X,Y,Z


36-3
(3)W,X,Y,Z


36-6
(2)W,X,Y,Z

7 CONTACTS


16S-1
(2)W or Z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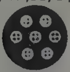
(1)W,X,Y,Z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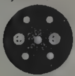
(2)W or Z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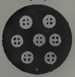
(3)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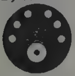
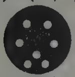
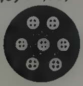
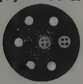
(2)W or Z


22-29
(2)W,X,Y,Z


22-33
(2,3)W,X,Y,Z


24-2
(3)W or Z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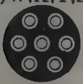
(3)W,X,Y,Z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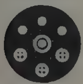
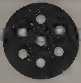
(2)W or Z


24-16
(2,3)W,X,Y,Z

7 CONTACTS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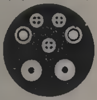
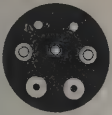
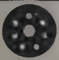
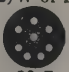
(4)W or Z

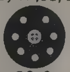

28-10
(2,3)W,X,Y,Z

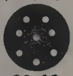

32-10
(2-5)W,X,Y,Z

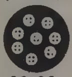
8 CONTACTS

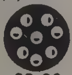

18-8
(2)W or Z

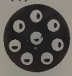

20-7
(2,3)W,X,Y,Z

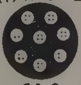

20-9
(2,3)W,X,Y,Z

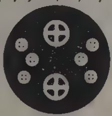

22-18
(2,3)W,X,Y,Z


22-23
(2,3)W or Y

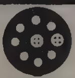

22-36
(2,3,†)W or Y


22-404
(†)W or Y


24-6
(2,3)W,X,Y,Z


32-15
(3)W,X,Y,Z

9 CONTACTS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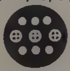
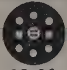
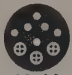
(2)W,X,Y,Z


20-18
(2)W,X,Y,Z

9 CONTACTS


20-21
(2)W,X,Y,Z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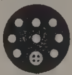
(2)W,X,Y,Z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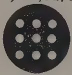
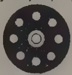
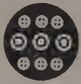
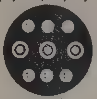
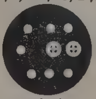
(2,3)W,X,Y,Z

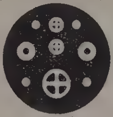

22-20
(2)W,X,Y,Z


22-27
(2,3)W,Y,Z

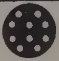

24-11
(2)W,X,Y,Z

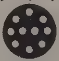

28-1
(2,3)W,X,Y,Z

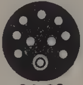

28-4
(3,4)W,X,Y,Z


32-3
(3)W,X,Y,Z

10 CONTACTS


18-1
(1,2)W,X,Y,Z


18-19
(2)X or Y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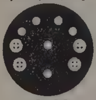
(3)W,X,Y,Z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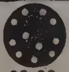
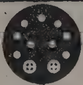
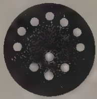
(2,3,5)W,X,Y,Z

11 CONTACTS

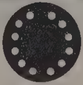

20-33
(2)

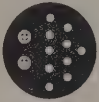
11 CONTACTS


24-20
(3)W,X,Y,Z


28-14
(3)W,X,Y,Z

12 CONTACTS


24-19
(1)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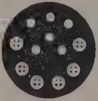
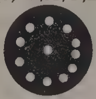
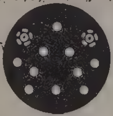
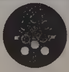
(2-4)W,X,Y,Z


28-9
(3)W,X,Y,Z

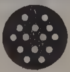

28-18
(1-3,6)W,X,Y,Z

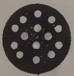

32-101
(3,6)W,X,Y,Z

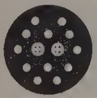
13 CONTACTS


20-11
(1)

14 CONTACTS


20-27
(1,2)W,X,Y,Z


22-19
(2)W,X,Y,Z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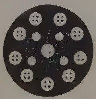
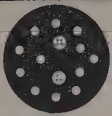
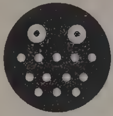
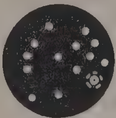

28-20
(2)W,X,Y,Z

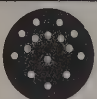
14 CONTACTS

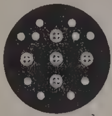

32-4
(2,3)W,X,Y,Z


32-9
(3)W,X,Y,Z


32-102
(2,3,6)W,X,Y,Z

15 CONTACTS


28-17
(2,3,5)W,X,Y,Z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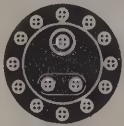
(2,3)W,X,Y,Z


36-405
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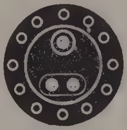
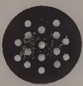
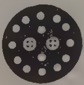
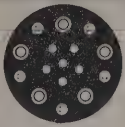

36-407
(*)

16 CONTACTS

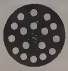

24-5
(2)W,X,Y,Z

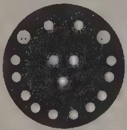

24-7
(2)W,X,Y,Z

16 CONTACTS

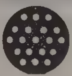

36-14
(3)W,X,Y

17 CONTACTS

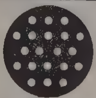

20-29
(2)W or Z


36-13
(2,4)W,X,Y,Z

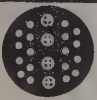
19 CONTACTS

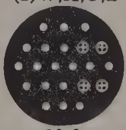

22-14
(2)W,X,Y,Z

20 CONTACTS

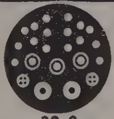

28-16
(2)W,X,Y,Z

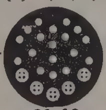
22 CONTACTS


28-11
(2)W,X,Y,Z


36-1
(3)W,X,Y,Z

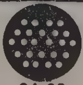
23 CONTACTS


32-6
(2)W,X,Y,Z

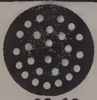

32-13
(3)W,X,Y,Z

23 CONTACTS

24 CONTACTS

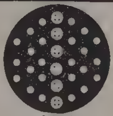

24-28
(1)W,X,Y,Z

26 CONTACTS

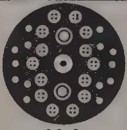

28-12
(2)W,X,Y

29 CONTACTS

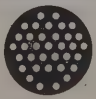
30 CONTACTS


32-8
(2)W,X,Y,Z

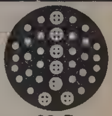
31 CONTACTS

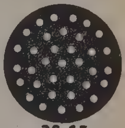

36-9
(2)W,X,Y,Z

35 CONTACTS

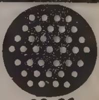

28-15
(2)W,X,Y,Z

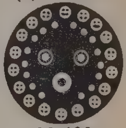
35 CONTACTS


32-7
(1,2)W,X,Y,Z


36-15
(2,3)W,X,Y,Z

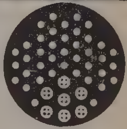
37 CONTACTS

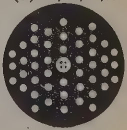

28-21
(2)W,X,Y,Z


36-406
(2)

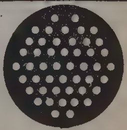
42 CONTACTS

47 CONTACTS

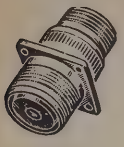

36-7
(2)W,X,Y,Z


36-8
(2)W,X,Y,Z

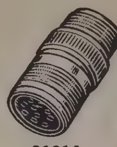
48, 52 CONT.


36-10
(2)W,X,Y,Z
Similar to above
32-414
(2)
36-403 (2)
36-404 (2)

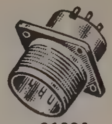
BUNKER RAMO AMPHENOL MS Connectors



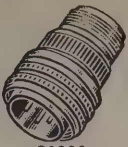
3100A
Feed-thru



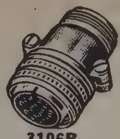
3101A
Cable Jack



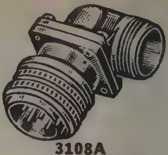
3102A
Receptacle



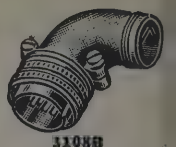
3106A
Plug



3106B
Plug and
Split Back Shell



3108A
Angle Plug
Solid Back Shell



3108B
Angle Plug
Split Back Shell

Meet current MIL-C-5015 specifications; interchangeable with units made to meet previous specs. **Finish:** Cadmium-plated aluminum with olive drab chromate conversion coating; non-reflective, corrosion-resistant. **Inserts:** Molded diallyl phthalate; offers dimensional stability, high insulation resistance, high arc resistance. **Contacts:** Non-rotating, silver-plated; pre-tinned solder pockets. **Coupling Rings:** Made from solid aluminum bar stock. Other MS/AN connectors for potting and pressurizing are available; write for complete literature.

Note: For W, X, Y or Z polarization, add **5c** to price shown.

Type 3100A: Wall receptacle with mounting flange; with AN3057 cable clamp.
Type 3101A: Cable receptacle. Provides for detachable splice in cable or conduit.
Type 3102A: Box receptacle that mounts on chassis or panel. For open type wiring.
Type 3106A: Straight plug with solid back shell.
Type 3106B: Same but with split back shell.
Type 3108A: Angle plug. Solid back shell.
Type 3108B: Same, but with split back shell.

Insert	Net Each, Lots of 1-9* Shell Style 3100A	3101A	3102A	3106A	3106B	3108A	3108B
8S-01P	$4.21	$3.91	$2.34	$2.69	......	......	......
8S-01S	4.21	3.91	2.34	2.69	......	......	......
10S-02P	4.34	3.54	1.63	3.80	......	......	......
10S-02S	4.42	3.61	1.71	3.81	......	......	......
10SL-03P	2.71	4.09	2.12	......	......	......	......
10SL-03S	......	......	......	3.32	......	$5.86	$3.03
10SL-04P	2.69	3.83	2.12	......	......	......	......
10SL-04S	......	......	......	3.24	......	5.84	2.99
12-05P	3.61	4.03	2.22	3.63	......	6.57	3.83
12-05S	3.83	4.32	2.55	3.91	......	6.87	4.16
12S-01P	3.32	3.80	1.86	3.03	......	7.03	3.91
12S-01S	3.45	3.81	1.89	3.11	......	7.05	3.93
12S-02P	3.32	3.80	1.86	3.03	......	7.03	3.91
12S-02S	3.45	3.81	1.89	3.11	......	7.05	3.93
12S-03P	2.65	3.10	1.41	2.42	......	5.93	3.22
12S-03S	2.69	3.16	1.52	2.58	......	5.97	3.26
12S-04P	3.03	3.61	1.73	2.92	......	6.74	3.77
12S-04S	3.03	3.61	1.73	2.92	......	6.74	3.77
12S-06P	9.47	10.01	8.12	9.29	......	13.12	10.09
12S-06S	10.07	10.52	8.64	9.90	......	13.74	10.69
12SL-844P	......	......	3.81	......	......	......	......
12SL-844S	......	......	......	7.10	......	10.69	......
14-03P	3.65	4.42	2.30	3.83	......	6.87	5.79
14-03S	4.03	4.72	2.65	4.21	......	7.17	6.18
14S-01P	2.79	3.42	1.87	2.79	$3.40	5.85	3.16
14S-01S	2.89	3.49	1.89	2.89	3.42	5.86	3.22
14S-02P	3.11	3.40	1.85	2.78	3.39	5.83	3.12
14S-02S	3.35	3.61	1.99	2.99	3.60	5.97	3.37
14S-04P	2.99	3.65	1.86	2.99	3.63	6.38	3.35
14S-04S	3.03	3.80	2.00	3.03	3.77	6.51	3.47
14S-05P	3.10	3.72	2.10	3.10	3.65	6.09	3.40
14S-05S	3.22	3.86	2.26	3.22	3.83	6.26	3.51
14S-06P	3.22	3.86	2.26	3.22	3.83	6.26	3.51
14S-06S	3.26	3.94	2.30	3.26	3.88	6.30	3.61
14S-07P	2.79	3.42	1.87	2.79	3.40	5.85	3.16
14S-07S	2.89	3.49	1.89	2.89	3.42	5.86	3.22
14S-09P	2.67	3.26	1.66	2.67	3.24	5.70	2.99
14S-09S	2.69	3.37	1.68	2.69	3.26	5.72	3.08
14S-10P	3.47	4.16	2.34	3.47	4.09	6.83	3.81
14S-10S	3.77	4.44	2.65	3.77	4.42	7.10	4.09
14S-11P	3.47	4.16	2.34	3.47	4.09	6.83	3.81
14S-11S	3.77	4.44	2.65	3.77	4.42	7.10	4.09
14S-12P	3.47	4.16	2.34	3.47	4.09	6.83	3.81
14S-12S	3.61	4.32	2.53	3.61	4.30	7.02	3.93
16-02P	3.83	4.03	2.16	3.63	......	7.52	4.67
16-02S	4.30	4.42	2.55	4.03	......	7.94	4.96
16-07P	4.72	4.83	2.99	4.46	......	8.43	5.52
16-07S	5.41	5.54	3.65	5.22	......	9.09	6.21
16-09P	4.44	4.57	2.69	4.21	......	8.16	5.24
16-09S	4.95	5.15	3.32	4.73	......	8.64	5.77
16-10P	3.86	3.96	2.30	3.61	......	7.14	4.56
16-10S	4.29	4.40	2.71	4.08	......	7.57	4.99
16-11P	4.03	4.16	2.30	3.80	......	7.70	4.81
16-11S	4.49	4.67	2.83	4.32	......	8.23	5.28
16-12P	4.62	4.73	2.92	4.42	......	8.27	5.41
16-12S	5.26	5.41	3.54	4.96	......	8.96	6.07
16-13P	9.77	9.94	8.12	9.56	......	13.49	10.52
16-13S	11.33	11.45	9.60	11.06	......	14.99	12.11
16S-01P	3.60	3.88	2.28	3.22	4.13	7.53	3.86
16S-01S	3.96	4.22	2.65	3.60	4.43	7.88	4.21
16S-03P	3.45	3.63	1.84	2.92	3.91	7.70	3.61
16S-03S	3.54	3.83	2.10	3.11	4.16	7.94	3.81
16S-04P	3.54	3.83	2.10	3.11	4.16	7.94	3.81
16S-04S	3.65	4.03	2.19	3.32	4.32	8.12	3.93
16S-05P	3.39	3.65	2.05	2.99	3.94	7.30	3.61
16S-05S	3.42	3.76	2.17	3.10	3.99	7.37	3.72
16S-06P	3.83	4.21	2.43	3.47	4.46	8.25	4.16
16S-06S	3.83	4.21	2.43	3.47	4.46	8.25	4.16
16S-08P	3.49	3.83	2.24	3.12	4.01	7.39	3.76
16S-08S	3.61	3.94	2.30	3.24	4.17	7.55	3.88
16S-15P	4.04	4.42	2.58	3.63	4.67	8.46	4.34
16S-15S	4.21	4.49	2.69	3.80	4.81	8.58	4.46
18-01P	4.42	4.99	3.08	4.22	5.07	8.60	5.24
18-01S	4.83	5.40	3.40	4.65	5.44	8.99	5.65
18-03P	3.93	4.57	2.43	3.77	4.67	8.60	4.90
18-03S	4.90	5.52	3.34	4.67	5.58	9.56	5.79
18-04P	3.60	4.13	2.24	3.39	4.21	7.71	4.40

Insert	Net Each, Lots of 1-9* Shell Style 3100A	3101A	3102A	3106A	3106B	3108A	3108B
18-04S	$3.88	$4.40	$2.42	$3.65	$4.43	$8.07	$4.70
18-05P	3.81	4.44	2.22	3.61	4.49	8.48	4.73
18-05S	4.34	4.92	2.71	4.09	4.96	9.04	5.26
18-06P	4.21	4.81	2.65	3.93	4.90	8.87	5.15
18-06S	4.95	5.58	3.45	4.73	5.67	9.63	5.86
18-07P	3.93	4.57	2.43	3.77	4.67	8.60	4.90
18-07S	4.67	5.26	3.03	4.44	5.36	9.31	5.58
18-08P	4.42	4.99	3.08	4.22	5.07	8.60	5.24
18-08S	4.72	5.24	3.37	4.56	5.40	8.94	5.56
18-09P	4.72	5.28	3.11	4.46	5.41	9.35	5.64
18-09S	5.11	5.67	3.50	4.83	5.77	9.75	6.05
10-10P	4.29	4.83	2.89	4.08	4.92	8.46	5.09
18-10S	4.72	5.24	3.37	4.56	5.40	8.94	5.56
18-11P	4.29	4.83	2.89	4.08	4.92	8.46	5.09
18-11S	4.42	4.99	3.08	4.22	5.07	8.60	5.24
18-12P	3.99	4.56	2.60	3.83	4.65	8.14	4.83
18-12S	4.29	4.83	2.89	4.08	4.92	8.46	5.09
18-13P	4.83	5.44	3.32	4.62	5.54	9.51	5.77
18-13S	5.44	6.07	3.83	5.24	6.18	10.09	6.38
18-14P	4.46	5.11	2.92	4.30	5.22	9.12	5.41
18-14S	5.22	5.77	3.61	4.92	5.84	9.86	6.09
18-15P	15.91	16.55	14.41	15.68	16.64	20.58	16.80
18-15S	16.34	16.96	14.81	16.14	17.03	21.05	17.28
18-16P	4.34	4.92	2.71	4.09	4.96	9.04	5.26
18-16S	5.11	5.67	3.50	4.83	5.77	9.75	6.05
18-17P	5.41	6.05	3.81	5.22	6.09	10.07	6.33
18-17S	5.44	6.07	3.83	5.24	6.18	10.09	6.38
18-18P	5.41	6.05	3.81	5.22	6.09	10.07	6.33
18-18S	5.44	6.07	3.83	5.24	6.18	10.09	6.38
18-19P	5.97	6.57	4.65	5.83	6.63	10.17	6.84
18-19S	4.92	5.44	3.49	4.70	5.54	9.07	5.72
18-20P	4.32	4.90	2.69	4.04	4.95	8.96	5.24
18-20S	4.57	5.22	2.99	4.34	5.26	9.27	5.52
18-22P	3.93	4.57	2.43	3.77	4.67	8.60	4.90
18-22S	4.32	4.90	2.69	4.04	4.95	8.96	5.24
18-23P	5.70	6.33	4.16	5.52	6.42	10.39	6.64
18-23S	5.79	6.42	4.30	5.58	6.53	10.48	6.69
18-24P	5.70	6.33	4.16	5.52	6.42	10.39	6.64
18-24S	5.79	6.42	4.30	5.58	6.53	10.48	6.69
18-29P	4.34	4.92	2.71	4.09	4.96	9.04	5.26
18-29S	4.34	4.92	2.71	4.09	4.96	9.04	5.26
18-404P	11.06	11.72	9.51	10.88	11.79	15.79	12.00
18-404S	12.57	13.10	10.96	12.28	13.22	17.22	13.45
18-420P	7.74	8.96	7.30	9.94	10.98	14.86	11.03
18-420S	8.83	9.56	7.86	10.48	11.47	15.47	11.70
20-02P	6.33	6.64	4.46	6.83	7.48	11.84	7.86
20-02S	7.02	7.33	5.15	7.45	8.18	12.57	8.48
20-03P	4.73	5.11	2.92	5.26	5.93	10.25	6.25
20-03S	6.23	6.56	4.42	6.69	7.43	11.79	7.74
20-04P	4.43	4.78	2.79	4.95	5.56	9.40	5.85
20-04S	5.09	5.42	3.42	5.56	6.22	10.05	6.52
20-05P	4.92	5.26	3.03	5.44	6.18	10.48	6.51
20-05S	5.36	5.67	3.50	5.84	6.56	10.90	6.87
20-06P	4.49	4.81	2.65	4.95	5.67	10.04	6.05
20-06S	4.57	4.90	2.69	5.11	5.77	10.09	6.09
20-07P	4.43	4.78	2.79	4.95	5.56	9.40	5.85
20-07S	4.86	5.15	3.22	5.29	5.93	9.81	6.26
20-08P	5.70	6.07	3.83	6.23	6.97	11.26	7.30
20-08S	6.64	7.02	4.81	7.13	7.86	12.16	8.18
20-09P	5.41	5.70	3.54	5.86	6.57	10.96	6.97
20-09S	5.52	5.79	3.63	6.05	6.66	11.03	7.03
20-11P	6.38	6.66	4.49	6.87	7.52	11.90	7.91
20-11S	9.75	10.07	7.91	10.24	10.96	15.30	11.26
20-12P	4.96	5.36	3.12	5.54	6.23	10.52	6.56
20-12S	5.36	5.67	3.50	5.84	6.56	10.90	6.87
20-13P	4.73	5.11	2.92	5.26	5.93	10.25	6.25
20-13S	7.03	7.35	5.22	7.48	8.23	12.59	8.50
20-14P	6.05	6.33	4.16	6.53	7.17	11.51	7.48
20-14S	7.74	8.12	5.86	8.25	8.96	13.26	9.29
20-15P	4.95	5.22	3.26	5.42	5.97	9.87	6.30
10-15S	6.69	7.02	5.07	7.16	7.80	11.67	8.09
20-16P	4.99	5.24	3.37	5.44	6.02	9.94	6.34
20-16S	5.29	5.58	3.65	5.81	6.36	10.24	6.65
20-17P	5.52	5.79	3.63	6.05	6.66	11.03	7.03
20-17S	6.66	7.03	4.83	7.17	7.91	12.26	8.23
20-18P	5.79	6.18	3.93	6.33	7.03	11.36	7.35
20-18S	6.42	6.69	4.57	6.97	7.64	11.96	7.86

★LARGER QUANTITY DISCOUNTS SHOWN ON LAST PAGE OF THIS SERIES

BUNKER RAMO AMPHENOL MS Connectors

	Net Each, Lots of 1-9* Shell Style						
Insert	3100A	3101A	3102A	3106A	3106B	3108A	3108B
20-19P	$6.18	$6.53	$4.32	$6.64	$7.35	$11.72	$7.66
20-19S	7.48	7.86	5.67	8.02	8.74	13.08	9.06
20-20P	6.23	6.56	4.42	7.03	7.43	11.79	7.74
20-20S	7.48	7.86	5.67	8.02	8.74	13.08	9.06
20-21P	5.41	5.70	3.54	5.86	6.57	10.96	6.97
20-21S	5.67	6.05	3.81	6.21	6.87	11.21	7.17
20-22P	6.38	6.66	4.49	6.83	7.52	11.90	7.91
20-22S	7.48	7.86	5.67	8.02	8.74	13.08	9.06
20-23P	5.36	5.67	3.50	5.84	6.56	10.90	6.87
20-23S	5.84	6.21	4.03	6.38	7.05	11.39	7.38
20-24P	5.52	5.79	3.63	6.05	6.66	11.03	7.03
20-24S	6.83	7.13	4.95	7.35	8.02	12.31	8.29
20-27P	5.09	5.42	3.42	5.56	6.22	10.05	6.52
20-27S	5.58	5.86	3.96	6.02	6.65	10.55	6.96
20-29P	5.54	5.83	3.88	5.95	6.59	10.51	6.88
20-29S	6.13	6.40	4.43	6.59	7.25	11.08	7.53
20-33P	6.18	6.51	4.32	6.64	7.35	11.72	7.66
20-33S	6.33	6.64	4.46	6.83	7.48	11.84	7.86
22-01P	5.67	5.93	3.45	5.67	6.51	11.12	6.87
22-01S	6.57	6.87	4.44	6.57	7.45	12.13	7.91
22-02P	6.07	6.33	3.83	6.07	6.97	11.61	7.35
22-02S	7.38	7.66	5.24	7.38	8.25	12.92	8.64
22-03P	7.30	7.48	5.11	7.30	8.16	12.82	8.50
22-03S	7.48	7.79	5.36	7.48	8.43	13.08	8.83
22-04P	6.25	6.56	4.09	6.25	7.13	11.82	7.52
22-04S	7.10	7.38	4.92	7.10	7.99	12.64	8.43
22-05P	5.84	6.18	3.65	5.84	6.69	11.39	7.13
22-05S	5.86	6.21	3.77	5.86	6.74	11.45	7.17
22-06P	5.77	6.07	3.61	5.77	6.64	11.33	7.05
22-06S	6.74	7.05	4.62	6.74	7.66	12.30	8.12
22-07P	6.09	6.38	3.91	6.09	7.02	11.70	7.38
22-07S	6.83	7.10	4.67	6.83	7.70	12.31	8.16
22-08P	4.92	5.24	2.71	4.92	5.79	10.48	6.23
22-08S	6.23	6.53	4.04	6.23	7.10	11.79	7.48
22-09P	5.22	5.44	2.99	5.22	6.07	10.69	6.51
22-09S	6.57	6.87	4.44	6.57	7.45	12.13	7.91
22-10P	5.22	5.44	2.99	5.22	6.07	10.69	6.51
22-10S	5.41	5.67	3.24	5.41	6.25	10.96	6.66
22-11P	4.81	5.11	2.65	4.81	5.67	10.35	6.09
22-11S	5.22	5.44	2.99	5.22	6.07	10.69	6.51
22-12P	6.25	6.56	4.09	6.25	7.13	11.82	7.52
22-12S	7.30	7.48	5.11	7.30	8.16	12.82	8.50
22-13P	5.79	6.09	3.63	5.79	6.66	11.36	7.10
22-13S	6.51	6.69	4.32	6.51	7.35	12.00	7.74
22-14P	6.22	6.40	4.22	6.22	6.96	11.17	7.34
22-14S	7.08	7.34	5.15	7.08	7.88	12.04	8.27
22-15P	6.21	6.51	4.03	6.21	7.05	11.77	7.45
22-15S	7.52	7.86	5.41	7.52	8.46	13.10	8.87
22-16P	6.51	6.69	4.32	6.51	7.35	12.00	7.74
22-16S	6.57	6.87	4.44	6.57	7.45	12.13	7.91
22-17P	6.21	6.51	4.03	6.21	7.05	11.77	7.45
22-17S	6.38	6.64	4.21	6.38	7.30	11.90	7.66
22-18P	5.77	6.07	3.61	5.77	6.64	11.33	7.05
22-18S	5.84	6.18	3.65	5.84	6.69	11.39	7.13
22-19P	6.09	6.34	4.17	6.09	6.88	10.99	7.29
22-19S	6.22	6.40	4.22	6.22	6.96	11.17	7.34
22-20P	5.93	6.23	3.80	5.93	6.83	11.47	7.30
22-20S	6.23	6.53	4.04	6.23	7.10	11.79	7.48
22-21P	6.53	6.74	4.34	6.53	7.38	12.02	7.79
22-21S	7.35	7.64	5.22	7.35	8.23	12.90	8.60
22-22P	7.02	7.30	4.81	7.02	7.86	12.57	8.25
22-22S	8.80	9.06	6.57	8.80	9.63	14.34	10.07
22-23P	6.66	7.02	4.49	6.66	7.52	12.26	7.99
22-23S	8.58	8.87	6.42	8.58	9.47	14.09	9.90
22-24P	5.70	6.05	3.54	5.70	6.57	11.26	7.03
22-24S	6.07	6.33	3.83	6.07	6.97	11.61	7.35
22-26P	6.42	6.66	4.30	6.42	7.33	11.96	7.70
22-26S	7.30	7.48	5.11	7.30	8.16	12.82	8.50
22-27P	6.57	6.87	4.44	6.57	7.45	12.13	7.91
22-27S	7.10	7.38	4.92	7.10	7.99	12.64	8.43
22-28P	6.33	6.57	4.16	6.33	7.17	11.84	7.64
22-28S	7.84	9.04	6.56	8.74	9.60	14.20	10.04
22-29P	6.87	7.13	4.72	6.87	7.74	12.41	8.18
22-29S	7.79	8.12	5.64	7.79	8.64	13.31	9.09
22-33P	5.70	6.05	3.54	5.70	6.57	11.26	7.03
22-33S	5.86	6.21	3.77	5.86	6.74	11.45	7.17
22-34P	5.79	6.09	3.63	5.79	6.66	11.36	7.10
22-34S	6.07	6.33	3.83	6.07	6.97	11.61	7.35
22-36P	30.24	30.50	28.09	30.24	31.15	35.80	31.51
22-36S	33.09	33.39	30.97	33.09	34.01	38.66	34.38
22-404P	30.24	30.50	28.09	30.24	31.15	35.80	31.51
22-404S	33.09	33.39	30.97	33.09	34.01	38.66	34.38
24-01P	7.38	7.43	4.83	7.48	9.09	13.49	8.27
24-01S	8.80	8.83	6.23	8.91	10.48	14.86	9.70
24-02P	6.27	6.30	3.99	6.36	7.80	11.70	7.08
24-02S	7.57	7.59	5.29	7.68	9.12	13.01	8.37
24-03P	6.57	6.64	4.04	6.69	8.27	12.69	7.48
24-03S	6.69	6.74	4.21	6.87	8.46	12.84	7.66
24-04P	7.74	7.79	5.24	6.04	9.47	13.87	8.64
24-04S	8.83	8.87	6.25	6.85	10.50	14.89	9.75
24-05P	7.79	7.86	5.26	7.94	9.51	13.91	8.74
24-05S	8.80	8.83	6.23	8.91	10.48	14.86	9.70
24-06P	7.33	7.35	4.73	7.43	9.04	13.42	8.23
24-06S	9.51	9.56	7.02	9.63	11.21	15.63	10.44
24-07P	7.29	7.30	4.99	7.37	8.80	12.66	8.09
24-07S	7.86	7.88	5.56	7.96	9.35	13.27	8.66
24-09P	6.97	7.02	4.42	7.05	8.60	13.02	7.86
24-09S	7.70	7.74	5.22	7.86	9.37	13.77	8.60
24-10P	10.16	10.21	7.64	10.25	11.84	16.24	11.06
24-10S	11.70	11.72	9.56	11.79	13.31	17.72	12.59
22-11P	7.71	7.80	5.52	7.88	9.28	13.22	8.58
24-11S	9.85	9.87	7.57	9.96	11.35	15.27	10.67
24-12P	9.06	9.09	6.53	9.21	10.80	15.12	10.01

	Net Each, Lots of 1-9* Shell Style						
Insert	3100A	3101A	3102A	3106A	3106B	3108A	3108B
24-12S	$10.88	$10.90	$8.27	$10.98	$12.59	$16.96	$11.79
24-14P	8.58	8.60	6.07	8.74	10.25	14.69	9.51
24-14S	10.80	10.85	8.23	10.90	12.51	16.80	11.72
24-16P	7.48	7.52	4.95	7.66	9.27	13.63	8.46
24-16S	8.80	8.83	6.23	8.91	10.48	14.86	9.70
24-17P	6.23	6.25	3.65	6.38	7.94	12.30	7.13
24-17S	6.97	7.02	4.42	7.05	8.60	13.02	7.86
24-18P	6.33	6.38	3.80	6.51	8.02	12.41	7.30
24-18S	9.77	9.86	7.30	9.94	11.47	15.85	10.69
24-19P	7.79	7.86	5.26	7.94	9.51	13.91	8.74
24-19S	8.27	8.29	5.77	8.46	10.04	14.43	9.27
24-20P	7.30	7.33	4.72	7.38	8.96	13.31	8.18
24-20S	7.35	7.38	4.81	7.45	9.06	13.45	8.25
24-21P	7.30	7.33	4.72	7.86	8.96	13.31	8.18
24-21S	7.79	7.86	5.26	7.94	9.51	13.91	8.74
24-22P	8.25	8.27	5.70	8.43	10.01	14.41	9.21
24-22S	10.24	10.25	7.70	10.39	11.96	16.34	11.16
24-23P	8.27	8.29	5.77	8.46	10.04	14.43	9.27
24-23S	10.07	10.09	7.48	10.21	11.79	16.19	10.98
24-24P	8.43	8.46	5.84	8.50	10.09	14.50	9.31
24-24S	9.47	9.51	6.97	9.60	11.16	15.53	10.39
24-27P	6.23	6.25	3.65	6.38	7.94	12.30	7.13
24-27S	6.42	6.51	3.83	6.56	8.16	12.57	7.35
24-28P	7.59	7.66	5.40	7.71	9.07	13.07	8.46
24-28S	8.60	8.66	6.34	8.73	10.14	14.09	9.40
24-768P	9.12	9.21	6.57	9.29	10.88	15.29	10.07
24-768S	12.30	12.31	9.77	12.51	14.04	18.44	13.23
24-835P	7.35	7.38	4.81	7.45	9.06	13.45	8.25
24-835S	9.06	9.09	6.53	9.21	10.80	15.12	10.01
28-01P	8.96	9.86	6.56	9.29	10.09	15.20	10.21
28-01S	11.45	12.30	9.06	11.79	12.61	17.70	12.69
28-02P	7.99	8.87	5.58	8.29	9.12	14.18	9.27
28-02S	8.50	9.37	6.18	8.87	9.70	14.81	9.77
28-03P	8.25	9.12	5.84	8.58	9.37	14.50	9.51
28-03S	8.80	9.63	6.38	9.09	9.34	14.99	10.04
28-04P	7.38	8.25	4.95	7.70	8.50	13.63	8.60
24-04S	7.74	8.60	5.36	8.12	8.91	14.02	9.04
28-05P	7.99	8.87	5.58	8.27	9.12	14.18	9.27
28-05S	9.12	10.04	6.69	9.47	10.25	15.38	10.39
28-06P	9.70	10.52	7.33	10.04	10.88	15.91	10.96
28-06S	10.88	11.77	8.46	11.16	12.00	17.07	12.11
28-07P	8.25	9.12	5.84	8.58	9.37	14.50	9.51
28-07S	9.29	10.16	6.87	9.60	10.44	15.52	10.50
28-08P	7.99	8.87	5.58	8.27	9.12	14.18	9.27
28-08S	8.25	9.12	5.84	8.58	9.37	14.50	9.51
28-09P	8.46	9.31	6.07	8.80	9.60	14.69	9.70
28-09S	9.27	10.09	6.83	9.56	10.39	15.47	10.48
28-10P	9.78	10.55	7.59	10.05	10.81	15.37	10.85
28-10S	12.29	13.11	10.17	12.58	14.96	17.92	13.42
28-11P	8.09	8.87	5.93	8.35	9.12	13.66	9.15
28-11S	9.81	10.57	7.66	10.12	10.83	15.41	10.94
28-12P	8.37	9.15	6.27	8.70	9.40	13.98	9.53
28-12S	9.81	10.57	7.66	10.12	10.83	15.41	10.94
28-13P	10.39	11.26	7.99	10.69	11.51	16.64	11.70
28-13S	12.02	12.92	9.63	12.31	13.22	18.28	13.26
28-14P	9.04	9.90	6.57	9.31	10.16	15.29	10.24
28-14S	9.90	10.80	7.45	10.21	11.03	16.14	11.12
28-15P	9.40	10.22	7.30	9.73	10.51	14.98	10.55
28-15S	10.85	11.67	8.73	11.22	11.88	16.46	12.01
28-16P	8.32	9.12	6.22	8.60	9.35	13.87	9.40
28-16S	8.37	9.15	6.27	8.70	9.40	13.98	9.53
28-17P	7.91	8.80	5.52	8.23	9.06	14.09	9.06
28-17S	8.46	9.31	6.07	8.80	9.60	14.69	9.70
28-18P	7.66	8.50	5.24	7.99	8.83	13.91	8.91
28-18S	8.29	9.27	5.93	8.64	9.51	14.58	9.60
28-19P	7.74	8.60	5.36	8.12	8.91	14.02	9.04
28-19S	9.37	10.25	7.03	9.75	10.52	15.65	10.67
28-20P	8.14	8.96	5.97	8.46	9.15	13.73	9.28
28-20S	9.07	9.85	6.91	9.35	10.12	14.66	10.17
28-21P	9.73	10.53	7.57	10.01	10.74	15.27	10.83
28-21S	10.99	11.82	8.94	11.33	12.09	16.58	12.17
28-22P	10.69	11.61	8.27	11.03	11.84	16.96	11.96
28-22S	12.71	13.63	10.35	13.08	13.91	18.98	14.02
28-766P	12.57	13.42	10.09	12.84	13.69	18.74	13.74
28-766S	15.53	16.44	13.12	15.85	16.71	21.84	16.77
32-01P	11.82	12.61	9.21	13.74	13.87	20.64	14.55
32-01S	14.50	15.30	11.84	16.44	16.55	23.35	17.26
32-02P	12.28	13.08	9.63	14.18	14.34	21.10	14.99
32-02S	14.20	15.03	11.70	16.22	16.30	23.11	16.98
32-03P	12.97	13.74	10.35	14.89	14.99	21.88	15.68
32-03S	15.83	16.64	13.22	17.77	17.85	24.71	18.54
32-04P	9.04	9.77	6.38	10.96	11.03	17.85	11.77
32-04S	10.35	11.12	7.70	12.28	12.31	19.23	13.68
32-05P	11.33	12.11	8.64	13.23	13.31	20.17	14.04
32-05S	12.57	13.26	9.90	14.48	14.55	21.39	15.29
32-06P	10.85	11.58	8.53	12.58	12.66	18.81	13.29
32-06S	15.45	16.17	13.11	17.22	17.28	23.39	17.92
32-07P	11.51	12.30	8.91	13.49	13.61	20.40	14.20
32-07S	14.69	15.47	12.02	16.64	16.71	23.60	17.42
32-08P	11.26	11.99	8.94	12.99	13.07	19.15	13.68
32-08S	11.45	12.15	9.07	13.15	13.25	19.31	13.86
32-09P	10.85	11.61	8.18	12.71	12.84	19.67	13.53
32-09S	12.30	13.10	9.70	14.20	14.41	21.19	15.03
32-10P	12.16	12.97	9.56	14.09	14.18	21.07	14.89
32-10S	13.23	14.04	10.65	15.20	15.30	22.22	15.93
32-101P	26.65	27.44	24.03	28.57	28.63	35.49	29.37
32-101S	24.94	25.77	22.29	26.89	26.96	33.80	27.68
32-102P	19.66	20.40	16.98	21.54	21.63	28.50	22.31
32-102S	22.85	23.65	20.17	24.72	24.89	31.69	25.53
32-12P	9.37	10.21	6.74	11.36	11.45	18.28	12.13
32-12S	11.77	12.57	9.09	13.69	13.74	20.58	14.48
32-13P	10.44	11.21	7.79	12.31	12.51	19.31	13.12
32-13S	11.90	12.69	9.29	13.87	13.94	20.80	14.63

★LARGER QUANTITY DISCOUNTS SHOWN ON FOLLOWING PAGE

BUNKER RAMO AMPHENOL MS and AN Connectors

MS CONNECTORS (CONTINUED)

Insert	Net Each, Lots of 1-9* Shell Style 3100A	3101A	3102A	3106A	3106B	3108A	3108B
32-15P	$14.34	$15.06	$11.72	$16.24	$16.34	$23.21	$17.03
32-15S	15.79	16.55	13.10	17.70	17.77	24.61	18.48
32-17P	14.15	14.96	11.51	16.14	16.22	23.00	16.91
32-17S	15.52	16.30	12.90	17.46	17.54	24.33	18.25
32-414P	17.46	18.25	14.84	19.38	19.46	26.33	20.17
32-414S	23.31	24.11	20.64	25.23	25.33	32.17	26.04
36-01P	11.90	12.28	7.99	13.49	13.77	21.01	14.69
36-01S	14.89	15.30	10.98	16.50	16.77	24.02	17.70
36-02P	16.71	17.07	12.82	18.28	18.57	25.79	19.46
36-02S	21.19	21.54	17.28	22.82	23.10	30.24	24.02
36-03P	17.07	17.46	13.12	18.62	18.98	26.09	19.86
36-03S	21.90	22.25	17.91	23.41	23.79	30.97	24.67
36-04P	16.98	17.37	13.08	18.54	18.87	26.04	19.74
36-04S	20.12	20.48	16.19	21.63	21.99	29.12	22.87
36-05P	21.01	21.37	17.03	22.52	22.87	30.03	23.77
36-05S	24.89	25.21	20.94	26.41	26.71	33.91	27.65
36-06P	20.80	21.12	16.80	22.31	22.68	29.85	23.60
36-06S	25.47	25.83	21.49	26.99	27.35	34.50	28.22
36-07P	16.42	16.73	12.51	17.91	18.28	25.47	19.19
36-07S	18.11	18.48	14.15	19.67	20.02	27.12	20.89
36-08P	15.85	16.24	11.96	17.46	17.77	24.94	18.62
36-08S	16.98	17.37	13.08	18.54	18.87	26.04	19.74
36-09P	18.87	19.28	14.96	20.48	20.80	27.93	21.63
36-09S	22.91	23.28	18.98	24.48	24.78	31.99	25.69
36-10P	13.98	14.27	10.51	15.37	15.66	22.06	16.46
36-10S	15.10	15.43	11.58	16.50	16.80	23.14	17.56
36-13P	13.45	13.77	9.51	14.99	15.33	22.50	16.22
36-13S	15.38	15.79	11.45	16.96	17.28	24.43	18.15
36-14P	20.89	21.21	16.96	22.45	22.82	29.91	23.97
36-14S	22.31	22.70	18.44	23.92	24.22	31.37	25.12
36-15P	13.26	13.69	9.35	14.86	15.20	22.31	16.09
36-15S	14.58	14.96	10.67	16.19	16.50	23.67	17.37
36-21P	20.89	21.21	16.96	22.45	22.82	29.91	23.67
36-21S	25.33	25.77	21.43	26.91	27.30	34.38	28.13
36-403P	18.87	19.28	14.96	20.48	20.80	27.93	21.63
36-403S	25.83	25.77	21.43	26.91	27.30	34.38	28.13
36-404P	21.93	22.29	18.06	23.47	23.80	31.03	24.71
36-404S	25.92	26.33	22.04	27.51	27.81	35.04	28.73
36-405P	25.88	26.28	21.99	27.49	27.79	34.98	28.63
36-405S	32.53	32.92	28.57	34.08	34.38	41.60	35.28
36-406P	22.98	23.35	19.03	24.59	24.92	32.08	25.79
36-406S	34.01	34.34	30.08	35.60	35.90	43.05	36.77
36-407P	25.92	26.33	22.04	27.51	27.81	35.04	28.73
36-407S	36.49	36.90	32.56	38.08	38.40	45.53	39.28
40-01P	16.44	16.71	11.33	21.70	......	......	20.48
40-01S	20.57	20.82	15.44	25.77	......	......	24.59
40-02P	15.65	15.91	10.50	20.87	......	......	19.67
40-02S	17.60	17.85	12.28	22.82	......	......	21.60
40-03P	21.01	21.21	15.83	26.20	......	......	24.96
40-03S	24.08	24.31	18.96	29.29	......	......	28.09
40-04P	25.87	26.09	20.74	31.07	......	......	29.87
40-04S	28.13	28.45	22.98	33.37	......	......	32.15
40-05P	27.93	28.22	28.85	33.19	......	......	31.99
40-05S	34.98	35.21	29.85	40.22	......	......	38.98
40-09P	21.93	22.22	16.77	27.17	......	......	25.92
40-09S	29.85	30.15	24.71	35.04	......	......	33.84
40-10P	31.21	31.48	26.07	36.43	......	......	35.21
40-10S	36.01	36.29	30.87	41.23	......	......	40.01

CAP AND CHAIN ASSEMBLIES

Fits MS and 97 type receptacles and plugs. Provides protection against live circuits, dirt and dust when connector is not in use.

Cap and Chain Amphenol Number	Shell Size	Net Ea., 1-9*	Cap Only, No Chain Amphenol Number	Shell Size	Net Ea., 1-9*
9760-8P	8S	$4.64	9760-8PG	8S	$4.31
9760-10P	10S, SL	1.24	9760-10PG	10S, SL	1.00
9760-12P	12, S, SL	1.36	9760-12PG	12, S, SL	1.13
9760-14P	14, 14S	1.57	9760-14PG	14, 14S	1.31
9760-16P	16, 16S	1.78	9760-16PG	16, 16S	1.55
9760-18P	18	1.99	9760-18PG	18	1.57
9760-20P	20	2.02	9760-20PG	20	1.63
9760-22P	22	2.35	9760-22PG	22	2.09
9760-24P	24	2.80	9760-24PG	24	2.53
9760-28P	28	2.94	9760-28PG	28	2.65
9760-32P	32	4.33	9760-32PG	32	3.97
9760-36P	36	4.99	9760-36PG	36	4.37

CABLE CLAMPS

Sturdy Amphenol AN3057 Cable Clamp supports cable or wire at the plug or receptacle, prevents twisting or pulling at soldered connections.

Amphenol Number	Shell Size	Net Ea. 1-9*	Amphenol Number	Shell Size	Net Ea. 1-9*
AN3057-3	8S, 10S	$1.73	AN3057-20	32	$2.63
AN3057-4	12, 12S	1.78	AN3057-24	36	2.70
AN3057-6	14, 14S	1.83	AN3057-28	40	2.94
AN3057-8	16, 16S	1.98	AN3057-32	44	3.28
AN3057-10	18	1.67	97-3057-10-6†	18	1.77
AN3057-12	20, 22	1.79	97-3057-12-6†	20, 22	1.79
AN3057-16	24, 28	1.80			

†Step-down type. #Prices on request.

MINIATURE AN 165 SERIES CONNECTORS

Economical, quality miniature connectors feature quick mate and disconnect with reliable bayonet coupling. Pressure- and weatherproof. **Finish:** Aluminum shells with clear conversion seal. **Construction:** Internal rubber gasket cable clamp except those with potting construction. **Inserts:** Hard dielectric, rubber faced for environmental capability. Available in eight insert configurations with from 5–24 contacts in two shell sizes. **Contacts:** Gold over silver-plated; available in X and W alternate positions. **Mounting:** Small receptacles mount in $\frac{13}{16}$" dia. hole, four .125 screw holes on $\frac{35}{32}$" centers. Large receptacles mount in $1\frac{1}{16}$" hole with four .125 screw holes on $1\frac{5}{16}$" centers. **Size:** Small plugs, $2\frac{1}{16}$" lg. x $\frac{57}{64}$" dia.; large plugs, $2\frac{1}{16}$" lg. x $1\frac{9}{64}$" dia. **Rated:** 500 volts rms except as otherwise indicated. **Weight:** 3 oz., average.

SMALL SIZE: FIVE #20 CONTACTS

Rated 600 volts rms.

Type	Pin Contacts Amphenol Number 165-	Net Each, Lots of 1-9	10-49	Socket Contacts Amphenol Number 165-	Net Each, Lots of 1-9	10-49
Plug	33	$ 9.92	$ 7.53	34	$12.21	$ 9.26
Recept.*	35	6.69	5.07	36	8.97	6.81
Plug†	33-1000	6.21	4.72	34-1000	8.48	6.43
Recept.†	35-1000	17.42	13.21	36-1000	19.98	15.15
Recept.	35-1002	12.21	9.26	36-1003	14.48	10.98
SMALL SIZE: NINE #20 CONTACTS						
Plug	13	$10.17	$17.71	14	$13.28	$10.07
Recept.*	15	7.16	5.44	16	10.26	7.79
Plug	13-1000	6.65	5.04	14-1000	9.76	7.41
Recept.	15-1000	17.93	13.59	16-1000	21.59	16.38
Recept.	15-1002	12.62	9.57	16-1003	15.76	11.95
SMALL SIZE: EIGHT #20 AND ONE SHIELDED CONTACTS						
Recept.*	73	$11.50	$ 8.72	83	$19.60	$14.86
Plug	82	14.48	10.98	61-1008	22.62	17.16
Recept.†	73-1000	22.74	17.24	83-1000	31.64	24.00
Plug†	82-1000	10.99	8.34	61	19.09	14.48
Recept.	73-1001	17.02	12.91	83-1001	25.12	19.04
SMALL SIZE: TWELVE #20 CONTACTS						
Plug	9	$11.55	$ 8.75	10	$15.02	$11.40
Recept.*	11	8.59	6.52	12	11.93	9.05
Plug†	9-1000	8.05	6.11	10-1000	11.45	8.68
Recept.†	11-1000	19.29	14.63	12-1000	23.59	17.89
Recept.	11-1002	14.04	10.65	12-1002	17.47	13.25
LARGE SIZE: FOURTEEN #16 CONTACTS						
Plug	29	$15.33	$11.63	30	$19.09	$14.48
Recept.*	31	9.38	7.12	32	13.12	9.95
Plug†	29-1000	9.03	6.84	30-1000	12.81	9.72
Recept.†	31-1000	48.44	36.74	32-1000	53.30	40.42
Recept.	31-1003	40.63	30.82	32-1006	45.52	34.52
LARGE SIZE: NINETEEN #20 AND ONE SHIELDED CONTACTS						
Recept.*	84	$16.78	$12.73	85	$26.30	$19.95
Plug	86	22.62	17.16	62-1007	32.28	24.48
Recept.†	84-1000	57.18	43.37	85-1000	66.94	50.77
Plug†	86-1000	16.40	12.44	62	28.70	21.77
Recept.	84-1001	49.46	37.51	85-1001	59.27	44.95
LARGE SIZE: TWENTY-FOUR #20 CONTACTS						
Plug	25	$20.52	$15.56	26	$23.67	$17.95
Recept.*	27	14.52	11.02	28	17.62	13.36
Plug†	25-1000	14.19	10.76	26-1000	17.33	13.14
Recept.†	27-1000	54.49	41.33	28-1000	58.51	44.38
Recept.	27-1005	46.70	35.42	28-1003	50.75	38.39

*Square flange. †Potting construction.

MS3057A CABLE CLAMPS & AN3420 BUSHING

Clamp for rubber-covered cables protected by tubing. Both halves float so cable is always centered for maximum strain relief. With unjacketed cable or wire bundles, use bushing. Shell sizes 16 and larger require two "telescoping" bushings (one corresponding size AN3420 with one smaller).

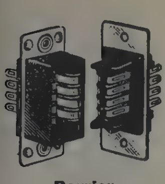
MS3057A Cable Clamps Amph. No. 97-3057-	MS No. MS-3057-	Shell Size	Net Ea., Lots 1-9*	AN3420 Bushings Amph. No. 9779-513-	MS No. AN-3420-	I.D., In.	Net Ea., Lots 1-9*
....	....	....	.....	3	3	.130	$.211
1004	4A	10SL, 12S	$1.86	4	4	.220	.245
1007	6A	14, 14S	1.91	6	6	.312	.254
1008	8A	16, 16S	2.06	8	8	.437	.211
1010	10A	18	1.75	10	10	.562	.211
1012	12A	20, 22	1.75	12	12	.625	.245
1016	16A	24, 28	1.87	16	16	.750	.310
1020	20A	32	2.71	20	20	.937	.490
1024	24A	36	2.71	24	24	1.250	.490

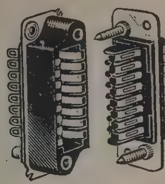
★QUANTITY DISCOUNTS FOR MS TYPES

Quantity In Lots	MS Connector Discount	Multiplier	MS Fittings
10–49	−23%	0.770	Discounts vary with each item—complete price list on request
50–99	−31%	0.690	
100–999	−38%	0.620	

BUNKER RAMO AMPHENOL Rack, Panel Connectors

BLUE RIBBON® CONNECTORS


Barrier Polarization


Pin Polarization

Patented gold plated ribbon contact provides self-wiping action with low contact resistance. Steel mounting plates with float bushings for alignment in rack and panel applications. Impact and moisture resistant, high quality diallyl phthalate dielectric.

BARRIER POLARIZATION TYPES

Requires rectangular panel cutout. Polarization and contact alignment by construction of dielectric barriers at end of connectors (26-182, -183), or by barrier thickness between contacts. **Rating:** 5 amps, 750 V. Parts 26-4200 are float mounted, all others, fixed positions.

Amph. No. 26-	Contacts	*	Net Each, Lots of 1-9	10-49	50-99	100-249*
182	8	M	$1.98	$1.67	$1.36	$1.23
4100-8P	8	M	1.43	1.23	1.01	.91
4100-16P	16	M	2.69	2.28	1.88	1.71
4100-24P	24	M	3.30	2.79	2.30	2.08
4100-32P	32	M	3.86	3.29	2.70	2.48
183	8	F	3.09	2.62	2.13	1.93
4100-8S	8	F	3.05	2.57	2.10	1.89
4100-16S	16	F	4.41	3.72	3.04	3.16
4100-24S	24	F	5.20	4.39	3.59	3.23
4100-32S	32	F	6.19	5.23	4.27	3.85
4200-8S	8	F	2.32	1.95	1.62	1.44
4200-16S	16	F	3.41	2.90	2.37	2.14
4200-24S	24	F	4.06	3.44	2.82	2.55
4200-32S	32	F	4.87	4.14	3.40	3.08

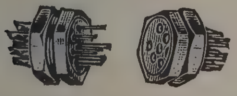
PIN POLARIZATION TYPES

Polarized by two tapered posts which also align contacts prior to mating. **Rating:** 5 amps, 750 V.

Amph. No. 26-	Contacts	*	1-9	10-49	50-99	100-249*
159-16	16	M	$3.42	$2.91	$2.37	$2.14
159-24	24	M	4.08	3.45	2.82	2.54
159-32	32	M	5.17	4.33	3.56	3.22
190-16	16	F	4.37	3.70	3.01	2.72
190-24	24	F	5.49	4.64	3.78	3.42
190-32	32	F	.....	5.43	4.43	4.00

*Type: M-Male, F-Female.

MINIATURE HEXAGON CONNECTORS



Quality miniature connectors at economy prices. Body of diallyl phthalate dielectric; gold-over-silver contacts. Rated 7.5 amps, 500 V rms at sea level.

RACK AND PANEL WITH HEX NUT (ILLUSTRATED)

No. 126-	Description	Net Each, Lots of 1-49	50-99	100-249
010	5-pin plug	$1.31	$0.95	$0.79
011	5-pin socket	2.06	1.48	1.24
191	7-pin plug	1.51	1.09	.91
192	7-pin socket	2.57	1.86	1.55
012	9-pin plug	1.81	1.30	1.09
013	9-pin socket	3.20	2.31	1.94

RECEPTACLES WITH LOCKING CLIP

No. 126-	Description	1-49	50-99	100-249
214	4-pin plug	$1.53	$1.10	$0.92
216	5-pin plug	1.35	.98	.82
218	5-pin socket	2.16	1.56	1.31
197	7-pin plug	1.65	1.19	1.00
198	7-pin socket	2.75	1.98	1.67
219	9-pin plug	1.87	1.35	1.13
221	9-pin socket	3.36	2.43	2.04

CABLE TO PANEL WITH HOOD AND CLAMP

No. 126-	Description	1-49	50-99	100-249
215	4-pin socket	$2.53	$1.83	$1.53
217	5-pin plug	2.82	2.04	1.71
223	5-pin socket	3.61	2.60	2.18
195	7-pin plug	3.12	2.25	1.88
196	7-pin socket	4.20	3.02	2.54
220	9-pin plug	3.36	2.43	2.04
222	9-pin socket	4.79	3.45	2.90

KEYED SHELLS

For rack and panel or module applications requiring additional keying or connector protection. Notched keys in shell provide a variety of positioned connectors. Rated 5 amps, 800 V.

PLUGS

Amph. No. 26-	Contacts	Net Each, Lots of 1-9	10-49	50-99	100-249*
4101-8P	8	$3.56	$3.01	$2.45	$2.22
4101-16P	16	5.37	4.53	3.70	3.34
4101-24P	24	6.19	5.23	4.27	3.85
4101-32P	32	7.03	5.94	4.84	4.38

MATING RECEPTACLES

Amph. No. 26-	Contacts	Net Each, Lots of 1-9	10-49	50-99	100-249*
4201-8S	8	$4.08	$3.45	$2.81	$2.54
4201-16S	16	5.51	4.66	3.81	3.43
4201-24S	24	6.61	5.58	4.55	4.11
4201-32S	32	7.69	6.50	5.30	4.79

CABLE TO PANEL TYPES WITH KEYED LATCH-LOCK SHELLS

With end cable clamp (26-4301) or right angle cable clamp (26-4501) on the plug; both units mate with receptacle 26-4401. With notched keying to avoid cross-mating.

PLUGS

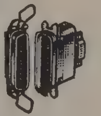
Amph. No. 26-	Contacts	*	Net Each, Lots of 1-9	10-49	50-99	100-249*
4301-8P	8	M	$9.56	$8.06	$6.58	$5.94
4301-16P	16	M	11.98	10.12	8.25	7.46
4301-24P	24	M	13.46	11.37	9.27	8.38
4301-32P	32	M	14.92	12.61	10.29	9.28
4301-8S	8	F	11.61	9.80	8.00	7.23
4301-16S	16	F	12.95	10.93	8.92	8.05
4301-24S	24	F	15.13	12.77	10.42	9.41
4301-32S	32	F	16.39	13.84	11.29	10.20
4501-8P	8	M	10.05	8.48	6.92	6.25
4501-16P	16	M	11.96	10.10	8.24	7.44
4501-24P	24	M	13.46	11.37	9.27	8.38
4501-32P	32	M	14.93	12.61	10.29	9.28
4501-8S	8	F	10.71	9.05	7.38	6.67
4501-16S	16	F	12.95	10.92	8.92	8.05
4501-24S	24	F	14.61	12.33	10.07	9.09
4501-32S	32	F	16.14	13.63	11.12	9.63

MATING RECEPTACLES

Amph. No. 26-	Contacts	*	1-9	10-49	50-99	100-249*
4401-8P	8	M	$5.49	$4.63	$3.78	$3.42
4401-16P	16	M	7.18	6.06	4.95	4.47
4401-24P	24	M	8.10	6.83	5.58	5.04
4401-32P	32	M	8.22	6.94	5.67	4.97
4401-8S	8	F	6.61	5.58	4.55	4.11
4401-16S	16	F	8.12	6.85	5.59	5.05
4401-24S	24	F	9.21	7.78	6.35	5.73
4401-32S	32	F	10.42	8.79	7.17	6.48

*Type: M-Male, F-Female.

MICRO RIBBON® MINIATURE CONNECTORS

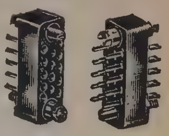


Extremely small connectors for dependable use where miniaturization is needed. Smooth, easy insertion and extraction. Self-wiping and cleaning. Double sided, flexing action of both contact members for added reliability. Available in up to 50-contact arrangements. Diallyl phthalate dielectric bodies. **Rating:** 700 VDC at sea level, 200 VDC at 70,000 feet. Shells, cadmium-plated brass with clear chromate finish.

Amph. No. 57-	*	Contacts	Net Each, Lots of 1-9	10-49	50-99	100-249*
10140	†	14	$2.53	$2.14	$1.74	$1.60
20140	‡	14	2.60	2.20	1.77	1.63
30140	§	14	4.82	4.18	3.31	2.97
40140	#	14	3.22	2.69	2.20	1.98
10240	†	24	3.41	2.89	2.51	2.13
20240	‡	24	3.48	2.94	2.42	2.16
30240	§	24	5.34	4.49	3.66	3.31
40240	#	24	3.80	3.21	2.63	2.37
10360	†	36	3.94	3.35	2.72	2.48
20360	‡	36	4.03	3.41	2.80	2.54
30360	§	36	6.54	5.54	4.51	4.04
40360	#	36	4.18	3.53	2.88	2.60
10500	†	50	5.16	4.39	3.57	3.21
20500	‡	50	5.20	4.43	3.63	3.28
30500	§	50	7.22	6.11	5.00	4.49
40500	#	50	5.41	4.58	3.74	3.38

***Type:** †Plug; ‡receptacle; for rack and panel use. §Plug with cable clamp; #receptacle; for cable to panel use.

MINIATURE RECTANGULAR CONNECTORS

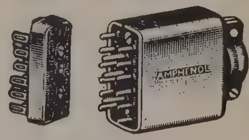


Rectangular connectors of a miniature size, intended for use wherever a circuit must be re-routed, made or broken in the interior of the equipment. Contacts and polarizing pins are gold over silver-base plating; will not tarnish or corrode. Dielectric bodies are of melamine. **Voltage Rating:** Types A and B, 700 V rms at sea level between contacts and 600 V rms at sea level between contacts and ground with a current of 17 amps; Type C and D, 600 V rms with a current of 7.5 amps. **Insertion Force:** 15 lbs., minimum to 40 lbs., maximum. **Withdrawal Force:** 1 lb., minimum to 4 lbs., maximum.

No. 126-	Contacts	Net Each, Lots of 1-49	50-99	100-249
016*	7 p.	$2.46	$1.77	$1.49
017*	7 s.	3.48	2.51	2.10
204*	15 p.	3.55	2.55	2.14
205*	15 s.	6.46	4.65	3.91
188†	34 p.	6.42	4.62	3.87
187†	34 s.	11.68	8.41	7.06

Current Rating: *17 amps (Types A and B). †7.5 amps (Types C and D). **Prices on request. **Contacts:** p.-pins; s.-sockets.

SERIES 126 RACK AND PANEL CONNECTORS



11, 15 and 20 contact connectors for use on rack and panel mountings. All have eyelets inserted in the mounting holes for added strength, holes for wiring instead of the usual hooks on the male contacts, and interlocking barriers to prevent accidental shorting. All models can be supplied with or without a protective can and cable clamp as shown. Molded of mica-filled phenolic. Contacts are gold over silver and molded into the insert. **Voltage Rating:** 900 volts rms, 60 Hz, at sea level. Contact size 12 rated 23 A; size 16 rated 13 A; size 20 rated 7.5 A. Also available to MIL-C-8384; specs and prices on request.

SPECIFICATIONS

Amphenol No. 126-	Description	Contacts No. 12	No. 20	Spacing
804, 809	Male	2	9	.864
805, 808	Female	2	9	.864
151, 152	Male	3	12	1.188
150, 153	Female	3	12	1.188
806, 811	Male	4	16	1.620
807, 810	Female	4	16	1.620
812	Female	20*	......	.....
813	Male	20*	......	.....

*Size 16.

SERIES 126 PRICES

No. 126-	Contacts	Mtg. Screw	Net Each, Lots of 1-49	50-99	100-249
804*	11	#4	$1.85	$1.33	$1.12
809	11	#4	2.87	2.07	1.73
805*	11	#4	1.90	1.37	1.14
808	11	#4	3.10	2.23	1.87
151*	15	#6	2.44	1.75	1.47
152	15	#6	4.63	4.07	2.80
150*	15	#6	1.87	1.35	1.13
153	15	#6	3.65	2.64	2.22
806*	20	#4	2.89	2.08	1.74
811	20	#4	4.49	3.23	2.72
807*	20	#4	2.32	1.68	1.41
810	20	#4	3.97	2.87	2.40
812*	20	#4	2.47	1.78	1.49
813*	20	#4	5.26	3.79	3.18

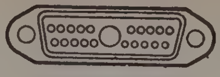
*Insert only, without shell and clamp.

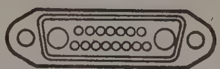
★Larger Quantity Prices on Request.

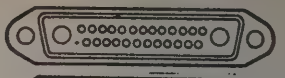
AMPHENOL Rack, Panel Connectors

POWER/COAX MIN RAC 17

A variety of combinations available where coax must be terminated with power circuits. Power contacts are #20 size; coax are #1 shielded. Shell dimensions and mounting same as standard Crimp, Poke-Home contacts; rated at 7.5 amps, 500 V rms (power max.). Glass-filled nylon dielectric.


Shell Size 25
1 Coax Contact

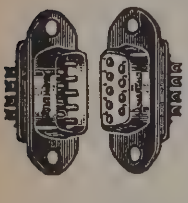

Shell Size 25
2 Coax Contacts


Shell Size 37

Shell Size 50

Contacts		Shell Size	Amphenol No.	PLUGS, Net Each, Lots of		Amphenol No.	RECEPTACLES, Net Each, Lots of	
Power	Coax			250-999	1000-2499		250-999	1000-2499
0	3	15	17-90003-1	$0.45	$0.30	17-80003-1	$0.50	$0.30
15	2	25	17-90152-1	1.62	1.08	17-80152-1	3.23	2.15
25	2	37	17-90252-1	2.45	1.63	17-80252-1	4.40	2.93
17	7	50	17-90177-1	1.83	1.22	17-80177-1	3.42	2.28

MIN RAC® 17 MINIATURE RACK AND PANEL CONNECTORS WITH POKE-HOME® CONTACTS



Half the size and weight of standards. "Poke Home" contacts are soldered to leads outside the connector, then "Poked Home" for quick, simple and reliable assembly. No damage or difficulty from "close in" soldering. From 9 to 50 contacts. Solder type contacts take up to #20 AWG wire. Crimp type take #20, #22 or #24 AWG wire. Steel shells with either clear chromate (listed) or gold iridite (change 2nd number from 0 to 1, e.g., -21090), over cadmium finish. Current rating: 7.5 A. Prices listed less cable housing.

PLUGS WITH ZYTEL‡ 101 NYLON INSERTS

Amphenol No.	Contacts	Net Each, Lots of 1-9	10-24	25-99	100-249	250-999
17-20090*	9	$1.70	$1.44	$1.25	$1.03	$0.87
17-20150*	15	2.29	1.94	1.70	1.41	1.19
17-20250*	25	3.34	2.84	2.47	1.98	1.65
17-20370*	37	4.49	3.82	3.33	2.74	2.26
17-20500*	50	5.67	4.83	4.20	3.49	2.91
17-20090-1†	9	1.75	1.49	1.30	1.19	.97
17-20150-1†	15	2.37	2.01	1.75	1.60	1.33
17-20250-1†	25	3.49	2.96	2.58	2.21	1.85
17-20370-1†	37	4.97	4.23	3.68	3.08	2.53
17-20500-1†	50	6.29	5.35	4.65	3.92	3.26

MATING RECEPTACLES

Amphenol No.	Contacts	1-9	10-24	25-99	100-249	250-999
17-10090*	9	$2.31	$1.95	$1.71	$1.41	$1.19
17-10150*	15	3.27	2.77	2.42	2.02	1.70
17-10250*	25	4.91	4.18	3.64	3.03	2.51
17-10370*	37	6.94	5.91	5.17	4.28	3.55
17-10500*	50	8.91	7.58	6.60	5.50	4.58
17-10090-1†	9	2.28	1.93	1.68	1.49	1.24
17-10150-1†	15	3.09	2.62	2.29	2.11	1.77
17-10250-1†	25	4.68	3.99	3.47	3.18	2.62
17-10370-1†	37	6.53	5.56	4.84	4.48	3.72
17-10500-1†	50	8.66	7.38	6.42	5.76	4.80

*Solder contacts; for float mount, add suffix -5; prices slightly higher. †Crimp contacts; for float mount, change suffix to -6; prices slightly higher. ‡DuPont registered trademark.

FIXED PIN MIN RAC 17

Low cost, with screw machine-type fixed contacts; dimensions, mounting and panel cut-outs same as standard 17 series. Solder pin contacts; max. wire size, 20 gauge. Glass-filled nylon dielectric.

PLUGS

Amphenol No.	Contacts	Net Each, Lots of 1-9	10-24	25-99	100-249	250-999
17-90090-16	9	....	....	....	$0.97	$0.82
17-90150-16	15	....	....	....	1.36	1.14
17-90250-16	25	....	....	....	1.94	1.62
17-90370-16	37	....	....	....	2.65	2.22
17-90500-16	50	....	....	....	3.41	2.87

MATING RECEPTACLES

Amphenol No.	Contacts	1-9	10-24	25-99	100-249	250-999
17-80090-16	9	....	....	....	$1.34	$1.13
17-80150-16	15	....	....	....	1.94	1.64
17-80250-16	25	....	....	....	2.94	2.48
17-80370-16	37	....	....	....	4.09	3.40
17-80500-16	50	....	....	....	5.27	4.40

CABLE CLAMP ASSEMBLIES FOR MIN RAC SERIES

Amphenol No.	Contacts	Net Each, Lots of 1-9	10-24	25-99	100-249	250-999
17-310-01	9	$1.30	$1.08	$1.01	$0.92	$0.78
17-311-01	15	1.66	1.41	1.23	1.04	.81
17-312-01	25	1.74	1.47	1.28	1.07	.82
17-313-01	37	1.78	1.51	1.31	1.10	.84
17-314-01	50	1.81	1.55	1.34	1.13	.86
17-529*	9–37	.90	.75	.66	.55	.42
17-770*	50	.92	.77	.68	.57	.44

*Locking assemblies latch cable to panel with clamp assemblies.

No. 294-136 Crimping Tool—Net Each..............**$124.74**

No. 294-155 Insertion and Removal Tool—Net Each. **13.28**

ENCAPSULATED CONTACT MIN RAC 17

Crimp Poke-Home contacts. Extra depth of nylon dielectric at rear of connector protects contacts from arcing, shorting. No sleeving, potting necessary. Shell dimensions, specifications same as standard.

PLUGS

Amphenol No.	Contacts	Net Each, Lots of 1-9	10-24	25-99	100-249	250-999
17-20090-1 (390)	9	$1.65	$1.41	$1.19	$0.97	$0.94
17-20150-1 (390)	15	2.27	1.94	1.65	1.36	1.29
17-20250-1 (390)	25	3.35	2.86	2.30	1.92	1.85
17-20370-1 (390)	37	4.76	4.08	3.29	2.72	2.59
17-20500-1 (390)	50	6.02	5.15	4.14	3.43	3.23

MATING RECEPTACLES

Amphenol No.	Contacts	1-9	10-24	25-99	100-249	250-999
17-10090-1 (390)	9	$2.14	$1.82	$1.60	$1.33	$1.25
17-10150-1 (390)	15	2.94	2.51	2.30	1.88	1.83
17-10250-1 (390)	25	4.45	3.81	3.41	2.83	2.66
17-10370-1 (390)	37	6.21	5.31	4.93	4.04	3.79
17-10500-1 (390)	50	8.22	7.03	6.29	5.16	4.83

OUR STOCK IS COMPLETE AND UP TO DATE.

WRITE FOR ADDITIONAL INFORMATION ON

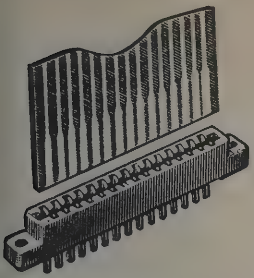
ANY NEW OR UNLISTED ITEMS

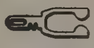
BUNKER RAMO AMPHENOL

PRINTED CIRCUIT, RACK AND PANEL CONNECTORS

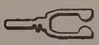
PRINTED CIRCUIT CONNECTORS

RECEPTACLES —143 SERIES





Type 01



Type 03

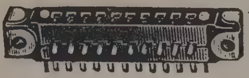
The contact is the secret of these connectors' effectiveness; gold plated tuning fork contacts firmly, but gently. Will form-fit any standard .055″ to .073″ board. Contacts are on .156″ centers. Rated 600 V rms, 5 amps.

Contact Style

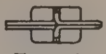
-01—Eyelet contact type. **-03**—Pin contact type. May be ordered with one contact replaced with a key, for positioning. When ordering, number indicates exactly what is desired: Example—143-010-01 indicates 143 Series, 10 contacts, -01 contact style.

No. 143-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999
006-01	6	$1.35	$1.14	$0.95	$0.82
010-01	10	1.41	1.20	1.01	.88
012-01	12	1.55	1.33	1.10	.95
015-01	15	1.79	1.50	1.25	1.09
018-01	18	2.13	1.80	1.51	1.29
022-01	22	2.54	2.14	1.80	1.56
036-01	36	4.94	4.12	3.48	2.99
006-03	6	1.35	1.14	.95	.82
010-03	10	1.41	1.20	1.01	.88
012-03	12	1.55	1.33	1.10	.95
015-03	15	1.79	1.50	1.25	1.09
018-03	18	2.13	1.80	1.51	1.29
022-03	22	2.54	2.14	1.80	1.55
036-03	36	4.94	4.12	3.48	2.99

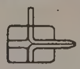
PLUGS—133 SERIES



For use with printed circuit boards requiring frequent mating and disengagement, also for boards of non-standard thickness. Contacts are on .156″ centers. Type 21 contact tail for use in cable to panel applications using a mate to 143 Series connector. Rugged, gold plated contacts. Rated 600 V rms, 5 amps. May be ordered with contact omitted for keying.



Type 21



Type 03

Contact Types

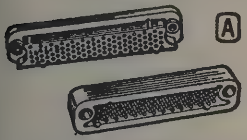
-21—Double Tail, solder type.

-03—Single Side Mount, pin type.

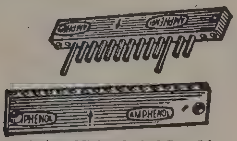
Stock Number Identification: No. 133-022-21 indicates 133 Series, 22 contacts, 21 contact tail (double tail, solder type).

No. 133-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999
006-21	6	$2.89	$2.40	$2.03	$1.74
010-21	10	2.48	2.08	1.75	1.51
022-21	12	3.00	2.53	2.12	1.84
015-21	15	3.49	2.93	2.47	2.11
018-21	18	3.60	3.01	2.55	2.19
022-21	22	4.11	3.45	2.89	2.49
006-03	6	2.60	2.19	1.84	1.59
010-03	10	2.14	1.77	1.52	1.29
012-03	12	2.63	2.22	1.86	1.61
015-03	15	2.94	2.47	2.08	1.79
018-03	18	3.01	2.54	2.13	1.85
022-03	22	3.33	2.81	2.36	2.03

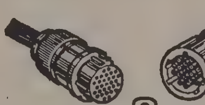
SERIES 220 THRU 223 MICRO-MINIATURE CONNECTORS, CONTACTS AND GUIDE PINS



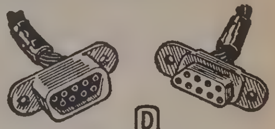
A



B



C



D

SERIES 220 MICRO-RAC® CONNECTORS (FIG. A)

Rack and panel connectors with monoblock body of polycarbonate resin. Polarization through trapezoidal mating area; molded-in slot-and-key arrangement. Float-mounted connectors. **52-Contact:** 1.888″ x .677″; 1.492″ mtg. ctrs. **104-Contact:** 3.017″ x .677″; 2.611″ mtg. ctrs. Supplied less contacts. See "Wire-Form" and "Relia-Tac" contacts.

Amphenol No.	Contacts	Description	Net Each, Lots of 1-49	50-99	100-249	250-499
220-1N052	52	Plug	$2.39	$1.61	$1.35	$1.17
220-2N052	52	Receptacle	2.05	1.40	1.17	1.01
220-5	......	Cable clamp	1.84	1.25	1.06	.91
220-1N104	104	Plug	2.93	1.99	1.67	1.46
220-2N104	104	Receptacle	2.54	1.73	1.46	1.27
220-6	......	Cable clamp	1.90	1.30	1.09	.94

SERIES 221 MULTI-PURPOSE STRIP CONNECTORS (FIG. B)

Economical connectors with highly versatile adaptability. May be used full 4″ or 6″ length or cut with scissors and stacked to any configuration desired. Material, black nylon; polycarbonate available on request. Supplied less contacts. See "Wire-Form" and "Relia-Tac" contacts.

221-1560*	60	6″ plug	$1.09	$0.79	$0.74	$0.65
221-1660*	60	6″ recept.	.91	.75	.61	.54
221-2553†	53	4″ plug	.96	.68	.59	.55
221-2653†	53	4″ recept.	.82	.61	.55	.50

Spacing: *.100″; †.075″; ‡.050″.

SERIES 222 MIGHTY-MITE® CABLE CONNECTORS (FIG. C)

Reliable, low cost connectors for cable-to-cable and cable-to-chassis application. Molded one-piece polycarbonate. **Spacing:** .085″ centers. Size: **19-Contact,** .621″ dia. x 2.618″ lg.; **31-Contact,** .746″ dia. x 2.948″ lg.; **61-Contact,** .996″ dia. x 3.530″ lg. Supplied less contacts. See "Wire-Form" and "Relia-Tac" contacts.

Amphenol No.	Contacts	Description	Net Each, Lots of 1-49	50-99	100-249	250-499
222-11N19	19	Plug	$1.45	$0.94	$0.79	$0.71
222-12N19	19	Receptacle	1.17	.77	.64	.55
222-518	......	Cable clamp	2.43	1.58	1.34	1.17
222-11N31	31	Plug	1.17	.77	.64	.55
222-12N31	31	Receptacle	1.17	.77	.64	.55
222-519	......	Cable clamp	2.62	1.69	1.41	1.24
222-11N61	61	Plug	1.57	1.01	.84	.74
222-12N61	61	Receptacle	1.23	.80	.67	.60

SERIES 223 TINY TIM® NYLON CONNECTORS (FIG. D)

Screw-mount rack and panel connectors ideal for circuit module either potted or surface mounted and for cable-to-cable use. Meet MIL-C-8384B requirements. Trapezoidal mating for polarization Contact spacing, .100″ centers each row. Overall length: **5-Contact,** .843″; **9-Contact,** 1.043″; **17-Contact,** 1.443″; **25-Contact,** 1.843″; **33-Contact,** 2.243″. Supplied less contacts. See "Wire-Form" and "Relia-Tac" contacts.

Amph. No.	Contacts	Description	Mtg. Ctrs.	Net Each, Lots of 1-49	50-99	100-249	250-499
223-1505	5	Plug	.593″	$0.68	$0.55	$0.49	$0.45
223-1605	5	Receptacle	.593″	.68	.55	.49	.45
223-1509	9	Plug	.793″	.71	.60	.51	.46
223-1609	9	Receptacle	.793″	.71	.60	.51	.46
223-1517	17	Plug	1.193″	.79	.64	.53	.49
223-1617	17	Receptacle	1.193″	.79	.64	.53	.49
223-1525	25	Plug	1.593″	.83	.68	.59	.52
223-1625	25	Receptacle	1.593″	.83	.68	.59	.52
223-1533	33	Plug	1.993″	.85	.69	.60	.53
223-1633	33	Receptacle	1.993″	.85	.69	.60	.53

INDIVIDUAL "WIRE-FORM" AND "RELIA-TAC" CONTACTS

For Amphenol Series 220–223 connectors. Current rating, 3 amps. Both take 24, 26, 28 gauge solid wire; 24, 26, 28 gauge stranded wire. **Wire-Form:** 4-member spring design. Gold clad copper alloy wire in gold plated copper sleeves; .413″ long. **Relia-Tac:** Gold-over-nickel on copper alloy body. Male, .388″ long; female, .404″ long. Does not mate with Wire-Form. **Ask about solder-tail contacts, special adapters, Ultra-Tac crimp contacts, special contacts, guide pins and strain reliefs also available.**

Amph. No.	Description	Net Each, Lots of 1-99	100-999	1M-4999	5M-9999	10M-24,999*
220-P02	Relia-Tac male	$0.069	$0.061	$0.051	$0.044	$0.40
220-S02	Relia-Tac female	.183	.16	.138	.119	.117

*For 221-3680 strips. †For 221-3580 strips.

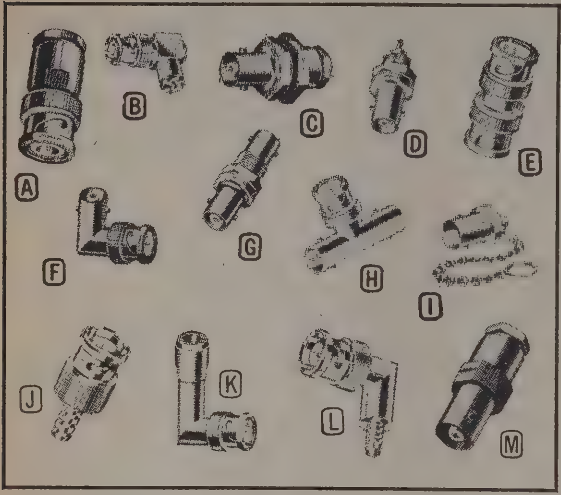
GUIDE PINS

Poke-Home® guide pins for polarizing, keying or connector alignment. Supplement the keyed slots; can be used in conjunction with either Relia-Tac or Wire-Form contacts. Insert into plug.

Amphenol No.	Type	Net Each, Lots of 1-49	50-99	100-249	250-499
221-535	Std. guide pin	$0.44	$0.19	$0.17	$0.12
221-590	Groove retention	.74	.32	.29	.21

BUNKER RAMO AMPHENOL RF Connectors

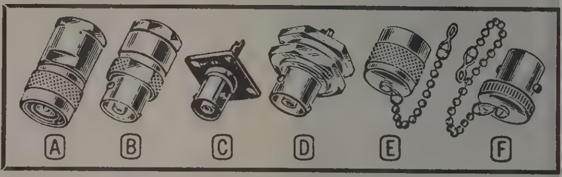
BNC CONNECTORS



Bayonet coupling coax connectors designed for RG-58, RG-59 and other cable as indicated. Use to 10,000 MHz, 500 V maximum.

Amphenol No.	MIL No.	Fig.	Description	Imp. Ohms	RG Cable
31-002	UG88/U	A	Plug	......	55, 58
31-012	UG260/U	A	Plug	......	59, 62, 71
31-018	UG88B/U	A	Plug	......	55, 58
31-021	UG260A/U	A	Plug	......	59, 62, 71
31-202	UG88C/U	A	Plug	50	55, 58
31-212	UG260B/U	A	Plug	......	59, 62, 71
31-4326	M39012	J	Plug	......	55, 142, 223
31-3301	M39012	A	Plug	......	55, 58, 141
31-4320	M39012	J	Plug	......	58, 141, 303
31-4321	M39012	J	Plug	......	59, 62, 140
31-3302	M39012	A	Plug	......	59, 62, 140
31-4322	M39012	J	Plug	......	71
31-3303	M39012	A	Plug	......	122, 180
31-204	UG913/U	B	Angle Plug	......	55, 58
31-850	....	B	Angle Plug	......	59, 62, 71
31-3365	M39012	K	Angle Plug	......	55, 142
31-3361	M39012	L	Angle Plug	......	55, 55A, 58
31-3364	M39012	K	Angle Plug	......	58, 141
31-005	UG89/U	....	Jack	......	55, 58
31-015	UG261/U	....	Jack	......	59, 62, 71
31-019	UG89A/U	....	Jack	......	55, 58
31-022	UG261A/U	....	Jack	......	59, 62, 71
31-205	UG89B/U	....	Jack	50	55, 58
31-215	UG261B/U	....	Jack	......	59, 62, 71
31-4333	M39012	....	Jack	......	55, 142, 223
31-3319	M39012	M	Jack	......	55, 58, 141
31-4327	M39012	....	Jack	......	58, 141, 303
31-4328	M39012	....	Jack	......	59, 62, 140
31-3320	M39012	M	Jack	......	59, 62, 71
31-3321	M39012	M	Jack	......	122, 180
31-001	UG291/U	....	Panel Jack	......	55, 58
31-011	UG262/U	....	Panel Jack	......	59, 62, 71
31-020	UG291A/U	....	Panel Jack	......	55, 58
31-201	UG291B/U	....	Panel Jack	50	55, 58
31-211	UG262B/U	....	Panel Jack	......	59, 62, 71
31-3333	M39012	....	Panel Jack	......	55, 58, 141
31-3334	M39012	....	Panel Jack	......	59, 62, 71
31-3335	M39012	....	Panel Jack	......	122, 180
31-206	UG909/U	C	Blkhd. Jack	50	55, 58
31-207	UG910/U	C	Blkhd. Jack	......	59, 62, 71
31-4341	M39012	....	Blkhd. Jack	......	55, 142, 223
31-3347	M39012	C	Blkhd. Jack	......	55, 58, 141
31-4343	M39012	....	Blkhd. Jack	......	59, 62, 140
31-3348	M39012	C	Blkhd. Jack	......	59, 62, 71
31-4346	M39012	....	Blkhd. Jack	......	122
31-003	UG290/U	....	Panel Recpt.	......	....
31-105	....	....	Panel Recpt.	......	....
31-203	UG290A/U	....	Panel Recpt.	50	....
31-817	UG447/U	....	Panel Recpt.	......	....
31-842	....	....	Panel Recpt.	......	....
4500	UG185/U	....	Panel Recpt.	......	....
31-3377	M39012	....	Panel Recpt.	......	....
31-222	UG1098/U	....	Angle Recpt.	50	....
31-016	UG254A/U	D	Blkhd. Recpt.	......	....
31-102	UG657/U	D	Blkhd. Recpt.	......	....
31-221	UG1094/U	D	Blkhd. Recpt.	50	....
31-236	UG625B/U	D	Blkhd. Recpt.	50	....
31-3375	M39012	D	Blkhd. Recpt.	......	....
31-4238	M39012	D	Blkhd. Recpt.	......	....
31-3376	M39012	D	Blkhd. Recpt.	......	....
31-4237	M39012	D	Blkhd. Recpt.	......	....
31-218	UG491A/U	E	Adapter	50	....
31-219	UG914/U	E	Adapter	50	....
31-009	UG306/U	F	Angle Adapter	......	....
31-209	UG306A/U	F	Angle Adapter	50	....
31-220	UG492A/U	G	Blkhd. Adapter	50	....
47000	UG414/U	G	Blkhd. Adapter	......	....
31-008	UG274/U	H	"T" Adapter	......	....
31-208	UG274A/U	H	"T" Adapter	50	....
31-006	CW123/U	....	Cap & Chain	......	....
31-007	CW155/U	....	Cap & Chain	......	....
31-017	CW159/U	....	Cap & Chain	......	....
31-026	M39012	....	Cap & Chain	......	....
31-027	CW155A/U	....	Cap & Chain	......	....
31-210	CW282/U	I	Cap & Chain	......	....

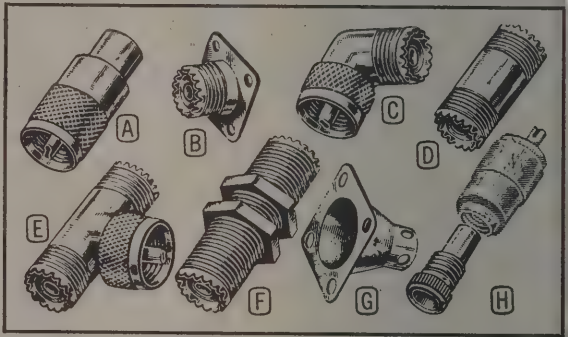
SERIES 82 TYPE C COAXIAL CONNECTORS



Low VSWR to 10,000 MHz, 1,500 V peak. Also used with cables other than 50 ohms. Meets applicable portions of MIL-C-3989.

Amphenol No.	UG/U No.	Fig.	Description	RG Cable
82-530	573A	A	Plug	8, 9
82-532	628A	A	Plug	8, 9A
82-534	709A	A	Plug	55, 58
82-531	710A	....	Angle Plug	8, 9
82-503	572	B	Panel Jack	8, 9
82-504	568	C	Panel Recpt.	....
82-515	634	D	Blkhd. Recpt.	....
82-535	567A	....	Angle Adapter	....
82-512	MX-1142	E	Male Cap & Chain	....
82-513	MX-1143	F	Female Cap & Chain	....

SERIES 83 UHF TYPE COAXIAL CONNECTORS

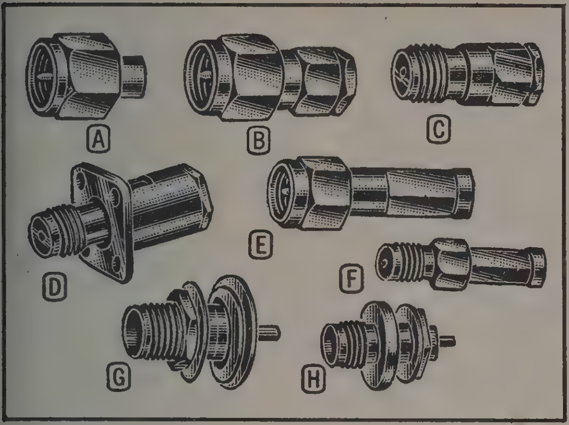


Small, single contact, general purpose connectors of non-constant impedance. Meet military specifications.

Amphenol No.	UG/U No.	Fig.	Description	RG/U Cable
83-1SP	PL259	A	Plug	8, 11
83-1SPN	PL259A	A	Plug	8, 11
83-750	111	A	Plug	59, 62
83-850	....	A	Plug	11
83-851	....	A	Plug	8
83-59	....	......	Angle Plug	8, 11
83-1R	SO239	B	Panel Recpt.	....
83-716	....	B	Panel Recpt.	....
83-798	SO239A	......	Panel Recpt.	....
83-1F	363	F	Straight Adapter	....
83-1J	PL258	D	Straight Adapter	....
83-1AP	646	C	Angle Adapter	....
83-1T	....	E	"T" Adapter	....
83-168	176	H	Reducing Adapter	59, 62, 71
83-185	175	H	Reducing Adapter	55, 58
83-1H	106	G	Hood	8, 11
83-1HP	372	G	Hood	8, 11
83-765	177	G	Hood	55, 58
83-877	....	......	Double Male Adpt.	....
83-878	....	......	Single Hole Recpt.	....

SEE FOLLOWING PAGES FOR PRICING

SERIES SMA SEMI-PRECISION 3mm HIGH FREQUENCY CONNECTORS



Excellent mechanical and electrical performance, DC to 18 GHz, even after 100 mating cycles. "Thin Wall" beryllium copper bodies have .00452" interface mating cross-section. Coupling nut torque can be twice that of other SMA designs. Easy assembly requires only a simple, low-cost tool kit; crimp style uses standard BNC/TNC Crimper No. 227-350.

Amphenol No. 901-2500 Tool Kit—Jacket and dielectric trim tools for precise cable preparation required for electric performance specified. Net Each, Lots 1–24. . . . . **$14.90**

PLUGS AND JACKS

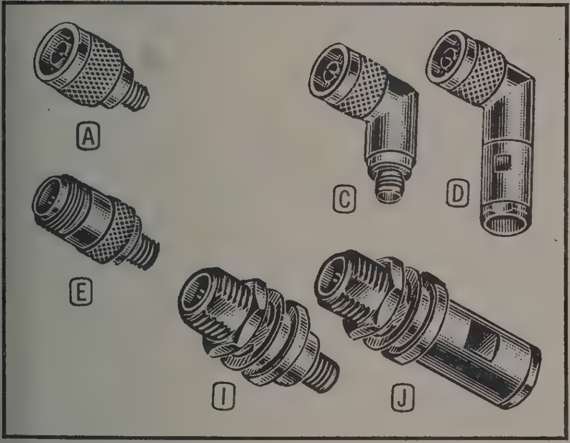
Solder affixment, except: *Clamp; †Crimp.

Amphenol Number	Fig.	Description	For RG/U Cable
901-113	A	Plug, less contact & insul.	.141″ dia. Cujak
901-105	B	Plug with contact & insul.	.141″ dia. Cujak
901-107*	....	Plug with contact & insul.	.141″ dia. Cujak
901-106	C	Jack with contact & insul.	.141″ dia. Cujak
901-103*	....	Straight plug	55, 58, 141, 142, 223
901-104*	....	Straight jack	55, 58, 141, 142, 223
901-121*	D	Panel jack	55, 58, 141, 142, 223
901-101†	E	Straight plug	55, 142, 223
901-102†	F	Straight jack	55, 143, 223
901-109†	....	Straight plug	58, 141, 303
901-110	....	Straight jack	58, 141, 303

RECEPTACLES & WITHIN-SERIES ADAPTERS

Amphenol Number	Fig.	Description	Std. Wave Ratio	
			Max. SWR	To f(GHz)
901-112	....	Panel receptacle	....	....
901-116	G	Rear-mt. bulkhead recept.	....	....
901-117	H	Front-mt. bulkhead recept.	....	....
901-118	....	Straight plug-plug adapter	1.15	.01
901-119	....	Straight jack-jack adapter	1.15	.01
901-120	....	Bulkhead jack-jack adapter	1.15	.01

TYPE N MIL-C-39012 CONNECTORS

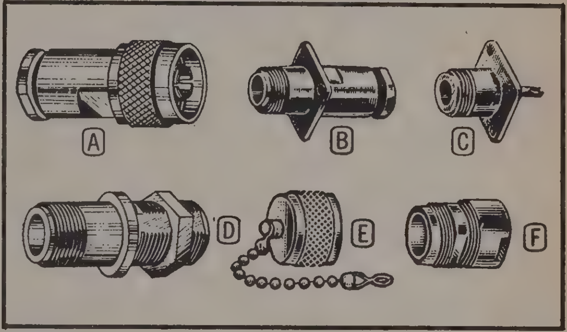


Medium size, weather proof, threaded coupling units for use up-to microwave frequencies. Designed to meet MIL-C-39012. They have crimpable fully captivated contacts, cable retention equal to the strength of the cable braid and utilize the same series of crimpable tools as the Amphenol BNC/TNC MIL type. Frequency range 0–10,000 MHz. 1500 V peak voltage.

Amphenol Number	UG/U No.	Fig.	MIL No. M39012/	Imped. Ohms	RG/U Cable
82-340	1681	A	Mil crimp 01-0007	50	8, 9, 213
82-332	1682	A	Mil crimp 01-0008	50	214
82-5375	......	A	Mil crimp	50	142, 223
82-336	1708	C	Mil crimp 05-0003	50	8, 9, 213, 214
82-5374	......	C	Mil crimp	50	223
82-337	1688	E	Mil crimp 02-0008	50	8, 9, 213, 214
82-333	1689	E	Mil crimp 02-0009	50	....
82-335	1701	I	Mil crimp 03-0005	50	8, 9, 213, 214
82-5373	......	I	Mil crimp	50	142, 223

SEE FOLLOWING PAGES FOR PRICING AND BETWEEN SERIES ADAPTERS

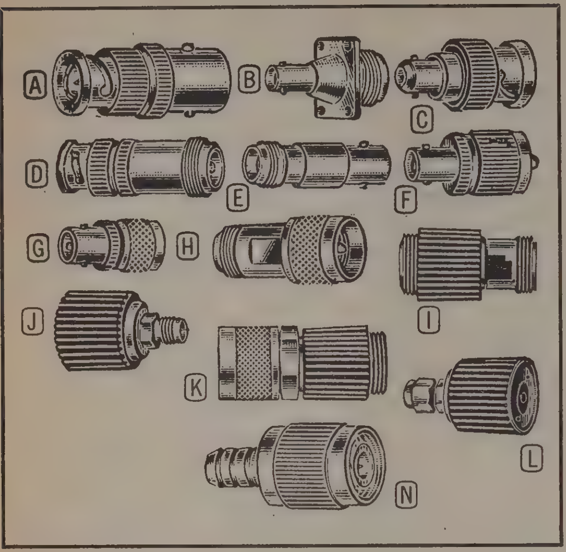
TYPE N COAXIAL CONNECTORS



Impedance matched to 50 or 70-ohm cables. 50-ohm connectors **will not** mate with 75-ohm connectors. Frequency range, 0–10,000 MHz. 500 V maximum. Threaded coupling.

Amphenol No.	UG/U No.	Fig.	Description	Imped. Ohms	RG/U Cable
82-61	21B	A	Plug	50	8, 9, 10
82-84	94A	A	Plug	70	11, 12, 13
82-86	18B	A	Plug	50	5, 6, 21
82-96	21C	A	Plug	50	8, 9, 10
82-104	167A	....	Plug	50	17, 18
82-202	21D	A	Plug	50	8, 9, 10
82-203	18C	A	Plug	50	5, 6, 21
34000	536	A	Plug	50	58, 141
82-835	....	....	Angle Plug	50	8, 9, 10, 87A
82-63	23B	B	Jack	50	8, 9, 10
82-89	95A	B	Jack	70	11, 12, 13
82-209	23D	B	Jack	50	8, 9, 10
82-62	22B	B	Panel Jack	50	8, 9, 10
82-67	160A	....	Blkhd. Jack	50	8, 9, 10
82-93	160B	....	Blkhd. Jack	50	8, 9, 10
82-24	58	C	Panel Recpt.	50	....
82-97	58A	C	Panel Recpt.	50	....
82-112	....	C	Panel Recpt.	70	....
82-811	680	....	Blkhd. Recpt.	50	....
82-65	29A	D	Adapter	50	....
82-100	57B	D	Adapter	50	....
82-101	29B	D	Adapter	50	....
82-64	27A	....	Angle Adapter	50	....
82-98	27B	....	Angle Adapter	50	....
82-213	27C	....	Angle Adapter	50	....
82-66	30	....	Blkhd. Adapter	50	....
82-36	107A	....	"T" Adapter	50	....
82-99	28A	....	"T" Adapter	50	....
82-102	107B	....	"T" Adapter	50	....
82-106	MX913	E	Cap & Chain	....	....

BUNKER RAMO AMPHENOL RF Connectors



BETWEEN SERIES ADAPTERS

APC, BNC, C, HN, MB, N, SMA, TNC, UHF

Amphenol No.	UG/U No.	Fig.	Mates with Plug	Mates with Recpt.	Mates with Plug	Mates with Recpt.	Imp., Ohms
83175	635	A	....	BNC	C	....	50
83200	636A	A	BNC	....	....	C	50
8900	309	B	BNC	....	....	HN	50
47250	....	C	BNC	....	....	MB	50
47275	....	C	....	BNC	MB	....	50
31-216	201A	D	BNC	....	....	N	.....
31-217	349A	D	....	BNC	N	....	.....
31-830	201	D	BNC	....	....	N	.....
2800*	....	D	BNC	....	N	....	50
2975	349	D	....	BNC	N	....	50
4900	....	D	....	BNC	....	N	50
5225	1034	D	....	BNC	....	N	50
5850‡	....	D	BNC	....	N	....	50
21850†	....	D	BNC	....	N	....	50
79025	....	E	....	BNC	TNC	....	50
79675	....	E	BNC	....	....	TNC	50
31-028	273	F	BNC	....	....	UHF	.....
2900	255	F	....	BNC	UHF	....	50
12025	....	F	BNC	....	....	UHF	50
82-508	564	G	C	....	....	N	50
82-540	565A	G	....	C	N	....	50
4400	146	H	....	N	UHF	....	.....
14000	83	H	N	....	....	UHF	.....
26700	318	H	....	N	....	UHF	.....
131-1025	....	I	APC-7		....	N	50
131-1026	....	.....	APC-7		....	BNC	50
131-1027	....	.....	APC-7		....	OSM	50
131-1028	....	J	APC-7		....	SMA	50
131-1035	....	K	APC-7		N	....	50
131-1036	....	.....	APC-7		TNC	....	50
131-1037	....	.....	APC-7		BNC	....	50
131-1038	....	L	APC-7		SMA	....	50

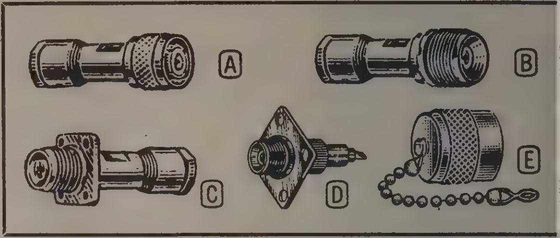
*Angle, flange mount. †Bulkhead mount. ‡Pressurized, bulkhead mount.

QUICK-CRIMP TNC SERIES CONNECTORS

Exclusive design has optional crimp or solder center contact. Maintains constant impedance even when center contact is crimped. Non-impedance match connector when used with cables other than 50 ohms. VSWR is identical to standard solder type TNC connectors, 1.25 to 1, over frequency range to 10,000 MHz.

Amphenol No.	Fig.	Description	RG/U Cable
36825	N	Plug	58, 58A, 58C, 141
36925	N	Plug	55, 55B, 142, 223
34825	N	Plug	71
69350	N	Plug	59, 59A, 59B, 62, 62A, 62C, 140

TYPE HN COAXIAL CONNECTORS



Medium size, high voltage, 50-ohm constant impedance connector with threaded coupling. Meets applicable sections of MIL-C-3643 Low VSWR to 10,000 MHz. 1,500 V maximum.

Amphenol No.	UG/U No.	Fig.	Description	RG/U Cable
82-38	59A	A	Straight Plug	8, 9, 10
82-111	495A	A	Straight Plug	17, 18
82-804	59B	A	Straight Plug	8, 9, 10
82-816	....	A	Straight Plug	54A
82-833	....	.....	Angle Plug	8, 9, 10
82-856	....	.....	Angle Plug	8, 9, 10
82-39	60A	B	Straight Jack	8, 9, 10
82-814	60B	B	Straight Jack	8, 9, 10, 87
82-92	496	D	Panel Recpt.	....
82-805	560	D	Panel Recpt.	....
82-91	212A	.....	Angle Adapter	....
82-130	....	E	Cap & Chain	....

RF CRIMPING TOOLS

227-900

227-944

Attach connectors to cables quickly and easily. Crimping forc automatically controlled. Meets MIL specifications.

Amphenol No.	Connector Series	For use with RG/U cable
227-900	27 Shield Only	174, 179, 187, 188
227-901		180, 195
227-902		Adapter for 27-14 connector
227-913		Adapter for 27-4, 27-8, 27-10
227-914		Adapter for 27-16, 27-20, 27-22
227-1221-57	N Shield and Contact	55, 58, 141, 142, 223, 303, 400
227-1221-59		59, 62, 140, 210
227-1221-29		5, 6, 21, 143, 212, 222, 304
227-1221-25		8, 9, 11, 87A, 149, 165, 213, 214, 216, 225, 393
227-1221-09	BNC & TNC Shield and Contact	122, 174, 179, 180, 187, 188, 195. Essex 21-597
227-1221-11		55, 58, 141, 142, 223, 303. 400
227-1221-13		59, 62, 140, 210
227-1221-15		71
227-1221-11	MHV Shield Only	55, 58, 141, 142, 223, 303, 400
227-1221-11	UHF Shield Only	55, 58, 141, 142, 223, 303, 400
227-1221-13		59, 62, 140, 210
227-1221-23		8, 11, 149, 213
227-1221-09	SMA Shield Only	122, 174, 179, 180, 187, 188, 195
227-1221-11		55, 58, 141, 142, 223, 303, 400
227-944		Frame only for all 227-1221 die se

OUR STOCKS ARE COMPLETE

AND UP TO DATE

AMPHENOL RF CONNECTOR PRICING

MIL No.	Amphenol Number	Net Each, Lots of 1-24	25-99	100-499	500-999	1000-2499
CW-123	31-006	$1.34	$1.03	$0.84	$0.73	......
CW-155	31-007	.66	.51	.42	.36	......
CW-155A	31-027	.70	.55	.45	.39	......
CW-159	31-017	1.86	1.45	1.19	1.02	......
CW-282	31-210	1.18	.92	.76	.65	......
MX-913	82-106	1.30	1.01	.83	.72	......
MX-1142	82-512	2.10	1.64	1.34	1.16	......
MX-1143	82-513	2.10	1.64	1.34	1.16	......
PL-258	83-1J	1.36	1.06	.87	.75	$0.68
PL-259	83-1SP	1.01	.78	.65	.56	.52
PL-259A	83-1SPN	2.46	1.92	1.57	1.35	1.23
SO-239	83-1R	.81	.63	.52	.44	.40
SO-239A	83-798	1.72	1.34	1.10	.95	.86
......	27-1	1.12	.87	.72	.62	.56
......	27-2	1.26	.98	.81	.69	.63
......	27-3	1.22	.95	.78	.67	.61
......	27-4	1.92	1.50	1.23	1.06	.96
......	27-6	3.20	2.50	2.05	1.76	1.60
......	27-8	1.42	1.11	.91	.78	.71
......	27-9	1.14	.89	.73	.63	.57
......	27-10	1.74	1.36	1.11	.96	.87
......	27-12	3.90	3.04	2.50	2.15	......
......	27-13	1.90	1.48	1.22	1.05	.95
......	27-14	......	......	1.74	1.50	......
......	27-15	1.80	1.40	1.15	.99	.90
......	27-16	......	......	1.38	1.19	......
......	27-18	3.08	2.40	1.97	1.70	......
......	27-19	1.78	1.39	1.14	.98	.89
......	27-20	4.76	3.71	3.05	2.62	......
......	27-21	1.68	1.31	1.08	.92	.84
......	27-22	2.90	2.26	1.86	1.60	1.45
......	27-24	......	......	3.19	2.74	......
......	27-25	3.74	2.92	2.39	2.06	1.87
......	27-26	2.82	2.20	1.80	1.55	1.41
......	27-27	......	......	3.48	2.99	......
......	27-30	3.24	2.53	2.07	1.78	......
......	27-31	4.05	3.20	2.62	2.26	......
......	27-32	......	......	2.71	2.33	......
......	27-33	4.72	3.68	3.02	2.60	......
......	27-34	3.28	2.56	2.10	1.80	1.64
......	27-35	......	......	2.41	2.07	......
UG1619/U	27-101	2.14	1.67	1.37	1.18	......
UG1463/U	27-102	......	......	2.78	2.39	......
UG1468/U	27-103	4.18	3.39	2.68	2.30	......
UG1460/U	27-104	4.68	3.65	3.00	2.57	......
UG1467/U	27-105	4.10	3.20	2.62	2.26	......
......	27-106	4.12	3.21	2.64	2.27	......
UG1464/U	27-108	3.00	2.34	1.92	1.65	1.50
UG-18B/U	82-86	4.18	3.26	2.68	2.30	......
UG-18C/U	82-203	3.16	2.46	2.02	1.74	......
UG-19B/U	82-87	......	......	3.05	2.62	......
UG-21B/U	82-61	2.74	2.14	1.75	1.51	1.37
UG-21C/U	82-96	3.14	2.45	2.01	1.73	1.57
UG-21D/U	82-202	2.64	2.06	1.69	1.45	1.32
UG-22B/U	82-62	3.80	2.96	2.43	2.09	......
UG-23B/U	82-63	3.36	2.62	2.15	1.85	......
UG-23D/U	82-209	2.64	2.06	1.69	1.45	......
UG-27A/U	82-64	6.44	5.02	4.12	3.54	......
UG-27B/U	82-98	6.32	4.93	4.04	3.48	......
UG-27C/U	82-213	4.80	3.74	3.07	2.64	......
UG-28A/U	82-99	6.72	5.24	4.30	3.70	......
UG-29A/U	82-65	3.90	3.04	2.50	2.15	......
UG-29B/U	82-101	3.84	3.00	2.46	2.11	......
UG-30/U	82-66	7.08	5.52	4.53	3.89	......
UG-57B/U	82-100	3.68	2.87	2.36	2.02	......
UG-58/U	82-24	1.90	1.48	1.22	1.05	.95
UG-58A/U	82-97	2.34	1.83	1.50	1.29	......
UG-59A/U	82-38	7.72	6.02	4.94	4.25	......
UG-59B/U	82-804	7.86	6.13	5.03	4.32	......
UG-60A/U	82-39	7.72	6.02	4.94	4.25	......
UG-60B/U	82-814	7.64	5.96	4.89	4.20	......
UG-61A/U	82-40	......	......	5.58	4.80	......
UG-83/U	14000	5.90	4.60	3.78	3.25	......
UG-85/U	82-21	......	......	4.45	3.83	......
UG-88/U	31-002	1.22	.95	.78	.67	.61
UG-88B/U	31-018	1.38	1.08	.88	.76	.69
UG-88C/U	31-202	1.22	.95	.78	.67	.61
UG-89/U	31-005	1.92	1.50	1.23	1.06	.96
UG-89A/U	31-019	1.82	1.42	1.16	1.00	......
UG-89B/U	31-205	1.48	1.15	.95	.81	......
UG-94A/U	82-84	4.12	3.21	2.64	2.27	......
UG-95A/U	82-89	3.98	3.10	2.55	2.19	......
UG-96A/U	82-90	......	......	3.05	2.62	......
UG-106/U	83-1H	1.12	.87	.72	.62	......
UG-107A/U	82-36	8.96	6.99	5.73	4.93	......
UG-107B/U	82-102	8.22	6.41	5.26	4.52	......

MIL No.	Amphenol Number	Net Each, Lots of 1-24	25-99	100-499	500-999	1000-2499
UG-111/U	83-750	$1.70	$1.33	$1.09	$0.94	$0.85
UG-146/U	4400	5.12	3.99	3.28	2.82	......
UG-160A/U	82-67	5.62	4.38	3.60	3.09	......
UG-160B/U	82-93	4.32	3.37	2.76	2.38	......
UG-167A/U	82-104	11.72	9.14	7.50	6.45	......
UG-175/U	83-185	.28	.21	.18	.15	.14
UG-176/U	83-168	.30	.23	.19	.16	.15
UG-177/U	83-765	.88	.69	.56	.48	.44
UG-185/U	4500	2.16	1.68	1.38	1.19	1.08
UG-201/U	31-830	4.12	3.21	2.64	2.27	......
UG-201A/U	31-216	2.56	2.00	1.64	1.41	1.28
UG-212A/U	82-91	9.88	7.71	6.32	5.43	......
UG-254A/U	31-016	8.34	6.51	5.34	4.59	......
UG-255/U	2900	3.50	2.73	2.24	1.93	......
UG-260/U	31-012	1.50	1.17	.96	.83	.75
UG-260A/U	31-021	1.56	1.22	1.00	.86	.78
UG-260B/U	31-212	1.42	1.11	.91	.78	.71
UG-261/U	31-015	2.22	1.73	1.42	1.22	......
UG-261A/U	31-022	2.14	1.67	1.37	1.18	......
UG-261B/U	31-215	1.86	1.45	1.19	1.02	......
UG-262/U	31-011	2.70	2.11	1.73	1.49	......
UG-262A/U	31-023	......	......	2.78	2.39	......
UG-262B/U	31-211	2.82	2.20	1.80	1.55	......
UG-273/U	31-028	2.16	1.68	1.38	1.19	1.08
UG-274/U	31-008	4.06	3.17	2.60	2.23	2.03
UG-274A/U	31-208	3.90	3.04	2.50	2.15	1.95
UG-290/U	31-003	1.46	1.14	.93	.80	.73
UG-290A/U	31-203	1.22	.95	.78	.67	.61
UG-291/U	31-001	3.42	2.67	2.19	1.88	1.71
UG-291A/U	31-020	3.06	2.39	1.96	1.68	......
UG-291B/U	31-201	2.26	1.76	1.45	1.24	......
UG-306/U	31-009	3.70	2.89	2.37	2.04	1.85
UG-306A/U	31-209	3.80	2.96	2.43	2.09	......
UG-309/U	8900	7.12	5.55	4.56	3.92	......
UG-318/U	26700	8.06	6.29	5.16	4.43	......
UG-333A/U	82-107	......	......	14.01	12.05	......
UG-335/U	3025	......	......	4.94	4.25	......
UG-349/U	2975	7.02	5.48	4.49	3.86	......
UG-349A/U	31-217	4.18	3.26	2.68	2.30	......
UG-363/U	83-1F	3.88	3.03	2.48	2.13	1.94
UG-372/U	83-1HP	1.00	.78	.64	.55	......
UG-414/U	47000	3.60	2.81	2.30	1.98	......
UG-447/U	31-817	2.02	1.58	1.29	1.11	1.01
UG-491A/U	31-218	3.18	2.48	2.04	1.75	1.59
UG-492A/U	31-220	3.72	2.90	2.38	2.05	1.86
UG-495A/U	82-111	17.02	13.28	10.89	9.36	......
UG-496/U	82-92	4.44	3.46	2.84	2.44	......
UG-536/U	34000	4.46	3.48	2.85	2.45	......
UG-560/U	82-805	7.30	5.69	4.67	4.02	......
UG-564/U	82-508	4.04	3.15	2.59	2.22	......
UG-565A/U	82-540	7.12	5.55	4.56	3.92	......
UG-567A/U	82-535	10.22	7.97	6.54	5.62	......
UG-568/U	82-504	4.12	3.21	2.64	2.27	......
UG-572/U	82-503	4.42	3.45	2.83	2.43	......
UG-573A/U	82-530	4.04	3.15	2.59	2.22	......
UG-593/U	35500	......	......	4.80	4.13	......
UG-625B/U	31-236	1.02	.80	.65	.56	.51
UG-628A/U	82-532	6.08	4.74	3.89	3.34	......
UG-634/U	82-515	5.64	4.40	3.61	3.10	......
UG-635/U	83175	5.84	4.56	3.74	3.21	......
UG-636A/U	83200	5.72	4.46	3.66	3.15	......
UG-646/U	83-1AP	2.31	1.80	1.48	1.27	1.15
UG-657/U	31-102	1.80	1.40	1.15	.99	.90
UG-680/U	82-811	4.40	3.43	2.82	2.42	2.20
UG-709A/U	82-534	4.32	3.37	2.76	2.38	......
UG-710A/U	82-531	8.38	6.54	5.36	4.61	......
UG-909/U	31-206	2.18	1.70	1.40	1.20	1.09
UG-910/U	31-207	2.90	2.26	1.86	1.60	......
UG-913/U	31-204	4.50	3.51	2.88	2.48	2.25
UG-914/U	31-219	1.84	1.44	1.18	1.01	.92
UG-940A/U	82-212	......	......	3.42	2.94	......
UG-941A/U	82-204	......	......	2.80	2.41	......
UG-1034/U	5225	9.14	7.13	5.85	5.03	......
UG-1094/U	31-221	.94	.73	.60	.52	.47
UG-1098/U	31-222	5.20	4.10	3.33	2.86	2.60
......	31-026	1.16	.90	.74	.64	......
......	31-105	2.24	1.75	1.43	1.23	......
......	31-842	2.28	1.78	1.46	1.25	......
......	31-850	5.50	4.29	3.52	3.03	......
......	82-112	3.78	2.95	2.42	2.08	......
......	82-130	2.70	2.11	1.73	1.49	......
......	82-332	2.94	2.29	1.88	1.62	......
......	82-333	3.38	2.64	2.16	1.86	......
......	82-334	......	......	2.37	2.04	......
......	82-335	4.76	3.71	3.05	2.62	......
......	82-336	9.02	7.04	5.77	4.96	......
......	82-337	2.92	2.28	1.87	1.61	......

Continued on the following page

COMPLETE LINE OF RF CONNECTORS FOR PROMPT DELIVERY.

ASK FOR UNLISTED OR NON-STOCK ITEMS, AVAILABLE ON SPECIAL ORDER.

AMPHENOL RF CONNECTOR PRICING (CONTINUED)

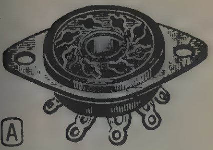
MIL No.	Amphenol Number	Net Each, Lots of 1-24	25-99	100-499	500-999	1000-2499
....	82-340	$2.90	$2.26	$1.86	$1.60	$1.45
....	82-816	7.76	6.05	4.97	4.27	......
....	82-833	12.40	9.67	7.94	6.82	......
....	82-835	8.02	6.26	5.13	4.41	......
....	82-856	13.10	10.22	8.38	7.21	......
....	82-5370	3.34	2.61	2.14	1.84	......
....	82-5371	....	....	2.36	2.02	......
....	82-5373	6.46	5.04	4.13	3.55	......
....	82-5374	7.70	6.01	4.93	4.24	......
....	82-5375	3.08	2.40	1.97	1.69	......
....	82-5379	....	....	4.71	4.05	......
....	83-1T	3.58	2.79	2.30	1.97	1.79
....	83-59	5.24	4.09	3.35	2.88	......
....	83-716	7.38	5.76	4.72	4.06	......
....	83-850	6.18	4.82	3.96	3.40	......
....	83-851	4.56	3.56	2.92	2.51	......
....	83-877	2.04	1.59	1.31	1.12	1.02
....	83-878	1.08	.84	.69	.59	......
....	131-1025	89.25*	72.25†	63.75‡	58.25§	54.00#
....	131-1026	86.75*	70.25†	62.00‡	56.50§	52.50#
....	131-1027	89.25*	72.25†	63.75‡	58.25§	54.00#
....	131-1028	86.75*	70.25†	62.00‡	56.50§	52.50#
....	131-1035	86.75*	70.25†	62.00‡	56.50§	52.50#
....	131-1036	89.25*	72.25†	63.75‡	58.25§	54.00#
....	131-1037	89.25*	72.25†	63.75‡	58.25§	54.00#
....	131-1038	86.75*	70.25†	62.00‡	56.50§	52.50#
....	131-1201	....	103.25†	91.25‡	83.25§	77.25#
....	131-1202	....	103.25†	91.25†	83.25§	77.25#
....	227-900	76.40	....	....	......	......
....	227-901	76.40	....	....	......	......
....	227-902	17.00	....	....	......	......
....	227-913	7.45	....	....	......	......
....	227-914	5.30	....	....	......	......
....	227-944	104.00	....	....	......	......
....	227-1221-09	44.50	....	....	......	......
....	227-1221-11	44.50	....	....	......	......
....	227-1221-13	44.50	....	....	......	......
....	227-1221-15	44.50	....	....	......	......
....	227-1221-23	44.50	....	....	......	......
....	227-1221-25	44.50	....	....	......	......
....	227-1221-29	44.50	....	....	......	......
....	227-1221-57	44.50	....	....	......	......
....	227-1221-59	44.50	....	....	......	......
....	901-101	3.44	2.68	2.20	1.89	......
....	901-102	3.88	3.03	2.48	2.13	......
....	901-103	4.88	3.81	3.12	2.68	......
....	901-104	4.62	3.60	2.96	2.54	......
....	901-105	4.16	3.25	2.66	2.29	......
....	901-106	4.00	3.12	2.56	2.20	......
....	901-107	....	6.39	5.25	4.51	......
....	901-109	3.20	2.50	2.05	1.76	......
....	901-110	2.92	2.28	1.87	1.61	......
....	901-112	4.06	3.17	2.60	2.23	......
....	901-113	2.44	1.90	1.56	1.34	......
....	901-116	5.02	3.92	3.21	2.76	......
....	901-117	$5.18	$4.04	$3.32	$2.85	......
....	901-118	5.14	4.01	3.29	2.83	......
....	901-119	5.76	3.71	3.05	2.62	......
....	901-120	4.68	3.65	3.00	2.57	......
....	901-121	6.88	5.37	4.40	3.78	......
....	901-122	......	5.21	4.28	3.67	......
....	2800	13.14	10.24	8.41	7.23	......
....	4900	8.54	6.66	5.47	4.70	......
....	5850	14.96	11.67	9.57	8.23	......
....	10400	9.82	7.66	6.28	5.40	......
....	10425	16.70	13.03	10.69	9.19	......
....	12025	4.48	3.49	2.87	2.46	......
....	12650	6.84	5.34	4.38	3.76	......
....	21850	9.66	7.53	6.18	5.31	......
UG931/U	27000	2.68	2.09	1.72	1.47	$1.34
....	27025	4.32	3.37	2.76	2.38	......
UG1016A/U	27075	5.44	4.24	3.48	2.99	......
UG932A/U	27975	2.88	2.25	1.84	1.58	......
UG932/U	28000	2.98	2.32	1.91	1.64	1.49
....	28100	8.30	6.47	5.31	4.57	......
....	28275	7.28	5.68	4.66	4.00	......
....	28400	9.08	7.08	5.81	4.99	......
....	29100	4.22	3.29	2.70	2.32	......
....	34375	18.52	14.45	11.85	10.19	......
....	34400	......	......	11.30	9.71	......
....	34450	13.62	10.62	8.72	7.49	......
....	34475	21.10	16.46	13.51	11.61	......
....	34625	......	......	1.16	1.00	......
....	36650	2.28	1.78	1.46	1.25	......
....	36675	3.98	3.10	2.55	2.19	......
....	36775	1.66	1.32	1.06	.91	.83
....	36800	2.46	1.92	1.57	1.35	......
....	36825	2.46	1.92	1.57	1.35	......
....	36875	1.74	1.36	1.11	.96	.87
....	36900	......	......	1.64	1.41	......
....	47250	6.18	4.82	3.96	3.40	......
....	47275	6.18	4.82	3.96	3.40	......
....	52975	32.46	25.32	20.77	17.85	......
....	53100	16.72	13.04	10.70	9.20	......
....	53150	16.72	13.04	10.70	9.20	......
....	53175	24.88	19.41	15.92	13.68	......
....	53225	29.10	22.70	18.62	16.01	......
....	53250	24.40	19.03	15.62	13.42	......
....	68150	3.00	2.34	1.92	1.65	......
....	68175	1.66	1.30	1.06	.91	.83
....	69350	......	......	1.54	1.32	......
....	79025	8.80	6.86	5.63	4.84	......
....	79675	6.62	5.16	4.24	3.64	......
....	95575	......	......	4.45	3.83	......
....	95600	6.62	5.16	4.24	3.64	......
....	95625	7.66	5.97	4.90	4.21	......
....	95700	3.96	3.09	2.53	2.18	......
....	95725	3.94	3.07	2.52	2.17	......
....	95750	3.94	3.07	2.52	2.17	......
....	95800	......	......	2.83	2.43	......
....	97775	......	......	2.38	2.05	......

*Lots of: 1-9; †10-24; ‡25-49; §50-99; #100-249.

COMPLETE LINE OF RF CONNECTORS FOR PROMPT DELIVERY.

ASK FOR UNLISTED OR NON-STOCK ITEMS, AVAILABLE ON SPECIAL ORDER.

BUNKER RAMO AMPHENOL Tube Sockets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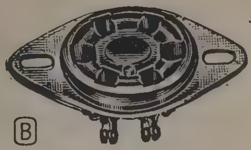
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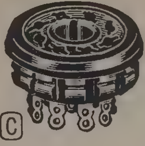
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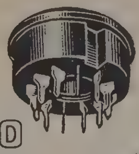
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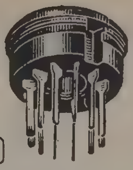
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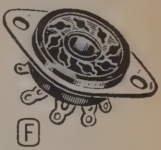
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MIP MOLDED-IN-PLATE SOCKETS (FIG. A)

Steel mounting plate molded in black phenolic body; can't come loose. Mounts in 1³⁄₁₆″ hole with two ⁵⁄₃₂″ holes on 1½″ centers.

Amphenol No. 77-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
MIP4	4	$0.62	$0.51	$0.45	$0.39	$0.33
MIP26	4	.67	.56	.48	.42	.35
MIP4TM§	4	.67	.56	.48	.42	.35
MIP5	5	.67	.56	.48	.42	.35
MIP6	6	.72	.60	.52	.45	.38
MIP7S	7 Small	.77	.64	.56	.49	.41
MIP8	8 Octal	.62	.51	.45	.39	.33
MIP8T*	8 Octal	.67	.56	.48	.42	.35
MIP8TM§	8 Octal	.75	.62	.54	.47	.39
MIP9	9	.62	.51	.45	.39	.33
MIP11	11	.72	.60	.52	.45	.38
MIP11T*	11	.75	.62	.54	.47	.39
MIP11TM§	11	.93	.77	.67	.58	.49
MIP12	12	.67	.56	.48	.42	.35
MIP20‡	20	1.49	1.24	1.08	.94	.79

*Mica filled. ‡Fits 1⁵⁄₁₆″ hole. §MIL version; mica-filled phenolic with silver-plated contacts and stainless steel mounting plate.

TYPE RS REPLACEMENT SOCKETS (FIG. B)

Same as Type "S" but with retainer rings in nickel-plated steel mounting rings. Replaces wafer types. Slotted holes in mounting ring fit 1½″ to 1⁵⁵⁄₆₄″ mtg. centers. Uses 6–32 screw. Black phenolic.

Amphenol No. 78-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
RS4	4	$0.73	$0.62	$0.54	$0.47	$0.39
RS5	5	.80	.66	.58	.50	.42
RS8	8 Octal	.80	.66	.58	.50	.42
RS9	9	.80	.66	.58	.50	.42
RS11	11	.90	.75	.65	.57	.48

TYPE S MOLDED SOCKETS (FIG. C)

Retainer ring mounted. Mounting hole dia., 1³⁄₁₆″. Black phenolic.

Amphenol No. 78-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
S4	4	$0.57	$0.47	$0.41	$0.36	$0.30
S5	5	.62	.51	.45	.39	.33
S6	6	.67	.56	.48	.42	.35
S7S	7 Small	.73	.62	.54	.47	.39
S8	8 Octal	.62	.51	.45	.39	.33
S8T*	8 Octal	.67	.56	.48	.42	.35
S9	9	.57	.47	.41	.36	.30
S11	11	.69	.58	.50	.44	.37
S11T*	11	.77	.64	.56	.49	.41
S12	12	.67	.56	.48	.42	.35
S16	16	.95	.79	.69	.60	.50
7P†	7 Min.	.69	.58	.50	.44	.37

*Mica-filled. †Miniature.

OUR STOCK IS COMPLETE AND UP TO DATE.

WRITE FOR ADDITIONAL INFORMATION ON

ANY NEW OR UNLISTED ITEMS

MIP MOLDED-IN-PLATE SOCKETS

Mounting plate molded in phenolic body. Contacts of copper alloy. PC contacts are ⁵⁄₃₂″ lg., with .125″ tapered lead-in. Solderless wrap contacts are cadmium plated. and "tuning fork" shaped for low resistance; talls ¹⁄₁₆″ w. x ½″ lg.

PC TERMINATION (FIG. D)

Amphenol No. 77-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
MIP-8W-125	8	$0.75	$0.62	$0.54	$0.47	$0.39
MIP-11W-125	11	.85	.71	.61	.53	.45
MIP-20W-125	20	......	......	......	1.02	.86

SOLDERLESS WRAP TERMINATION (FIG. E)

Amphenol No. 77-	Contacts	1-49	50-99	100-249	250-999	1000-2499*
MIP-8W-500*	8	$0.75	$0.62	$0.54	$0.47	$0.39
MIP-11W-500*	11	.85	.75	.61	.53	.45
MIP-8W-525†	8	.80	.66	.58	.50	.42
MIP-11W-525†	11	.87	.73	.63	.55	.46

Contacts: *Standard, .016″ thick; †heavy duty, .025″ thick.

TYPE S SOCKETS

Same as MIP but retaining ring style.

PC TERMINATION

Amphenol No. 78-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
S8W-125	8	$ 0.62	$0.51	$0.45	$0.39	$0.33
S11W-125	11	.72	.60	.52	.45	.38

SOLDERLESS WRAP TERMINATION

Amphenol No. 78-	Contacts	1-49	50-99	100-249	250-999	1000-2499*
S8W-0500*	8	......	......	......	$0.45	$0.38
S11W-0500*	11	$0.85	$0.71	$0.61	.53	.45
S8W-0525†	8	......	......	......	.49	.41
S11W-0525†	11	.90	.75	.65	.57	.48

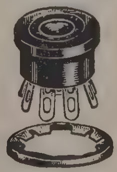
Contacts: *Standard, .016″ thick; †heavy duty, .025″ thick.

SERIES 88 COMPACT TUBE SOCKETS (FIG. F)

Black phenolic body; fit 1⅛″ mounting holes on 1⁵⁄₁₆″ centers.

Amphenol No.	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
88-8	8 Octal	$0.59	$0.49	$0.43	$0.37	$0.31
88-8X	8 Loctal	.82	.68	.60	.52	.44

*Mica-filled; with silver plated contacts; stainless steel mtg. plate.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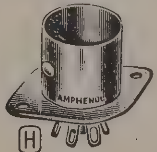

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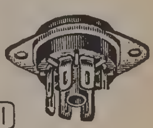
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MINIATURE 7- AND 9-PIN SOCKETS

Fig. G Type: Retainer ring style fits D-shaped or round hole ⅝″ dia. **Fig. H and I Types:** Shielded types mount above chassis; unshielded, below chassis. Min. 7-pin sockets fit ⅝″ hole with ⅞″ mtg. centers; 9-pin sockets fit ¾″ hole, 1⅛″ centers.

Amph. No.	Fig.	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
78-S3S	G	3	$0.31	$0.26	$0.22	$0.19	$0.16
78-S4S	G	4	.39	.32	.28	.24	.20
78-S5S	G	5	.51	.43	.37	.32	.27
78-S6S	G	6	.54	.45	.39	.34	.29
78-7P	G	7	.69	.58	.50	.44	.37
77-147-500	I	7	.69	.58	.50	.44	.37
77-147-504	I	7	.62	.51	.45	.39	.33
77-147-505	I	7	.69	.58	.50	.44	.37
77-59-409	I	9	.87	.73	.63	.55	.46
77-59-410	I	9	.87	.73	.63	.55	.46

★LARGER QUANTITY PRICES AVAILABLE ON REQUEST

BUNKER RAMO AMPHENOL Miniature and PC Connectors

AMPHENOL CABLE CONNECTORS, TUBE AND RELAY SOCKETS

A

B

C

D

E

SHIELDED CABLE CONNECTORS (FIG. A)

With 3-13 cap; available with 3-24 cap. Prices on request.

Amphenol Number	Contacts*	Net Each, Lots of* 1-49	50-99	100-249	250-999	1M-2499
86-PM4	4 M	$0.733	$0.676	$0.602	$0.458	$0.414
86-PM5	5 M	.735	.679	.604	.46	.416
86-PM6	6 M	.763	.715	.628	.478	.432
86-PM7S	7 Small M	.813	.749	.666	.509	.459
86-PM8	8 Octal M	.77	.711	.631	.482	.435
86-PM9	9 M	.785	.723	.644	.491	.444
86-PM11	11 M	.794	.732	.651	.496	.448
86-PM12	12 M	.808	.745	.663	.506	.456
78-PF4	4 F	.668	.599	.523	.399	.359
78-PF5	5 F	.694	.622	.544	.414	.375
78-PF6	6 F	.725	.651	.569	.433	.391
78-PF7S	7 Small F	.757	.678	.592	.451	.407
78-PF8	8 Octal F	.646	.579	.504	.383	.347
78-PF9	9 F	.697	.618	.539	.409	.37
78-PF11	11 F	.745	.668	.583	.444	.403

*F indicates female; M, male.

CP TYPE PLUGS

Mate with std. tube sockets. Panel mt. with retainer ring, 1³⁄₁₆″ dia. hole; attach to cable with 3-13, -24 cap. Suffix **T**, mica-filled.

86-CP4	4	$0.441	$0.359	$0.316	$0.244	$0.217
86-CP5	5	.446	.364	.318	.247	.22
86-CP6	6	.477	.388	.342	.264	.235
86-CP7S	7	.499	.40	.351	.273	.242
86-CP8	8	.482	.391	.344	.266	.237
86-CP8T	8	.488	.399	.351	.272	.24
86-CP9	9	.494	.401	.352	.275	.242
86-CP11	11	.503	.41	.362	.28	.249
86-CP11T	11	.466	.378	.364	.259	.249
86-CP12	12	.519	.422	.37	.286	.25
86-CP16	16	.52	.423	.371	.287	.247

CAPS

Fig. B and C Types: Rubber grommet types with side outlet for Fig. C style. Takes up to 7⁄16″ diameter cable. Japan black finish except 3-856, clear cadmium finish. **Fig. D Type:** With cable clamp outlet; takes up to 3⁄8″ diameter cable. Clear cadmium finish except 3-24, black epoxy.

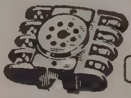
Amph. No.	Fig.	Net Each, Lots of* 1-49	50-99	100-249	250-999	1M-2499
3-10*	....	$0.179	$0.153	$0.135	$0.102	$0.92
3-13	B	.236	.204	.169	.128	.116
3-24	D	.394	.299	.289	.218	.199
3-858#	....	.427	.358	.308	.228	.211

RECESSING SHELLS

Fig. E Type: Aluminum shell mounts 1³⁄₁₆″ above or below chassis. Fits 1¾″ hole, uses three No. 6 screws. **61-61** is cadmium plated steel shell, recesses unit 1³⁄₁₆″; mounts in 1⁷⁄₁₆″ hole; two ⁵⁄₃₂″ mounting holes on 1¾″ centers.

61-23	E	$0.348	$0.287	$0.253	$0.201	$0.201
61-61	....	.258	.227	.206	.175	.175

*Dust cap. †Metal outlet; takes up to 5⁄16″ dia. cable. ‡Lots 250–499. §Lots 500–999. #Black thermoplastic; finger grip style.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INDUSTRIAL TUBE SOCKETS AND RELAY SOCKETS

INDUSTRIAL TUBE SOCKETS

Heavy-duty octal sockets. Barrier-protected screw terminals. Top mounting except 146-203, -204 bottom. UL recognized.

Amph. No.	Fig.	Contacts	Net Each, Lots of* 1-49	50-99	100-249	250-999	1000-2499
146-103	F	8	$2.23	$1.92	$1.65	$1.22	$1.12
146-203	F	8	2.23	1.92	1.65	1.22	1.12
146-104	F	8	2.78	2.26	1.99	1.53	1.38
146-204	F	8	2.78	2.26	1.99	1.53	1.38

With solderless reversible screw terminals. 600 V rms at 10 amps. May be gang mounted.

146-817	....	11	$4.81	$3.91	$3.44	$2.66	$2.38

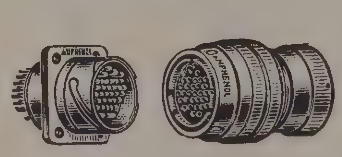
RELAY SOCKETS

Amphenol No.	Contacts	Net Each, Lots of * 1-49	50-99	100-249	250-999	1000-2499
59-106	14	$0.857	$0.693	$0.614	$0.477	$0.423
59-133*	14	.472	.424	.377	.342	.306
59-134*	14	.451	.404	.356	.321	.285

*UL Recognized.

★**LARGER QUANTITY PRICES AVAILABLE ON REQUEST**

MINNI-E® SERIES 67 MINIATURE CONNECTORS

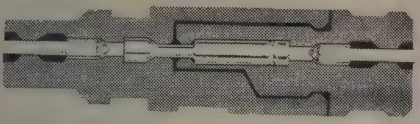


Quick disconnect, multi-contact, miniature bayonet connector
are environment sealed with unitized back end grommet or pro
vision for potting. Shells are polarized for easy mating alignment
single key on 12, 14 and 18 sizes, 5 keys for sizes 20 and 22
Spring-loaded coupling ring for positive locking action in bayone
slot; stainless steel slots and pins. Hooded contacts resist tes
prod damage. Contacts gold plated over silver. Visual engagemen
indicator built-in. Face seal gasket has individual barriers; har
insert dielectric. **Insulation Resistance:** "E" type following alt
tude-moisture resistance test, 1000 megs min.; MIL-C-5015 mini
mum following type "E" test, 100 megs. **Test Voltage:** 1500
rms. 70,000 ft. on sealed connectors. **Vibration:** 10–2,000 Hz at 2
G's per Method 204 of MIL-STD-202A. **Temperature Cycling**
Per MIL-C-5015, Para. 4.5.3 increased to 257° F max., −67°
min. Diallyl phthalate dielectric except hermetically sealed type
Type P: Potting mold meets MIL-C-5015. Indicated by P i
number (example: 67-01**P**12-7S). Comes with disposable poly
ethylene potting form. **Type E:** Meets MIL-C-5015. With unitize
grommet and clamp; individual wire seal. **Type J:** For use wit
jacketed cables; has waterproofing type cable clamp. **Type C**
General duty construction has standard type cable clamp t
provide strong support for jacketed cables or unjacketed ind
vidual wire leads. When potted, meets requirements of "E" per
formance while providing a mechanical cable support. **Type H**
Glass dielectric hermetically sealed. **For X or W Positioning**
Specify by adding appropriate suffix, and **20c** (1–24), **18c** (25–99
or **15c** (100–199) to net price shown.

CONTACT PIONEER FOR CURRENT PRICING

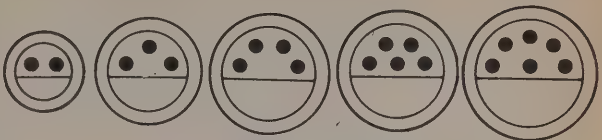
BUNKER RAMO AMPHENOL 44 SERIES CONNECTORS, 225 SERIES CARD EDGE CONNECTORS

44 SERIES WATERPROOF CONNECTORS



Highly reliable, low-cost, waterproof connector. Resilient one-piece shell. Crimp Poke-Home contacts of electro tin plated copper alloy in five insert configurations. Punch press contacts utilize semi-automatic or hand crimping equipment. Contacts accept wire sizes 14, 16 and 18 AWG with an overall insulation diameter range of .080″ to .130″. **Voltage Rating:** 250 VDC or 200 VAC rms at sea level. **Current Rating:** 8 amps continuous. **Temperature Range:** −40° C to +105° C, continuous operation. Available in 2, 3, 4, 5 and 6 contact configurations.

No. of Contacts	Amphenol No.	Net Each, Lots of			
		1-9	10-49	50-99	100-999★
RECEPTACLES					
2	44-104-10002-02	$0.68	$0.539	$0.457	$0.395
3	44-104-10003-02	.71	.564	.483	.416
4	44-104-10004-02	.803	.636	.546	.47
5	44-104-10005-02	.875	.693	.594	.511
6	44-104-10006-02	.926	.733	.629	.542
PLUGS					
2	44-103-10002	$0.643	$0.511	$0.437	$0.377
3	44-103-10003	.674	.534	.459	.395
4	44-103-10004	.764	.606	.52	.447
5	44-103-10005	.833	.659	.566	.486
6	44-103-10006	.883	.699	.60	.517



INSERTS AVAILABLE

BOOTS

Amphenol No.	For Connector	Amphenol No.	For Connector
44-105-10002-02	2-Contact	44-105-10003-02	3-Contact

CONTACTS

Sold in minimum quantity of 100, bulk; 5,000 on reel.

BULK CONTACTS

Amphenol No.*	Type of Contact	Net per Package of		
		100	500	1000
44-100-1414P-X-101	Pin	$ 5.57	$ 4.62	$ 4.36
44-102-1414S-X-101	Socket	13.13	11.08	10.34

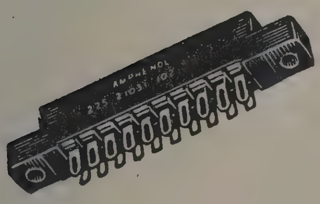
*Substitute number of contacts (100, 500 or 1000) for **X** in Amphenol No. e.g., 44-100-1414P-**1000**-101 for package of 1000.

CONTACTS WITH CARRIER STRIP, ON REEL

Amphenol No.	Type of Contact	Net per Reel of 500		
		1	2-3	4-9
44-100-1414P-5000	Pin	$160.02	$126.89	$110.36
44-102-1414S-5000	Socket	352.43	302.09	280.88

225 SERIES PC CARD EDGE CONNECTORS

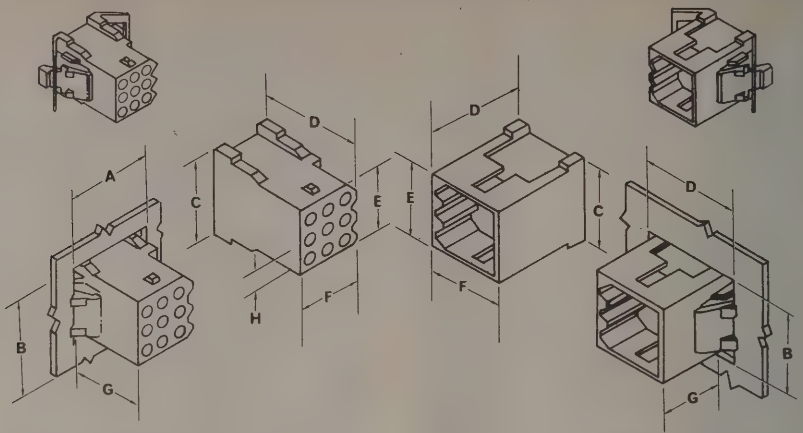
Card edge connectors with bifurcated bellows contacts (industrial and military types) or slotted, folded-ribbon contacts (commercial type). Choice of 6 through 43 contact positions. Solder eyelet, long dip solder or short dip solder termination; down-the-center (single row) or double row on .200″ row spacing. **Dielectric Material:** Glass-fiber-reinforced diallyl pythalate, Type SDG-F per MIL-M-14 (industrial and military types); electrical grade black phenolic (commercial type). **Operating Voltage:** 600 V rms at sea level; 150 V rms at 70,000 ft. **Current Rating:** 5 amps continuous. **Insulation Resistance:** 30 mV at rated current. Connectors accept PC boards .054″ to .071″ thick.



Amphenol No. 225-	No. of Contacts	Net Each, Lots of			
		1-49	50-99	100-249	250-499
SOLDER EYELET "DOWN THE CENTER" TERMINATION					
20651-401(117)	6	$1.96	$1.64	$1.37	$1.22
21051-401(117)	10	2.56	2.14	1.80	1.60
21551-401(117)	15	3.12	2.61	2.19	1.95
21851-401(117)	18	3.93	3.29	2.76	2.46
22251-401 117)	22	4.49	3.76	3.15	2.81
22851-401(117)	28	7.36	6.16	5.17	4.60
23651-401(117)	36	8.78	7.34	6.16	5.49
24351-401(117)	43	9.65	8.07	6.77	6.03
DIP SOLDER "DOWN THE CENTER" TERMINATION					
20651-404(117)	6	$1.96	$1.64	$1.37	$1.22
21051-404(117)	10	2.56	2.14	1.80	1.60
21551-404(117)	15	3.12	2.61	2.19	1.95
21851-404(117)	18	3.93	3.29	2.76	2.46
22251-404(117)	22	4.49	3.76	3.15	2.81
22851-404(117)	28	7.36	6.16	5.17	4.60
23651-404 117)	36	8.78	7.34	6.16	5.49
24351-404(117)	43	9.65	8.07	6.77	6.03
LONG DIP SOLDER TERMINATION					
20621-404(117)	6	$1.66	$1.33	$1.06	$0.94
21021-404(117)	10	2.20	1.75	1.41	1.26
21521-404(117)	15	2.63	2.09	1.69	1.51
21821-404(117)	18	3.04	2.43	1.95	1.75
22221-404(117)	22	3.29	2.63	2.11	1.88
22821-404(117)	28	5.03	4.03	3.22	2.87
23621-404(117)	36	5.86	4.70	3.96	3.52
24321-404(117)	43	6.87	5.50	4.53	4.05
SHORT DIP SOLDER TERMINATION					
20621-410(117)	6	$1.66	$1.33	$1.06	$0.94
21021-410(117)	10	2.20	1.75	1.41	1.26
21821-410(117)	18	3.04	2.43	1.95	1.75
22221-410(117)	22	3.29	2.63	2.11	1.88
22821-410(117)	28	5.03	4.03	3.22	2.87
23621-410(117)	36	5.86	4.70	3.96	3.52
24321-410(117)	43	6.87	5.50	4.53	4.05

Amphenol No. 225-	Mil. No. M21097/	No. of Contacts	Net Each, Lots of			
			1-49	50-99	100-249	250-499
SOLDER EYELET TERMINATION						
20621-401(117)	....	6 or 12	$1.66	$1.33	$1.06	$0.94
21021-401(117)	....	10 or 20	2.20	1.75	1.41	1.26
21521-401(117)	....	15 or 30	2.63	2.09	1.69	1.51
21821-401(117)	....	18 or 36	3.04	2.43	1.95	1.75
22221-401(117)	....	22 or 44	3.29	2.63	2.11	1.88
22821-401(117)	....	28 or 56	5.03	4.03	3.22	2.87
23621-401(117)	....	36 or 72	5.86	4.70	3.96	3.52
24321-401(117)	....	43 or 86	6.87	5.50	4.53	4.05
DIP SOLDER ON .200″ ROW SPACING						
20621-407(117)	....	6 or 12	$1.66	$1.33	$1.06	$ .94
21021-407(117)	....	10 or 20	2.20	1.75	1.41	1.26
21521-407(117)	....	15 or 30	2.63	2.09	1.69	1.51
21821-407(117)	....	18 or 36	3.04	2.43	1.95	1.75
22221-407(117)	....	22 or 44	3.29	2.63	2.11	1.88
22821-407(117)	....	28 or 56	5.03	4.03	3.22	2.87
23621-407(117)	....	36 or 72	5.86	4.70	3.96	3.52
SOLDER EYELET TERMINATION						
20621-101	....	6 or 12	$ 2.37	$1.89	$1.51	$1.36
21021-101	....	10 or 20	3.10	2.50	2.01	1.79
21521-101	....	15 or 30	3.73	3.00	2.40	2.14
21821-101	....	18 or 36	4.15	3.33	2.65	2.38
22221-101	....	22 or 44	5.02	4.04	3.23	2.89
22821-101	....	28 or 56	7.03	5.73	4.52	4.02
23621-101	....	36 or 72	9.19	7.36	6.19	5.53
24321-101	....	43 or 86	10.22	8.18	6.89	6.15
SOLDER EYELET TERMINATION—MILITARY STYLE SPEC. MIL-C-21097						
20621-201	1.019	6 or 12	$2.69	$2.15	$1.71	$1.54
21021-201	1.055	10 or 20	3.58	2.87	2.32	2.07
21521-201	1.091	15 or 30	4.40	3.54	2.84	2.54
21821-201	1.127	18 or 36	4.94	3.97	3.21	2.86
22221-201	1.163	22 or 44	5.99	4.82	4.06	3.63
22821-201	1.199	28 or 56	8.31	6.66	5.36	4.79

BUNKER RAMO AMPHENOL 32 Series Fire-Plug & Econo-Plug



PANEL-MOUNT SOCKET

No. of Contacts	Dimensions (Ins.)							
	A	B	C	D	E	F	G	H
2	.725	.312	.420	1.060	.250	.537	.730	.248
3	.840	.312	.420	1.060	.234	.671	.730	.198
6	.600	.718	.772	1.060	.632	.434	.730	.198
9	.828	.725	.772	1.060	.621	.666	.730	.198
12	1.050	.655	.772	1.060	.633	.870	.730	.198
15	1.240	.655	.772	1.060	.632	1.167	.730	.198

Fire-Plug and Econo-Plug connectors are designed to provide low-cost, easy method of interconnecting electrical and electronic wiring in commercial, industrial and consumer products. Intended for all applications requiring from 2 to 15 contacts, operation at 250 volts or less, and carrying up to a maximum of 12 amps. Housings are polarized to mate only one way. Choice of 2, 3, 6, 9, 12 or 15 contact versions, for either cable-to-cable connection (without mounting wings) or for panel mounting (with wings).

PANEL-MOUNT PLUG

No. of Contacts	Dimensions (Ins.)							
	A	B	C	D	E	F	G	H
2	.800	.375	.420	1.035	.352	.640	.705	.248
3	.933	.375	.420	1.035	.338	.773	.705	.198
6	.695	.750	.902	1.035	.734	.536	.705	.198
9	.937	.725	.802	1.035	.713	.775	.705	.198
12	1.155	.760	.819	1.035	.737	.975	.705	.198
15	1.343	.760	.822	1.035	.737	1.169	.705	.198

Finger pressure installs or removes panel-mount connectors; n tools required. All plugs and sockets have interlocks except a specified. Fire-Plug connector housings are CSA approved an carry UL flame retardant rating of 94V-O; available in red Econo-Plug connector housings are molded from 94V-2 rate material for less critical applications; available in natural color Plugs listed; for sockets, substitute **S** for **P** in Amphenol No e.g., 32-02**P**11-11; sockets and plugs same price.

ORDERING INFORMATION—CONNECTORS

PANEL-MOUNT PLUGS

No. of Contacts	Amphenol No. Econo-Plug	Net Each 1-99	Amphenol No. Fire-Plug	Net Each 1-99
2	32-02P11-11	$0.174	32-02P22-11	$0.204
3	32-03P11-11	.174	32-03P22-11	.204
6	32-06P11-11	.306	32-06P22-11	.336
9	32-09P11-11	.342	32-09P22-11	.372
12*	32-12P11-11	.366	32-12P22-11	.396
15	32-15P11-11	.450	32-15P22-11	.480

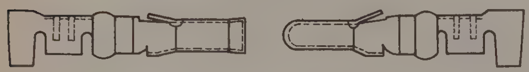
*Socket without interlock. Plug and socket without interlock.

CABLE PLUGS

No. of Contacts	Amphenol No. Econo-Plug	Net Each 1-99	Amphenol No. Fire-Plug	Net Each 1-99
2	32-02P11-21	$0.174	32-02P22-21	$0.204
3	32-03P11-21	.174	32-03P22-21	.204
6	32-06P11-21	.306	32-06P22-21	.336
9	32-09P11-21	.342	32-09P22-21	.372
12*	32-12P11-21	.366	32-12P22-21	.396
15	32-15P11-21	.450	32-15P22-21	.480

*Socket without interlock. Plug and socket without interlock.

CONTACTS



Three crimp-contact barrel sizes available; large for 14-16 AWG wire, intermediate for 16-20 AWG, and small for 22-30 AWG. Both plug and socket contacts are made of tin-plated, spring-tempered brass for high contact-retention force. Contacts available with carrier strip on 24″ reel or individual contacts, packed in lots of 100. Gold-plated contacts also available on special order.

PERFORMANCE SPECIFICATIONS

Recommended operating voltage, 250 V max. Dielectric withstanding voltage, 1800 V. Operating temperature range, −55° C to +105° C. Max. Contact resistance, 3 milliohms.

CURRENT RATING

Wire Guage	Current Rating	Wire Guage	Current Rating	Wire Guage	Current Rating	Wire Guage	Current Rating
14	12.0 A	20	4.0 A	24	2.0 A	28	1.1 A
16	10.0 A	22	3.0 A	26	1.5 A	30	1.0 A
18	7.5 A						

MECHANICAL SPECIFICATIONS

Initial contact retention force, 20 lbs. **Crimp strength:** Sizes 14, 16 and 18 wire, 20 lbs. min. withstanding force; size 20, 16 lbs.; size 22, 10 lbs.; size 24, 8 lbs.; size 26, 5 lbs.; size 28, 3½ lbs.; size 30, 1½ lbs.

HOW TO ORDER—CONTACTS

32	1416	S	-	00100	B	T
A	B	C		D	E	F

A—Series Designation

B—Wire Size Range:
- **14-16** AWG
- **16-20** AWG
- **22-30** AWG

C—Contact Type:
- **P**—Pin
- **S**—Socket

D—Number of Contacts:*
- **00100**—100
- **05000**—5,000
- **06000**—6,000

E—Packaging:
- **R**—On reel
- **B**—In bag

F—Contact Plating:
- **T**—Tin
- **G**—Gold

*Loose contacts are packed 100 per bag regardless of size. Contact on carrier strips are packed on reels; 5,000 each for 14-16 and 22-3 sizes; 6,000 for 16-20 sizes.

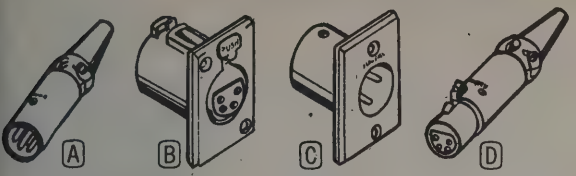
ORDERING INFORMATION—TOOLS

Hand Crimp Tool 357-564.	Economy Hand Crimp Tool 357-561.	Contact Insertion/Removal Tool 356-228.

★LARGER QUANTITY DISCOUNTS AVAILABLE.

BUNKER RAMO AMPHENOL Audio Connectors

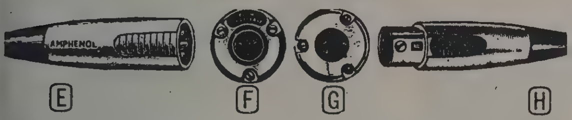
SERIES 91 MICROPHONE CONNECTORS



Low-cost, dependable audio-type Excellite connectors with latch-lock coupling; fully interchangeable with Qwik Series (below) and Cannon XLR series. Shells of tough molded ABS plastic, nickel-plated inside and out for best shielding. Copper alloy, silver-plated and chromate dipped contacts with solder cup termination.

Amph. No. 91-	Fig.	No. of Cont. Description	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999*
453	A	3, Male plug	$1.51	$1.28	$1.13	$0.982	$0.932
454	D	3, Fem. jack	1.79	1.51	1.35	1.16	1.10
455	C	3, Male recpt.	1.37	1.16	1.01	.881	.831
456	B	3, Fem. recpt.	2.49	2.13	1.85	1.62	1.52
457	A	4, Male plug	1.67	1.44	1.25	1.08	1.02
458	D	4, Fem. jack	2.27	1.89	1.69	1.46	1.38
459	C	4, Male recpt.	1.64	1.38	1.21	1.06	.982
460	B	4, Fem. recpt.	2.39	2.04	1.78	1.61	1.46
461	A	5, Male plug	2.67	2.30	2.04	1.76	1.57
462	D	5, Fem. jack	3.90	3.30	2.92	2.54	2.39
463	C	5, Male recpt.	2.08	1.79	1.55	1.35	1.28
464	B	5, Fem. recpt.	3.52	3.02	2.64	2.29	2.15

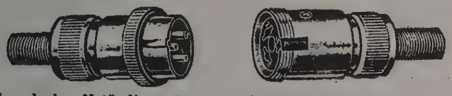
SERIES 91 QWIKS



Similar to above except bodies are diecast zinc with satin nickel plate. Bronze contacts are gold-plated over silver. Dielectric is blue diallyl phthalate. Easy push-button coupling.

853	E	3, Male plug	$2.33	$2.00	$1.74	$1.53	$1.38
854	H	3, Fem. jack	3.10	2.67	2.33	2.04	1.84
855	G	3, Male recpt.	1.81	1.56	1.36	1.19	1.07
856	F	3, Fem. recpt.	4.30	3.69	3.22	2.83	2.56
857	E	4, Male plug	2.49	2.15	1.88	1.64	1.48
858	H	4, Fem. jack	3.52	3.03	2.64	2.31	2.09
859	G	4, Male recpt.	1.96	1.69	1.48	1.30	1.17
860	F	4, Fem. recpt.	4.63	3.98	3.47	3.04	2.75

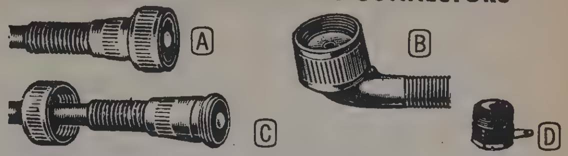
THREADED COUPLING SERIES 91



Mounting hole, $\frac{27}{32}$" diameter; maximum ⅛" thick panel. Three contacts, except (*), 4 contacts; (†), 6 contacts. Black phenolic dielectric chrome plated brass shells.

Amphenol No.	Description	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999*
91-CCC3	Cap and chain	$1.48	$1.23	$1.07	$0.92	$0.78
91-MC3F	Female jack	2.96	2.47	2.14	1.83	1.55
91-MC3F1	Female plug	3.03	2.52	2.19	1.87	1.59
91-MC3M	Male plug	2.83	2.36	2.05	1.75	1.49
91-MC3M1	Male jack	2.96	2.47	2.14	1.83	1.55
91-MC4F	Female jack*	3.03	2.52	2.19	1.87	1.59
91-MC4F1	Female plug*	3.03	2.52	2.19	1.87	1.59
91-MC4M	Male plug*	2.80	2.33	2.03	1.73	1.47
91-MC4M1	Male jack*	2.93	2.44	2.12	1.81	1.54
91-MC6F	Female jack†	3.41	2.84	2.47	2.11	1.79
91-MC6M	Male plug†	2.54	2.12	1.84	1.57	1.34
91-PC3F	Female recept.	2.32	1.93	1.68	1.43	1.22
91-PC6F	Female rcpt.†	2.54	2.12	1.84	1.57	1.34
91-PC3M	Male recept.	1.90	1.58	1.37	1.17	1.00
91-PC4F	Female rcpt.*	2.16	1.80	1.56	1.33	1.13
91-PC4M	Male recept.*	1.93	1.61	1.40	1.19	1.01
91-PC6M	Male recept.†	1.96	1.63	1.42	1.21	1.03

SERIES 75 MICROPHONE CONNECTORS

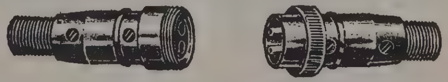


Unique button contact and threaded coupling permit plug conversion to jack by removal of coupling ring. Receptacles mount in .385" holes when grounding, .500" holes for ungrounded two circuit operation.

Amphenol No. 80-	Description	Fig.	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999*
75-CCC1*	Cap and chain	. . .	$1.48	$1.23	$1.07	$0.92	$0.78
75-MC1F	Straight plug	A	1.71	1.42	1.23	1.05	.90
75-MC1FA	Angle plug	B	4.31	3.59	3.12	2.67	2.26
75-MC1M	Cable jack	C	1.22	1.02	.89	.76	.64
75-MC1P	Phone pl. adpt.	. . .	1.35	1.13	.98	.84	.71
75-PC1M	Chassis recept.	D	1.45	1.21	1.05	.90	.76

*May also be used with Series 80 connectors.

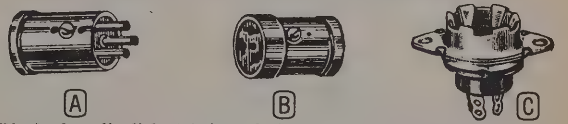
SERIES 80 MICROPHONE CONNECTORS



All mount in ⅝" hole. Maximum panel thickness for receptacles is $\frac{11}{32}$". Single contacts, except (*), 2 contacts. Chrome finish.

Amphenol No.	Description	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999*
80-C	Female recept.	$1.42	$1.18	$1.03	$0.88	$0.74
80-M	Male plug	2.00	1.66	1.44	1.23	1.05
80-MC2F	Female jack*	2.25	1.88	1.63	1.39	1.18
80-MC2F1	Female plug*	2.83	2.36	2.05	1.75	1.49
80-MC2M	Male plug*	2.06	1.72	1.49	1.27	1.08
80-MC2M1	Male jack*	2.13	1.77	1.54	1.31	1.12
80-PC2F	Female rcpt.*	1.58	1.31	1.14	.98	.83
80-PC2M	Male recept.*	1.51	1.26	1.10	.94	.79

MINIATURE CABLE CONNECTORS



Black phenolic dielectric in cadmium plated brass shell. Polarized contact spacing. Plugs and receptacles take cables up to ¼" dia. Panel receptacle mounts in ⅞" hole with two 6-32 screw holes on 1¼" centers. Series 91 also available in short shell. Prices on request.

SERIES 91 PLUGS (FIG. A)

Amphenol No.	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999*
91-MPM-3L	3	$1.71	$1.42	$1.23	$1.05	$0.90
91-MPM-4L	4	1.48	1.23	1.07	.92	.78
91-MPM-5L	5	1.74	1.45	1.26	1.07	.91
91-MPM-6L	6	1.22	1.02	.89	.76	.64

SERIES 91 RECEPTACLES (FIG. B)

91-MPF-3L	3	$1.74	$1.45	$1.26	$1.07	$0.91
91-MPF-4L	4	1.61	1.34	1.17	1.00	.85
91-MPF-5L	5	1.93	1.61	1.40	1.19	1.01
91-MPF-6L	6	2.22	1.85	1.61	1.37	1.17

PANEL RECEPTACLES (FIG. C)

Amphenol No.	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
78-PCG3	3	$0.80	$0.66	$0.58	$0.50	$0.42
78-PCG4	4	.95	.79	.69	.60	.50
78-PCG5	5	1.16	.96	.84	.73	.61
78-PCG6	6	1.23	1.03	.89	.78	.65

SERIES 91T MINIATURE CABLE-TO-PANEL CONNECTORS

Approximately 33% smaller than above Series 91. Provide high density, low cost, top quality interconnections for microphones, recorders, two-way radios, industrial controls and data processing. Threaded coupling lock design.

No. of Contacts	CABLE PLUGS								PANEL RECEPTACLES			
	Straight				Right Angle							
	Amphenol Number	Net Each, Lots of 1-49	50-99	100-249	Amphenol Number	Net Each, Lots of 1-49	50-99	100-249	Amphenol Number	Net Each, Lots of 1-49	50-99	100-249
2	91-T-3200-1	....	$2.84	$2.37	91-T-3200-6	....	$3.53	$2.94	91-T-3203-9	....	$1.46	$1.22
3	91-T-3260-1	$3.30	2.70	2.25	91-T-3260-6	$4.44	3.64	3.03	91-T-3263-9	$1.72	1.40	1.17
4	91-T-3300-1	3.30	2.70	2.25	91-T-3300-6	4.55	3.73	3.11	91-T-3303-9	1.78	1.46	1.22
5	91-T-3360-1	3.37	2.75	2.30	91-T-3360-6	4.64	3.80	3.17	91-T-3363-9	1.94	1.58	1.32
6	91-T-3400-1	3.70	3.02	2.52	91-T-3400-6	4.66	3.82	3.18	91-T-3403-9	1.96	1.60	1.34
7	91-T-3475-1	3.74	3.06	2.55	91-T-3475-6	4.84	3.96	3.30	91-T-3478-9	2.11	1.73	1.44
12	91-T-3635-1	6.23	5.09	4.25	91-T-3635-6	8.82	7.22	6.01	91-T-3638-9	4.75	3.89	3.24

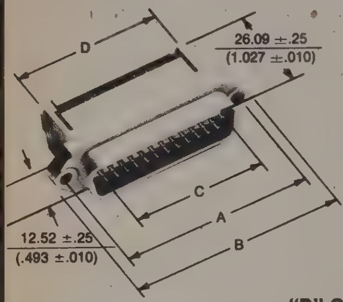
★LARGER QUANTITY PRICES ON REQUEST

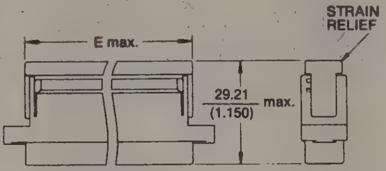
T&B/Ansley BLUE MACS™
Mass Assembled Cable-Connector System

Subminiature "D" Connectors

APPLICATION: For external or internal I/O type interconnect applications. Connectors are compatible with standard .050" flat cable and industry standard "D" subminiature type connectors with mating contacts on .0545" centers.

One piece "D" connector design speeds cable installation.



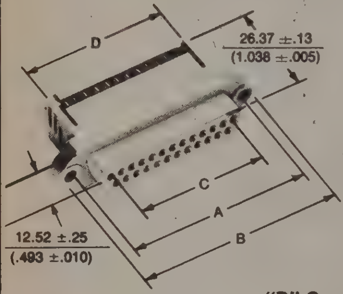


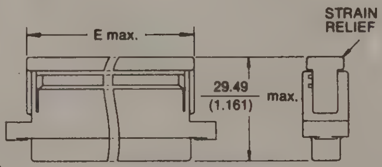
CONNECTOR ASSEMBLY
WITH STRAIN RELIEF

"D" Connector — Pin

Catalog Number	No. of Positions	Dim. A mm (inches)	Dim. B mm (inches)	Dim. C mm (inches)	Dim. D mm (inches)	Dim. E mm (inches)
609-9P	9	24.99 (.984)	30.88 (1.216)	11.07 (.436)	16.48 (.649)	19.35 (.762)
609-15P	15	33.32 (1.312)	39.21 (1.544)	19.38 (.763)	24.79 (.976)	27.66 (1.089)
609-25P	25	47.04 (1.852)	52.93 (2.084)	33.22 (1.308)	38.63 (1.521)	41.43 (1.631)
609-37P	37	63.50 (2.500)	69.39 (2.732)	49.83 (1.962)	55.25 (2.175)	58.12 (2.288)

Spread pitch contact design enables "D" connector terminations to .050" cable.

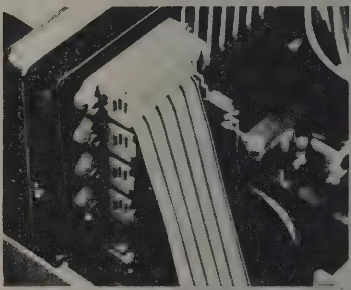




CONNECTOR ASSEMBLY
WITH STRAIN RELIEF

"D" Connector — Socket

Catalog Number	No. of Positions	Dim. A mm (inches)	Dim. B mm (inches)	Dim. C mm (inches)	Dim. D mm (inches)	Dim. E mm (inches)
609-9S	9	24.99 (.984)	30.88 (1.216)	11.07 (.436)	16.48 (.649)	19.35 (.762)
609-15S	15	33.32 (1.312)	39.21 (1.544)	19.38 (.763)	24.79 (.976)	27.66 (1.089)
609-25S	25	47.04 (1.852)	52.93 (2.084)	33.22 (1.308)	38.63 (1.521)	41.43 (1.631)
609-37S	37	63.50 (2.500)	69.39 (2.732)	49.83 (1.962)	55.25 (2.175)	58.12 (2.288)



Intra cabinet application utilizing "D" connector and round conductor cable.

PHYSICAL PROPERTIES	
Insulation Material	Glass Reinforced Thermoplastic Rated 94V-0
Color	Blue
Contact Material	Beryllium Copper
Contact Plating	30u in. Au over Ni
ELECTRICAL PROPERTIES	
Current Rating	3 Amps.
Insulation Resistance	> 1 x 10^9 Ohms
Dielectric Strength	> 500VDC (Sea Level)
ENVIRONMENTAL PROPERTIES	
Temperature Rating	−55°C to 105°C

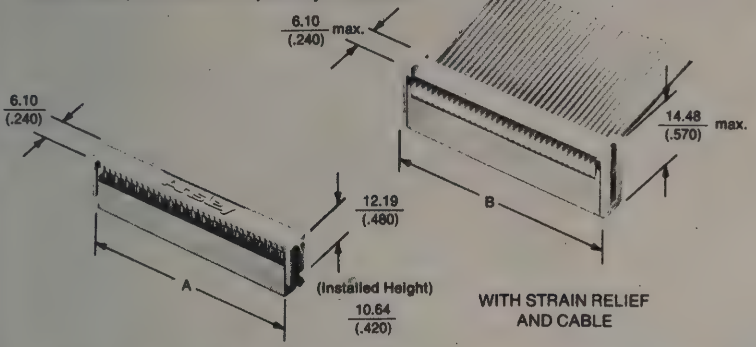
Note: Back Shells and Mounting Hardware Available (Contact Factory)

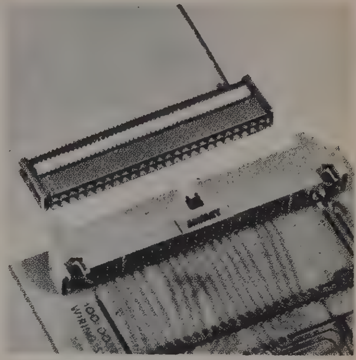
"D" connector terminates to U.L. listed jacketed cable for external interconnect applications.

T&B/Ansley BLUE MACS™
Mass Assembled Cable-Connector System

Female Socket Transition Connectors

APPLICATION: For termination to standard .025" square or round posts on .100" x .100" grid patterns. May be used with pcb male headers where a disconnect/reconnect capability is desired.





Female socket connectors provide quick disconnect / reconnect capability.

Catalog No. Without Strain Relief	Catalog No. With Strain Relief	Number of Positions	Dim. A mm (inches)	Dim. B mm (inches) With Strain Relief
609-1000M	609-1001M	10	12.80 (.504)	17.27 (.680)
609-1600M	609-1601M	16	20.42 (.804)	24.89 (.980)
609-2000M	609-2001M	20	25.50 (1.004)	29.97 (1.180)
609-2600M	609-2601M	26	33.12 (1.304)	37.59 (1.480)
609-3400M	609-3401M	34	43.28 (1.704)	47.75 (1.880)
609-4000M	609-4001M	40	50.90 (2.004)	55.37 (2.180)
609-5000M	609-5001M	50	63.60 (2.504)	68.07 (2.680)
609-6000M	609-6001M	60	76.30 (3.004)	80.77 (3.180)

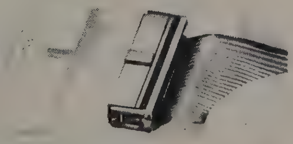
Polarizing Key Cat. No. 609-0000

PHYSICAL PROPERTIES	
Insulation Material	Glass Reinforced Thermoplastic Rated 94V-0
Color	Blue
Contact Material	Beryllium Copper
Contact Plating	.00003 Inch Gold over Nickel
ELECTRICAL PROPERTIES	
Current Rating	1 Amp.
Insulation Resistance	> 1×10^9 Ohms
Dielectric Strength	> 500VDC at Sea Level
ENVIRONMENTAL PROPERTIES	
Temperature Rating	—25°C to 105°C

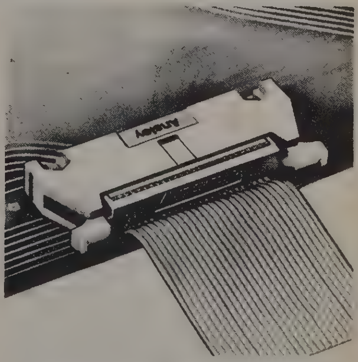
INTERNAL BUTTONS

Disassembled connector shows top internal buttons designed to seat each conductor into contact area.

New male connectors mate with female socket connectors in I/O or splice applications



Polarized female socket connectors provide positive polarity when mated to standard headers

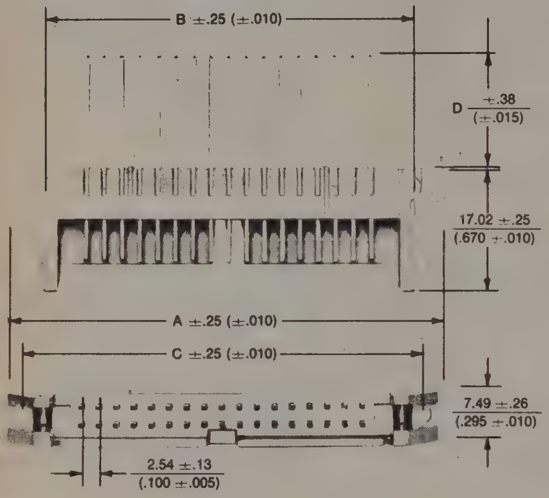


Specify "MR" Series for headers with connector retainer feature.

T&B/Ansley BLUE MACS™
Mass Assembled Cable-Connector System

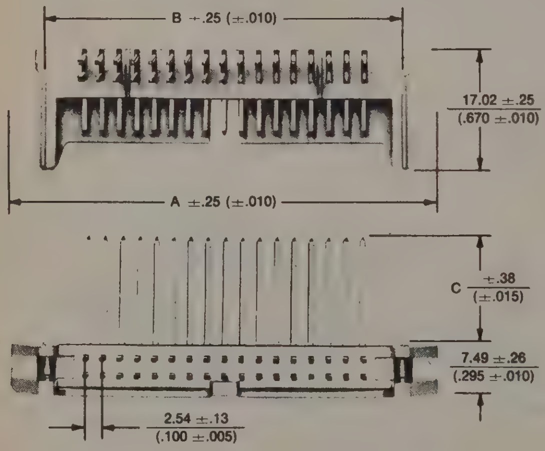
APPLICATION: Male Headers with straight or right angle contacts are used with female wrap post socket connectors on .100″ x .100″ grid to provide a disconnect/reconnect capability to a pcb or panel. Available in solder or wrap post tail configurations. Male Headers can be soldered to pcb or mounted for wire wrapping applications.

PC Board Male Headers With Straight Contacts



Type of Contact	P.C.B. Thick-ness	No. of Posi-tions	Catalog Number	Dim. A inches	Dim. B inches	Dim. C inches	Dim. D inches
P.C. BOARD SOLDER TAILS	1.57 .062	10	609-1022M	1.260	.860	1.100	.113
		16	609-1622M	1.560	1.160	1.400	.113
		20	609-2022M	1.760	1.360	1.600	.113
		26	609-2622M	2.060	1.660	1.900	.113
		34	609-3422M	2.460	2.060	2.300	.113
		40	609-4022M	2.760	2.360	2.600	.113
		50	609-5022M	3.260	2.860	3.100	.113
		60	609-6022M	3.760	3.360	3.600	.113
	3.17 .125	10	609-1032M	1.260	.860	1.100	.173
		16	609-1632M	1.560	1.160	1.400	.173
		20	609-2032M	1.760	1.360	1.600	.173
		26	609-2632M	2.060	1.660	1.900	.173
		34	609-3432M	2.460	2.060	2.300	.173
		40	609-4032M	2.760	2.360	2.600	.173
		50	609-5032M	3.260	2.860	3.100	.173
		60	609-6032M	3.760	3.360	3.600	.173
WRAP POST TAILS	NOT APPLI-CABLE	10	609-1052M	1.260	.860	1.100	.608
		16	609-1652M	1.560	1.160	1.400	.608
		20	609-2052M	1.760	1.360	1.600	.608
		26	609-2652M	2.060	1.660	1.900	.608
		34	609-3452M	2.460	2.060	2.300	.608
		40	609-4052M	2.760	2.360	2.600	.608
		50	609-5052M	3.260	2.860	3.100	.608
		60	609-6052M	3.760	3.360	3.600	.608

PC Board Male Headers With Right Angle Contacts

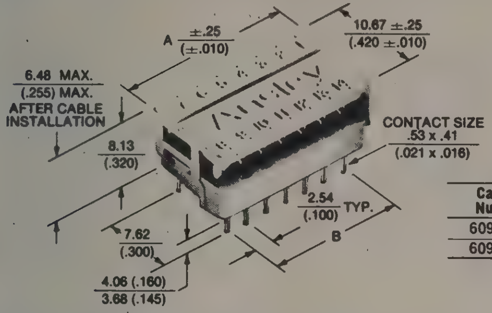


Type of Contact	P.C.B. Thick-ness	No. of Posi-tions	Catalog Number	Dim. A inches	Dim. B inches	Dim. C inches
P.C. BOARD SOLDER TAILS	1.57 .062	10	609-1002M	1.260	.860	.113
		16	609-1602M	1.560	1.160	.113
		20	609-2002M	1.760	1.360	.113
		26	609-2602M	2.060	1.660	.113
		34	609-3402M	2.460	2.060	.113
		40	609-4002M	2.760	2.360	.113
		50	609-5002M	3.260	2.860	.113
		60	609-6002M	3.760	3.360	.113
	3.17 .125	10	609-1012M	1.260	.860	.173
		16	609-1612M	1.560	1.160	.173
		20	609-2012M	1.760	1.360	.173
		26	609-2612M	2.060	1.660	.173
		34	609-3412M	2.460	2.060	.173
		40	609-4012M	2.760	2.360	.173
		50	609-5012M	3.260	2.860	.173
		60	609-6012M	3.760	3.360	.173
WRAP POST TAILS	NOT APPLI-CABLE	10	609-1042M	1.260	.860	.608
		16	609-1642M	1.560	1.160	.608
		20	609-2042M	1.760	1.360	.608
		26	609-2642M	2.060	1.660	.608
		34	609-3442M	2.460	2.060	.608
		40	609-4042M	2.760	2.360	.608
		50	609-5042M	3.260	2.860	.608
		60	609-6042M	3.760	3.360	.608

T&B/Ansley BLUE MACS™
Mass Assembled Cable-Connector System

Standard Size DIP Plug Connectors

APPLICATION: Inserts into IC sockets on .100" x .300" grid.

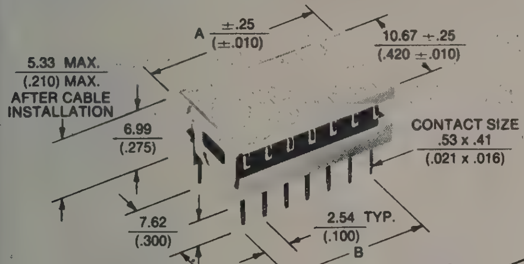


A ±.25 (±.010)
10.67 ±.25 (.420 ±.010)
6.48 MAX. (.255) MAX. AFTER CABLE INSTALLATION
CONTACT SIZE .53 x .41 (.021 x .016)
8.13 (.320)
2.54 (.100) TYP.
7.62 (.300)
B
4.06 (.160)
3.68 (.145)

Catalog Number	Number of Positions	Dim. A mm (inches)	Dim. B mm (inches)
609-M141	14	19.35 (.762)	15.24 (.600)
609-M161	16	21.89 (.862)	17.78 (.700)

Low Profile DIP Plug Connectors

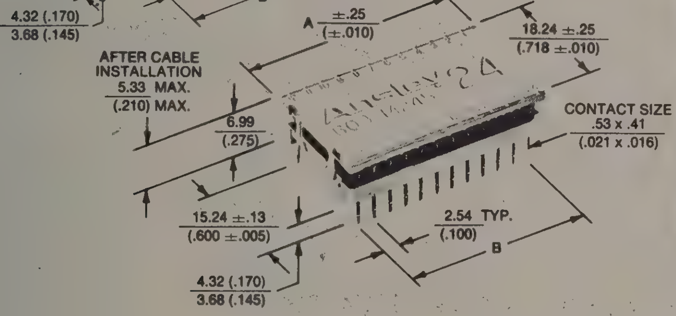
APPLICATION: Inserts into IC sockets on .100" x .300" grid. The 24 position DIP plug connector has .100" x .600" grid pattern. Low profile design facilitates efficient use of pc board space.



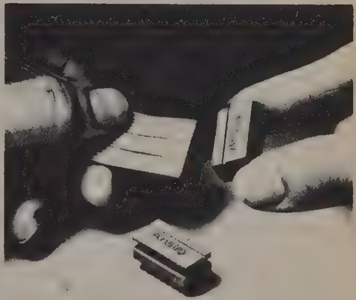
A ±.25 (±.010)
10.67 ±.25 (.420 ±.010)
5.33 MAX. (.210) MAX. AFTER CABLE INSTALLATION
6.99 (.275)
CONTACT SIZE .53 x .41 (.021 x .016)
7.62 (.300)
2.54 TYP. (.100)
B

Catalog Number	Number of Positions	Dim. A mm (inches)	Dim. B mm (inches)
609-M145	14	19.35 (.762)	15.24 (.600)
609-M165	16	21.89 (.862)	17.78 (.700)

Catalog Number	Number of Positions	Dim. A mm (inches)	Dim. B mm (inches)
609-M245	24	32.00 (1.260)	27.94 (1.100)

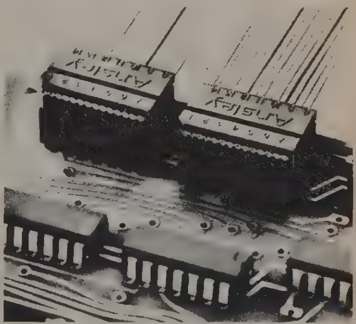


4.32 (.170)
3.68 (.145)
A ±.25 (±.010)
18.24 ±.25 (.718 ±.010)
AFTER CABLE INSTALLATION 5.33 MAX. (.210) MAX.
6.99 (.275)
CONTACT SIZE .53 x .41 (.021 x .016)
15.24 ±.13 (.600 ±.005)
2.54 TYP. (.100)
B
4.32 (.170)
3.68 (.145)



BLUE MACS connectors feature one piece design for lower installed costs.

PHYSICAL PROPERTIES	
Insulation Material	Glass Reinforced Thermoplastic Rated 94V-0
Color	Blue
Contact Material	Beryllium Copper
Contact Plating	Gold over Nickel
ELECTRICAL PROPERTIES	
Current Rating	1 Amp.
Insulation Reistance	> 1 x 10⁹ Ohms
Dielectric Strength	> 500VDC at Sea Level
ENVIRONMENTAL PROPERTIES	
Temperature Rating	—25°C to 105°C

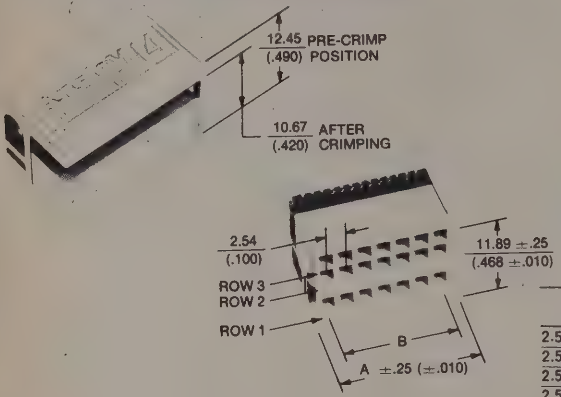


DIP connectors terminate to IC sockets.

T&B/Ansley BLUE MACS™
Mass Assembled Cable-Connector System

Socket Connectors

APPLICATION: Used on standard .025″ square or round posts; on .100″ x .200″ or .100″ x .300″ grid patterns.

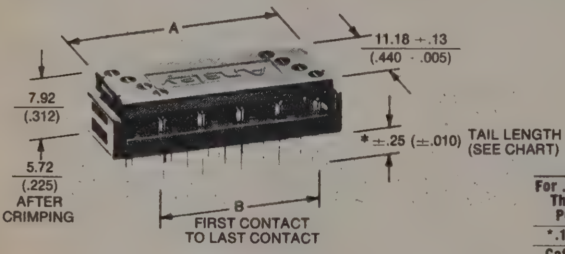

12.45 (.490) PRE-CRIMP POSITION
10.67 (.420) AFTER CRIMPING
2.54 (.100)
ROW 3
ROW 2
ROW 1
11.89 ±.25 (.468 ±.010)
B
A ±.25 (±.010)

PHYSICAL PROPERTIES	
Insulation Material	Glass Reinforced Thermoplastic Rated 94V-0
Color	Blue
Contact Material	Beryllium Copper
Contact Plating	Gold over Nickel
ELECTRICAL PROPERTIES	
Current Rating	1 Amp.
Insulation Resistance	> 1 x 10⁹ Ohms
Dielectric Strength	> 500VDC (Sea Level)
ENVIRONMENTAL PROPERTIES	
Temperature Rating	—55°C to 105°C

Grid Spacing	No. of Contacts	Catalog No.	Dim. A mm (inches)	Dim. B mm (inches)	Contact Positions
2.54x5.08 (.100x.200)	14	609-F141M2	19.51 (.768)	15.24 (.600)	Rows 1 & 2
2.54x5.08 (.100x.200)	16	609-F161M2	22.05 (.868)	17.78 (.700)	Rows 1 & 2
2.54x7.62 (.100x.300)	14	609-F141M	19.51 (.768)	15.24 (.600)	Rows 1 & 3
2.54x7.62 (.100x.300)	16	609-F161M	22.05 (.868)	17.78 (.700)	Rows 1 & 3

PCB Solder Transition Connector

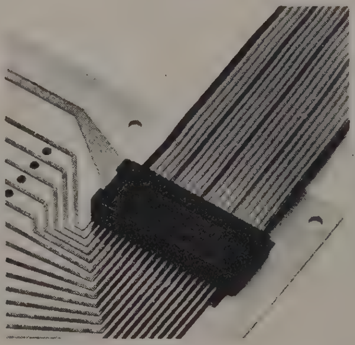
APPLICATION: Provides a permanent flat cable transition to PCB. Cable can be terminated prior to or after connector is soldered to the pc board.


A
11.18 ±.13 (.440 ± .005)
7.92 (.312)
5.72 (.225) AFTER CRIMPING
* ±.25 (±.010) TAIL LENGTH (SEE CHART)
B
FIRST CONTACT TO LAST CONTACT

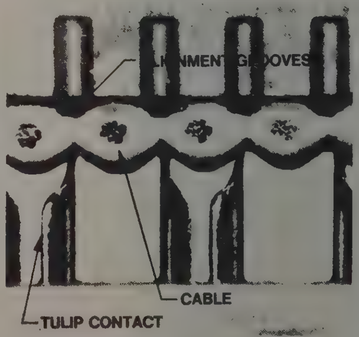
PHYSICAL PROPERTIES	
Insulation Material	Glass Reinforced Thermoplastic Rated 94V-0
Color	Blue
Contact Material	Beryllium Copper
Contact Plating	Bright Acid Tin over Nickel
ELECTRICAL PROPERTIES	
Current Rating	1 Amp.
Insulation Resistance	> 1 x 10⁹ Ohms
Dielectric Strength	> 500VDC (Sea Level)
ENVIRONMENTAL PROPERTIES	
Temperature Rating	—25°C to 105°C

For .062″ Thick PCB	For .032″ to .047″ Thick PCB	For .094″ to .125″ Thick PCB	No. of Con-tacts	Dim. A mm (inches)	Dim. B mm (inches)
*.100″	*.080″	*.155″			
Cat. No.	Cat. No.	Cat. No.			
609-1003	609-1023	609-1043	10	17.37 (.684)	11.43 (.450)
609-1603	609-1623	609-1643	16	24.89 (.980)	19.05 (.750)
609-2003	609-2023	609-2043	20	29.97 (1.180)	24.13 (.950)
609-2603	609-2623	609-2643	26	37.59 (1.480)	31.75 (1.250)
609-3403	609-3423	609-3443	34	47.75 (1.880)	41.91 (1.650)
609-4003	609-4023	609-4043	40	55.37 (2.180)	49.53 (1.950)
609-5003	609-5023	609-5043	50	68.07 (2.680)	62.23 (2.450)
609-6003	609-6023	609-6043	60	80.77 (3.180)	74.93 (2.950)

Disconnectable socket connectors terminate to .025″ posts.



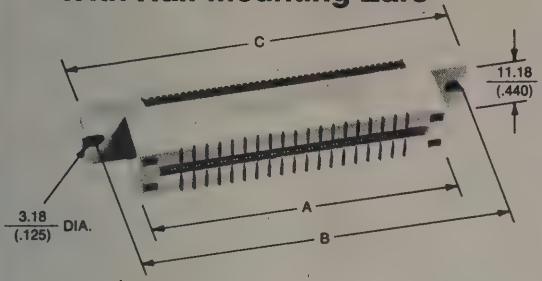
Solder transition connectors provide permanent connection to pc boards.


ALIGNMENT GROOVES
CABLE
TULIP CONTACT

Connector alignment grooves provide accurate cable-to-contact positioning.

T&B/Ansley BLUE MACS™
Mass Assembled Cable-Connector System

Card Edge Connector With Half Mounting Ears

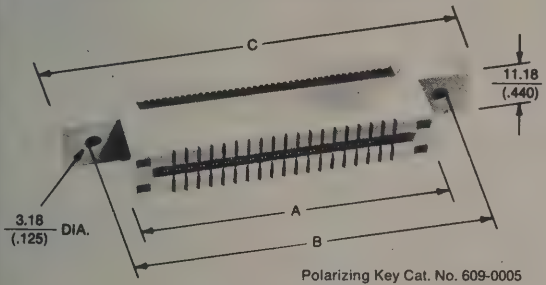


Polarizing Key Cat. No. 609-0005

APPLICATION: Connector with half mounting ears is designed to save space; can be chassis mounted and pcb plugged or unplugged. Fits PCB pads on .100″ centers.

Type	Catalog Number	No. of Pos.	Dim. A mm (inches)	Dim. B mm (inches)	Dim. C mm (inches)
WITH HALF MOUNTING EARS	609-1025M	10	24.36 (.959)	33.02 (1.300)	38.10 (1.500)
	609-1625M	16	31.98 (1.259)	40.64 (1.600)	45.72 (1.800)
	609-2025M	20	37.06 (1.459)	45.72 (1.800)	50.80 (2.000)
	609-2625M	26	44.68 (1.759)	53.34 (2.100)	58.42 (2.300)
	609-3425M	34	54.84 (2.159)	63.50 (2.500)	68.58 (2.700)
	609-4025M	40	62.46 (2.459)	71.12 (2.800)	76.20 (3.000)
	609-5025M	50	75.16 (2.959)	83.82 (3.300)	88.90 (3.500)
	609-6025M	60	87.86 (3.459)	96.52 (3.800)	101.60 (4.400)

Card Edge Connector With Full Mounting Ears

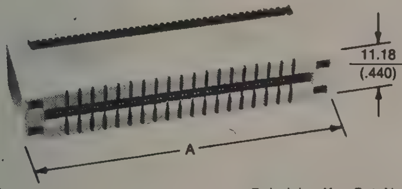


Polarizing Key Cat. No. 609-0005

APPLICATION: Provides I/O access to pcb pads on .100″ centers. Used where repeated disconnect/reconnect capability is desired. Connector can be chassis mounted and pcb plugged or unplugged.

Type	Catalog Number	No. of Pos.	Dim. A mm (inches)	Dim. B mm (inches)	Dim. C mm (inches)
WITH MOUNTING EARS	609-1005M	10	24.36 (.959)	35.56 (1.400)	48.26 (1.900)
	609-1605M	16	31.98 (1.259)	43.18 (1.700)	55.88 (2.200)
	609-2005M	20	37.06 (1.459)	48.26 (1.900)	60.96 (2.400)
	609-2605M	26	44.68 (1.759)	55.88 (2.200)	68.58 (2.700)
	609-3405M	34	54.84 (2.159)	66.04 (2.600)	78.74 (3.100)
	609-4005M	40	62.46 (2.459)	73.66 (2.900)	86.36 (3.400)
	609-5005M	50	75.16 (2.959)	86.36 (3.400)	99.06 (3.900)
	609-6005M	60	87.86 (3.459)	99.06 (3.900)	111.76 (4.400)

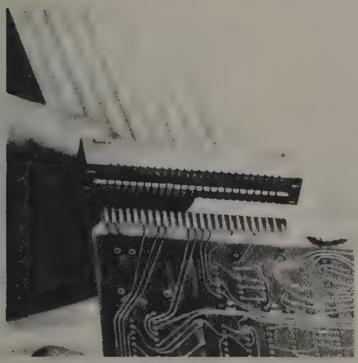
Card Edge Connector Without Mounting Ears



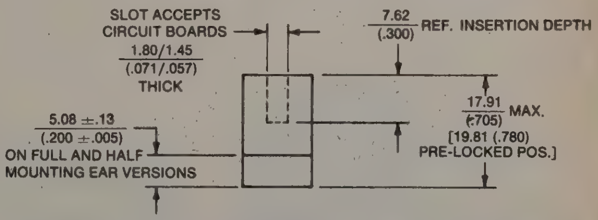
Polarizing Key Cat. No. 609-0005

APPLICATION: Used where pcb is stationary and connector is plugged and unplugged. Fits PCB pads on .100″ centers.

Type	Catalog Number	Number of Positions	Dim. A mm (inches)
WITHOUT MOUNTING EARS	609-1015M	10	24.36 (.959)
	609-1615M	16	31.98 (1.259)
	609-2015M	20	37.06 (1.459)
	609-2615M	26	44.68 (1.759)
	609-3415M	34	54.84 (2.159)
	609-4015M	40	62.46 (2.459)
	609-5015M	50	75.16 (2.959)
	609-6015M	60	87.86 (3.459)



Disconnectable card edge connectors terminate to .100″ pcb pads.

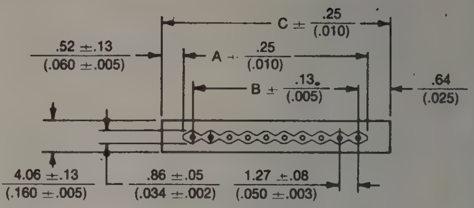


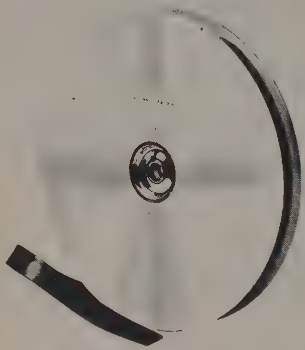
PHYSICAL PROPERTIES	
Insulation Material	Glass Reinforced Thermoplastic Rated 94V-0
Color	Blue
Contact Material	Beryllium Copper
Contact Plating	Gold over Nickel
ELECTRICAL PROPERTIES	
Current Rating	1 Amp.
Insulation Reistance	> 1 x 10⁹ Ohms
Dielectric Strength	> 500VDC at Sea Level
ENVIRONMENTAL PROPERTIES	
Temperature Rating	—25°C to 105°C

T&B/Ansley BLUE MACS™ Mass Assembled Cable-Connector System

Jacketed BLUE MACS™ Cable

UL listed for external interconnection of electronic equipment. UL style No. 2604 with 75°C temperature rating and 90V rating. Standard cable length is 100 feet.

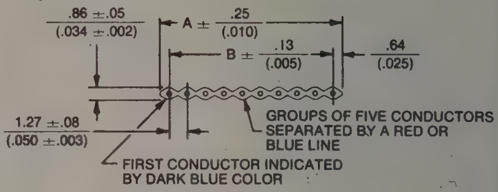


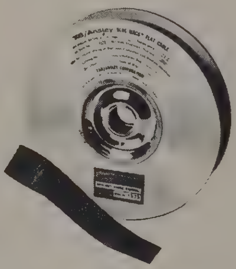


Number of Conductors	Cat. No. 28 Gauge Stranded	Cat. No. 30 Gauge Solid	Dim. A mm (inches)	Dim. B mm (inches)	Dim. C mm (inches)
9	174-9	184-9	11.43 (.450)	10.16 (.400)	14.48 (.570)
10	174-10	184-10	12.70 (.500)	11.43 (.450)	15.74 (.620)
14	174-14	184-14	17.78 (.700)	16.51 (.650)	20.82 (.820)
15	174-15	184-15	19.05 (.750)	17.78 (.700)	22.11 (.870)
16	174-16	184-16	20.32 (.800)	19.05 (.750)	23.36 (.920)
20	174-20	184-20	25.40 (1.000)	24.13 (.950)	28.44 (1.120)
24	174-24	184-24	30.48 (1.200)	29.21 (1.150)	33.53 (1.320)
25	174-25	184-25	31.75 (1.250)	30.48 (1.200)	34.79 (1.370)
26	174-26	184-26	30.02 (1.300)	31.75 (1.250)	36.06 (1.420)
34	174-34	184-34	43.18 (1.700)	41.90 (1.650)	46.22 (1.820)
37	174-37	184-37	46.99 (1.850)	45.72 (1.800)	50.03 (1.970)
40	174-40	184-40	50.80 (2.000)	49.53 (1.950)	53.84 (2.120)
50	174-50	184-50	63.50 (2.500)	62.23 (2.450)	66.54 (2.620)

Round Conductor BLUE MACS™ Cable

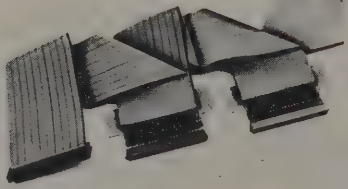
Round conductor flat cable offers high degree of flexibility for intra-cabinet wiring applications. Color coded for every fifth conductor. UL listed temperature rating of 105°C; UL style No. 2678 with 150V rating. Standard cable length is 100 feet.


.86 ±.05 (.034 ±.002)
A ± .25 (.010)
B ± .13 (.005)
.64 (.025)
1.27 ±.08 (.050 ±.003)
GROUPS OF FIVE CONDUCTORS SEPARATED BY A RED OR BLUE LINE
FIRST CONDUCTOR INDICATED BY DARK BLUE COLOR

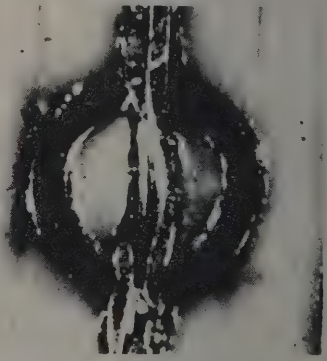


No. of Conductors	Cat. No. 28 Gauge Stranded	Cat. No. 30 Gauge Solid	Cat. No. 28 Gauge Solid	Dim. A mm (inches)	Dim. B mm (inches)
9	171-9	172-9	173-9	11.43 (.450)	10.16 (.400)
10	171-10	172-10	173-10	12.70 (.500)	11.43 (.450)
14	171-14	172-14	173-14	17.78 (.700)	16.51 (.650)
15	171-15	172-15	173-15	19.05 (.750)	17.78 (.700)
16	171-16	172-16	173-16	20.32 (.800)	19.05 (.750)
20	171-20	172-20	173-20	25.40 (1.000)	24.13 (.950)
24	171-24	172-24	173-24	30.48 (1.200)	29.21 (1.150)
25	171-25	172-25	173-25	31.75 (1.250)	30.48 (1.200)
26	171-26	172-26	173-26	33.02 (1.300)	31.75 (1.250)
34	171-34	172-34	173-34	43.18 (1.700)	41.91 (1.650)
37	171-37	172-37	173-37	46.99 (1.850)	45.72 (1.800)
40	171-40	172-40	173-40	50.80 (2.000)	49.53 (1.950)
50	171-50	172-50	173-50	63.50 (2.500)	62.23 (2.450)
60	171-60	172-60	173-60	76.20 (3.000)	74.93 (2.950)

Two-sided grooved round conductor cable can be separated fast and easy.



Flat cable bends and folds to meet dense packaging requirements.

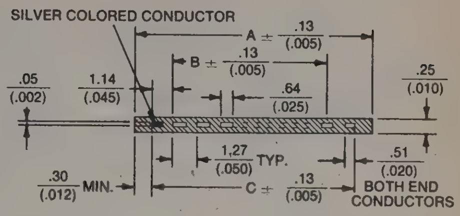


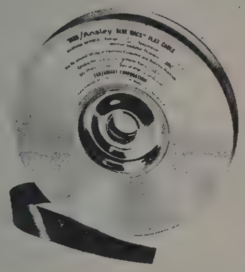
Cross sectional top view of TULIP contact shows 4 points of contact with round conductor cable.

T&B/Ansley BLUE MACS™ Mass Assembled Cable-Connector System

Flat Conductor BLUE MACS™ Cable

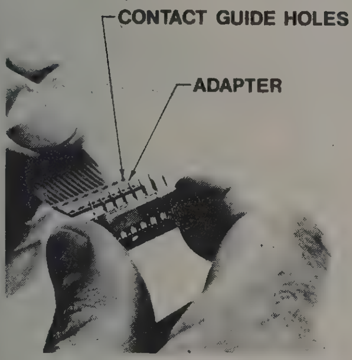
High performance cable tested to exceed 10 million flexing cycles. 80°C temperature rating and rated at 90V. Standard cable length 100 ft.


SILVER COLORED CONDUCTOR
A ± .13 (.005)
B ± .13 (.005)
.05 (.002)
1.14 (.045)
.64 (.025)
.25 (.010)
1,27 (.050) TYP.
.51 (.020)
.30 (.012) MIN.
C ± .13 (.005)
BOTH END CONDUCTORS


T&B/Ansley BLUE MACS™ FLAT CABLE

Number of Conductors	Cat. No.	Dim. A mm (inches)	Dim. B mm (inches)	Dim. C mm (inches)
10	175-10	12.70 (.500)	8.89 (.350)	11.81 (.465)
14	175-14	17.78 (.700)	13.97 (.550)	16.89 (.665)
16	175-16	20.32 (.800)	16.51 (.650)	19.43 (.765)
20	175-20	25.40 (1.000)	21.59 (.850)	24.51 (.965)
24	175-24	30.48 (1.200)	26.67 (1.050)	29.59 (1.165)
26	175-26	33.02 (1.300)	29.21 (1.150)	32.13 (1.265)
34	175-34	43.18 (1.700)	39.37 (1.550)	42.29 (1.665)
40	175-40	50.80 (2.000)	46.99 (1.850)	49.91 (1.965)
50	175-50	63.50 (2.500)	59.69 (2.350)	62.61 (2.465)

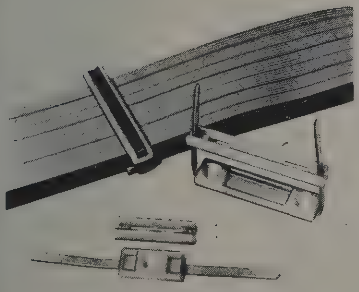
Flat Conductor Cable Adapter


CONTACT GUIDE HOLES
ADAPTER

Unique flat conductor cable adapter assures accurate cable alignment.

CABLE			ADAPTERS			
No. of Conductors	Cable Cat. No.	Adapters for DIP Sockets and Standard DIP Plug Connectors .100 x .300 Grid	Adapters for Wrap Post Socket Transition Connectors	Adapters for Low Profile DIP Plug Connectors	Adapters for PCB Solder Transition Connectors	Adapters for Card Edge Connectors
10	175-10		609-W104		609-W108	609-W105
14	175-14	609-W146		609-W147		
16	175-16	609-W166	609-W164	609-W167		609-W165
20	175-20		609-W204		609-W208	609-W205
24	175-24			609-W247		
26	175-26		609-W264		609-W268	609-W265
34	175-34		609-W344		609-W348	609-W345
40	175-40		609-W404		609-W408	609-W405
50	175-50		609-W504		609-W508	609-W505

Flat Cable Clamps



NYLON CABLE CLAMPS
for bundling flat cable.

CAT. NO.	CABLE SIZE (MAX.) Width	CABLE SIZE (MAX.) Height	DESCRIPTION
FCC-1 FCC-2 FCC-3	1.0″ 2.0″ 3.0″	0.5″ 1.0″ 1.0″	SCREW MOUNTED CLAMPS
FCC-1A FCC-2A FCC-3A	1.0″ 2.0″ 3.0″	0.5″ 1.0″ 1.0″	ADHESIVE MOUNTED CLAMPS

T&B/Ansley BLUE MACS™
Mass Assembled Cable-Connector System

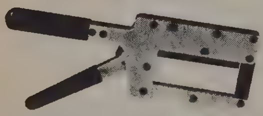
INSTALLATION TOOLS

Ansley SHURE-STAKE® Hand Tools are specifically designed to make mass termination of connectors as simple as possible. Each tool features a SHURE-STAKE controlled crimp that eliminates operator guesswork. Once the compression cycle is initiated, the tool jaws cannot be opened until the cycle is completed. These tools are extremely easy to use. Connector with cable is inserted into the tools' jaws and crimped. No operator judgement is required. The new 779-2100 Hand Tool with interchangeable dies is especially suited for field applications where different connector styles are installed.

SHURE STAKE HAND TOOL
779-1000

SHURE STAKE HAND TOOL
779-2000

CAT. NO.	USED TO INSTALL
779-1000	609-M141, M161 DIP PLUGS 609-M145, M165 LOW PROFILE DIP PLUGS
779-2000	609-M141, M161 DIP PLUGS 609-M145, M165 LOW PROFILE DIP PLUGS 609-1000M SERIES AND 609-1001M SERIES FEMALE SOCKET TRANSITION CONNECTORS
779-2003 (Top Die For 779-2000)	609-F141M SOCKET CONNECTOR 609-F161M SOCKET CONNECTOR 609-F141M2 SOCKET CONNECTOR 609-F161M2 SOCKET CONNECTOR



SHURE STAKE HAND TOOL FRAME 779-2100

CAT. NO.	DESCRIPTION
779-2100	TOOL FRAME WITHOUT INTERCHANGEABLE DIES

DIE CAT. NO.	USED TO INSTALL
779-2150	609-1000M, 1001M, and 1030 SERIES FEMALE SOCKET TRANSITION CONNECTORS
779-2152	609-1003 SERIES PCB SOLDER TRANSITION CONNECTORS
779-2156	609-M141 and 609-M161 DIP PLUGS
779-2158	609-M145, 609-M145TP, 609-M165, 609-M165TP DIP PLUGS
779-2160	609-M245 and 609-M245TP DIP PLUGS
779-2161	609-M407 DIP PLUG
779-2162	609-F141M, 609-F141M2, 609-F161M and 609-F161M2 SOCKET CONNECTORS
779-2164	609-1005M, 1015M, and 1025M SERIES CARD EDGE CONNECTORS
779-2166	609-9S and 609-9P SERIES "D" CONNECTORS
779-2168	609-1006 and 609-1016 SERIES MALE CONNECTORS
779-2170	609-64-2 and 609-641-2 SERIES INTERFACE CONNECTORS

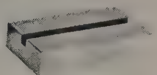
Interchangeable dies snap in and out as required.

T&B/Ansley BLUE MACS™ Mass Assembled Cable-Connector System

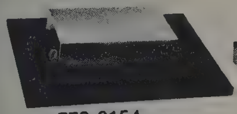
INSTALLATION TOOLS

779-3100

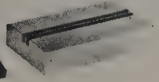
779-3150



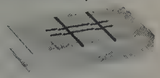
779-3151



779-3154



779-3152



779-3156

779-3158

779-3160

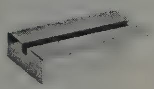
779-3161

779-3162

779-3164

779-3166

779-3168



779-3170

779-3180

CAT. NO.	DESCRIPTION
779-3100	BENCH PRESS WITH STANDARD PLATEN (779-3130). BASE PLATES NOT INCLUDED.
779-3130	STANDARD REPLACEMENT PLATEN FOR 779-3100 BENCH PRESS
779-3131	MODIFIED PLATEN FOR USE WITH "D" CONNECTOR BASE PLATE 779-3166
779-3132	MODIFIED PLATEN FOR USE WITH BASE PLATE NO. 779-3154

CAT. NO.	USED TO INSTALL
779-3150	BASE PLATE FOR FEMALE SOCKET TRANSITION CONNECTORS — 609-1000M AND 609-1001M SERIES
779-3151	BASE PLATE FOR POLARIZED FEMALE SOCKET TRANSITION CONNECTORS - 609-1030 SERIES.
779-3152	BASE PLATE FOR PCB SOLDER TRANSITION CONNECTORS — 609-1003 SERIES, 609-1023 SERIES AND 609-1043 SERIES. USED TO TERMINATE CABLE BEFORE CONNECTOR IS SOLDERED TO PC BOARDS.
779-3154	BASE PLATE FOR PCB SOLDER TRANSITION CONNECTORS — 609-1003 SERIES, 609-1023 SERIES AND 609-1043 SERIES. USED TO TERMINATE CABLE AFTER CONNECTOR IS SOLDERED TO PC BOARDS.
779-3156	BASE PLATE FOR STANDARD DIP PLUGS — 609-M141 AND 609-M161
779-3158	BASE PLATE FOR LOW PROFILE DIP PLUGS — 609-M145, 609-M145TP, 609-M165 AND 609-M165TP.
779-3160	BASE PLATE FOR LOW PROFILE DIP PLUGS— 609-M245 AND 609-M245TP.
779-3161	BASE PLATE FOR LOW PROFILE DIP PLUG — 609-M405
779-3162	BASE PLATE FOR DIP CONNECTOR 609-F141M, 609-F161M, 609-F141M2 AND 609-F161M2
779-3164	BASE PLATE FOR CARD EDGE CONNECTORS — 609-1005, 609-1015 AND 609-1025 SERIES
779-3166	BASE PLATE FOR "D" CONNECTORS 609-9S AND 609-9P SERIES
779-3168	BASE PLATE FOR MALE CONNECTORS 609-1006 AND 609-1016 SERIES
779-3170	BASE PLATE FOR EUROPEAN STANDARD INTERFACE CONNECTOR 609-64-2 AND 609-641-2 SERIES
779-3180	CABLE CUTTER
779-3182	DISCRETE WIRE FIXTURE

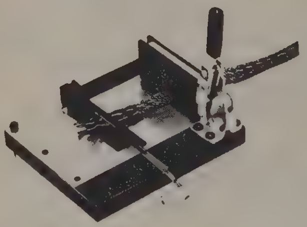
T&B/Ansley BLUE MACS™
Mass Assembled Cable-Connector System

Cable Separator

Cat. No. 779-5010
Used to separate up to 50 conductor cable into uniform individual conductor strands. This sturdy bench tool includes cable alignment guide for simple and easy error-free operation.

Precision Cable Cutter

Cat. No. 779-5030
Lightweight hand tool with cable alignment guide enables all cables to be cut neatly and squarely on precise right angle to cable edge.



Discrete Wire Assembly Fixture

Cat. No. 779-3182
Sturdy, rugged assembly fixture used for terminating woven cables, twisted pairs and discrete wires to wrap post socket transition connectors. Includes alignment guides for positioning individual wires to 4-point TULIP™ contact.

Designers Kit Cat. No. 609-DK-1

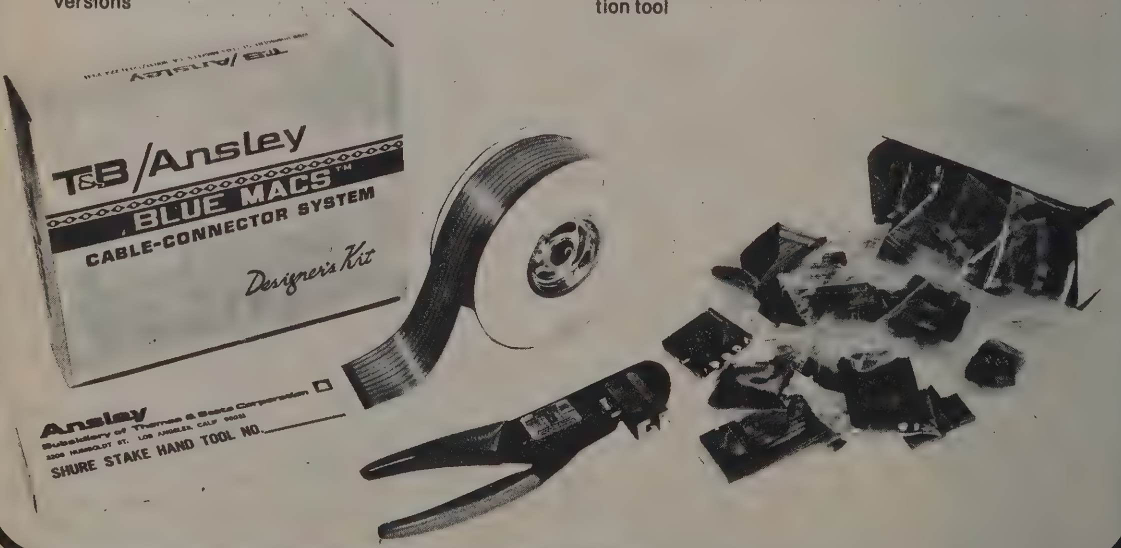
THE T&B/ANSLEY BLUE MACS "DESIGNER'S KIT". . .

is a complete mass-assembled-connector-system that includes . . .

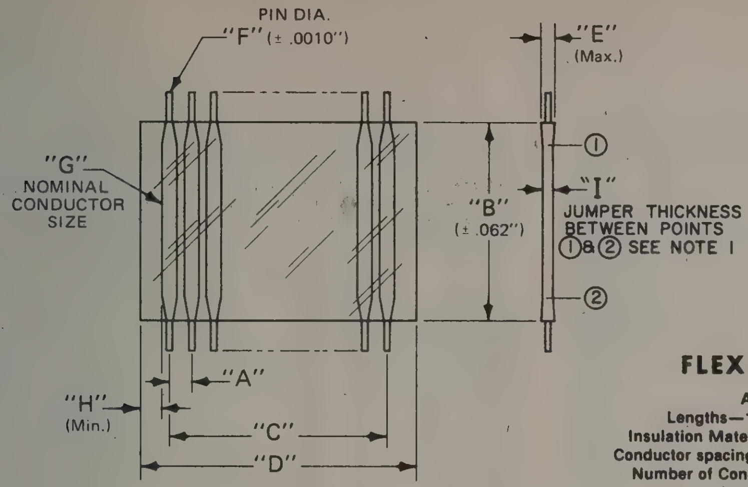
A full assortment of over 100 T&B/Ansley connectors featuring
- DIP Plugs from 14 to 16 contact versions
- Socket Connectors from 14 to 16 contact versions
- PCB Solder Transition types, from 10 to 50 contact versions
- Female Socket Connectors from 10 to 50 contact versions
- PCB Solder Tail Headers with right angle and straight contacts, from 10 to 50 contact versions
- Wrap Post Tail Headers with straight contacts, from 10 to 50 contact versions

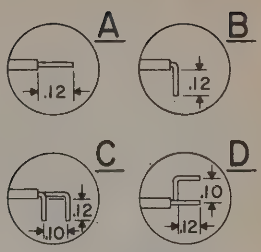
A 100-foot roll of 28 AWG stranded 50-conductor flat cable

A precision-made SHURE STAKE® hand installation tool



FLEXSTRIP® Jumpers


PIN DIA.
"F" (± .0010")
"E"
(Max.)
"G"
NOMINAL
CONDUCTOR
SIZE
①
"I"
JUMPER THICKNESS
BETWEEN POINTS
① & ② SEE NOTE I
"B"
(± .062")
②
"A"
"H"
(Min.)
"C"
"D"


A
.12
B
.12
C
.12
.10
D
.10
.12

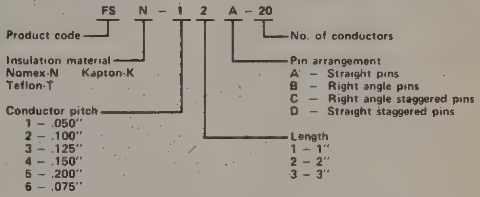
PIN ARRANGEMENT

PIN LENGTH TOL. ± .03

FLEXSTRIP® JUMPERS

Availability—From stock
Lengths—1", 2" and 3", specials up to 18"
Insulation Material—Nomex, Teflon or Kapton
Conductor spacing—.050, .075, .100, .125, .150 and .200"
Number of Conductors—As required. Add number of conductors as a dash suffix number to standard catalog number

DESCRIPTION OF CATALOG NUMBERING SYSTEM


FS N - 1 2 A - 20
Product code
No. of conductors
Insulation material
Nomex-N Kapton-K
Teflon-T
Pin arrangement
A – Straight pins
B – Right angle pins
C – Right angle staggered pins
D – Straight staggered pins
Conductor pitch
1 – .050"
2 – .100"
3 – .125"
4 – .150"
5 – .200"
6 – .075"
Length
1 – 1"
2 – 2"
3 – 3"

SPECIFICATIONS

Resistance per 1000 feet (ohms)	65 (130*) MAX.
Current rating (amps)	2 (1*)
Rated voltage	600 VAC
Rated temperature	150°C
Conductor	Copper per QQ-W-343

**Refers to .050 Conductor Centers Jumpers.*

Cat. No. Series	A (inches)	B (inches)	No. of Conductors	C (inches)	D (inches)	E (inches)	F (inches)	For PCB with the following dia. (±.001) holes and (±.005 center tolerance)	G (inches)	H (inches)
FSX-11X-X	.050	1.0"	2 thru 60	.050 to 2.950	.120 to 3.020	.025	.0126	.028	.003 X .030	.010
FSX-12X-X	.050	2.0"	2 thru 60	.050 to 2.950	.120 to 3.020	.025	.0126	.028	.003 X .030	.010
FSX-13X-X	.050	3.0"	2 thru 60	.050 to 2.950	.120 to 3.020	.025	.0126	.028	.003 X .030	.010
FSX-61X-X	.075	1.0"	2 thru 40	.075 to 2.925	.185 to 3.035	.033	.0159	.031	.003 X .040	.015
FSX-62X-X	.075	2.0"	2 thru 40	.075 to 2.925	.185 to 3.035	.033	.0159	.031	.003 X .040	.015
FSX-63X-X	.075	3.0"	2 thru 40	.075 to 2.925	.185 to 3.035	.033	.0159	.031	.003 X .040	.015
FSX-21X-X	.100	1.0"	2 thru 30	.100 to 2.900	.245 to 3.045	.033	.0201	.037	.003 X .055	.025
FSX-22X-X	.100	2.0"	2 thru 30	.100 to 2.900	.245 to 3.045	.033	.0201	.037	.003 X .055	.025
FSX-23X-X	.100	3.0"	2 thru 30	.100 to 2.900	.245 to 3.045	.033	.0201	.037	.003 X .055	.025
FSX-31X-X	.125	1.0"	2 thru 25	.125 to 3.000	.320 to 3.195	.033	.0201	.037	.003 X .055	.060
FSX-32X-X	.125	2.0"	2 thru 25	.125 to 3.000	.320 to 3.195	.033	.0201	.037	.003 X .055	.060
FSX-33X-X	.125	3.0"	2 thru 25	.125 to 3.000	.320 to 3.195	.033	.0201	.037	.003 X .055	.060
FSX-41X-X	.150	1.0"	2 thru 20	.150 to 2.850	.395 to 3.095	.033	.0201	.037	.003 X .055	.060
FSX-42X-X	.150	2.0"	2 thru 20	.150 to 2.850	.395 to 3.095	.033	.0201	.037	.003 X .055	.060
FSX-43X-X	.150	3.0"	2 thru 20	.150 to 2.850	.395 to 3.095	.033	.0201	.037	.003 X .055	.060
FSX-51X-X	.200	1.0"	2 thru 15	.200 to 2.800	.545 to 3.145	.033	.0201	.037	.003 X .055	.060
FSX-52X-X	.200	2.0"	2 thru 15	.200 to 2.800	.545 to 3.145	.033	.0201	.037	.003 X .055	.060
FSX-53X-X	.200	3.0"	2 thru 15	.200 to 2.800	.545 to 3.145	.033	.0201	.037	.003 X .055	.060

Note 1

.050 Pitch	.075, .100, .125, .150 & .200 Pitch
.012 Teflon .010 Kapton .010 Nomex	.016 Teflon .010 Kapton .010 Nomex

T&B/Ansley

AUGAT Plugs and Sockets

LOW PROFILE, PRINTED CIRCUIT DIP SOCKETS

Low profile, .063" above board, sockets with closed, tapered entry insulator design. Anti-shorting wafer on bottom of each socket. Available with gold or tin plated contacts. **Contacts:** Wire-wrap—2 level and 3 level. PC—Style A, .005" x .024" straight; Style B, .005" x .024" crimped for retention on board during wave soldering.

Augat No.	Contacts		Style	Net Each, Lots of			
	No.	Plating		1-99	100-499	500-999	1000-4999
308-AG37D	8	Tin	PC-B	$0.301	$0.259	$0.226	$0.195
308-AG38D	8	Gold	PC-B	.409	.365	.317	.268
308-AG39D	8	Tin	PC-A	.301	.259	.226	.195
308-AG40D	8	Gold	PC-A	.409	.365	.317	.268
314-AG35F	14	Gold	WW-3	.48	.42	.375	.342
314-AG36F	14	Gold	WW-2	.48	.42	.375	.342
314-AG37D	14	Tin	PC-B	.393	.339	.295	.255
314-AG38D	14	Gold	PC-B	.648	.58	.504	.426
314-AG39D	14	Tin	PC-A	.393	.339	.295	.255
314-AG40D	14	Gold	PC-A	.648	.58	.504	.426
316-AG35F	16	Gold	WW-3	.549	.48	.429	.39
316-AG36F	16	Gold	WW-2	.549	.48	.429	.39
316-AG37D	16	Tin	PC-B	.45	.387	.337	.291
316-AG38D	16	Gold	PC-B	.742	.662	.577	.487
316-AG39D	16	Tin	PC-A	.45	.387	.337	.291
316-AG40D	16	Gold	PC-A	.742	.662	.577	.487
318-AG37D	18	Tin	PC-B	.505	.435	.376	.327
318-AG38D	18	Gold	PC-B	.834	.745	.648	.548
318-AG39D	18	Tin	PC-A	.505	.435	.376	.327
318-AG40D	18	Gold	PC-A	.834	.745	.648	.548

HIGH DENSITY SOCKETS

Low profile 28-pin sockets designed to mate with the 9P28 Series Plug Assemblies. Available with mounting ears and wire wrap terminations or without mounting ears and printed circuit terminations. Two piece tapered-entry socket terminals. Four-leaf machined closed-entry inner contact and machined outer sleeve, beryllium copper, gold over nickel plated. Terminations are brass, gold over nickel or gold-plated.

Augat No.	Terminals		Net Each, Lots of			
	Plating	Type	1-99	100-499	500-999	1000-4999
528-AG24F	Gold	Wire Wrap	$3.02	$2.64	$2.36	$2.02
528-AG25F	Tin		2.74	2.39	2.14	1.83
528-AG26F	Gold		3.02	2.64	2.36	2.02
528-AG27F	Tin		2.74	2.39	2.14	1.83
528-AG28D	Gold	PC	2.06	1.80	1.61	1.38
528-AG29D	Tin		1.88	1.65	1.47	1.26

LSI ADAPTERS

Accept 28 or 40 pin LSI DIP's soldered into adapter which then plugs into DIP pattern on packaging panel.

Augat No.	LSI Pins Up To	Net Each, Lots of			
		1-99	100-449	500-999	1000-4999
528-HG16	28	$5.11	$4.58	$4.25	$3.80
540-HG16	40	7.09	6.36	5.93	5.28

PROGRAMMING JUMPER PLUG ASSEMBLIES

Program plugs to perform expanded DIP switch functions. Assemblies span .3" centers to connect opposing contacts in IC patterns. Available with 1, 2, 3, 4, 7, 8 or 9 jumpers per assembly and in special configurations combining .1" and .3" center shorting jumpers on special order. **Insulator:** Thermoplastic polyester. **Pins:** Phosphor bronze, gold over nickel plated.

Augat No.	No. of Positions	Net Each, Lots of			
		1-99	100-499	500-999	1000-4999
8136-475G1	1	$0.30	$0.25	$0.23	$0.20
8136-475G2	2	.31	.27	.24	.21
8136-475G3	3	.35	.31	.27	.23
8136-475G4	4	.41	.36	.323	.26
8136-475G7	7	.58	.49	.45	.38
8136-475G8	8	.62	.56	.488	.42
8136-475G9	9	.68	.60	.53	.45

25-PIN CONTACT STRIP

Accepts flat dual inline IC leads or round leads to .025" dia. Strips may be mounted side by side or end to end for any required pattern; ends may be cut off for continuous spacing on .100" centers for more than 25 contacts on one row. Available with wire wrap (AG1F) or PC (AG1D) termination; alignment spacer provided with wire wrap termination sockets. Body is diallyl phthalate; wire wrap contacts are gold over nickel plated; PC contacts are spring temper beryllium copper over nickel plated. Size, .200" w. x 2.560" d. x .285" h.

Augat No.	Net Each, Lots of				Augat No.	Net Each, Lots of			
	1-99	100-499	500-999	1M-4999		1-99	100-499	500-999	1M-4999
325-AG1F	$2.77	$2.45	$2.16	$1.82	325-AG1D	$1.82	$1.62	$1.41	$1.22

SERIES 514 AND 516 DIP SOCKETS

Ultra low profile sockets accept 8, 14, 16, 18, 22, 24, 28, 32, 36 or 40 lead DIP packages. Two piece socket terminals. Thermoplastic polyester insulator. Beryllium copper, gold over nickel-plated machined inner contacts. Brass, gold or tin plated machined outer sleeves. **Terminals:** PC, .020" dia. x .110" h. (min.); W/W, .025" sq. x .500" h.

Augat No.	Contacts	Sleeve Plating	Net Each, Lots of			
			1-99	100-499	500-999	1000-4999
508-AG10D	8	Gold	$0.63	$0.56	$0.51	$0.41
508-AG11D	8	Tin	.58	.52	.46	.38
514-AG10D	14	Gold	.92	.82	.73	.62
514-AG11D	14	Tin	.79	.70	.62	.52
516-AG10D	16	Gold	1.05	.92	.83	.70
516-AG11D	16	Tin	.89	.77	.70	.58
518-AG10D	18	Gold	1.34	1.17	1.07	.91
518-AG11D	18	Tin	1.12	.99	.89	.73
522-AG-10D	22	Gold	1.59	1.40	1.26	1.06
522-AG11D	22	Tin	1.38	1.21	1.08	.90
524-AG10D	24	Gold	1.77	1.58	1.42	1.20
524-AG11D	24	Tin	1.47	1.30	1.15	.97
528-AG10D	28	Gold	1.90	1.77	1.60	1.34
528-AG11D	28	Tin	1.69	1.47	1.32	1.10
532-AG10D	32	Gold	2.22	1.97	1.77	1.48
532-AG11D	32	Tin	1.89	1.65	1.47	1.22
536-AG10D	36	Gold	2.47	2.18	1.97	1.66
536-AG11D	36	Tin	2.07	1.81	1.63	1.35
540-AG10D	40	Gold	2.73	2.41	2.17	1.83
540-AG11D	40	Tin	2.29	2.00	1.79	1.48

*Numbers shown for printed-circuit termination; to order wire wrap termination, change **D** to **F**. (Ex. **514-AG11F**(3 level Gold/Tin); **514-AG10F-2**(2 level Gold/Gold).).

LOW PROFILE PACKAGING SOCKETS FOR TRANSISTORS AND IC'S

Nylon insulated sockets for transistors and TO-5 type integrated circuits. Ultra low profie. Various colors available on request.

Augat No.	Contacts		Circle Dia.	Net Each, Lots of			
	No.	Plating		1-99	100-499	500-999	1000-4999
8059-2G1	3	Gold	.200"	$0.46	$0.41	$0.37	$0.30
8059-2G2	3	Tin	.200"	.42	.36	.33	.27
8059-2G3	4	Gold	.200"	.58	.50	.46	.38
8059-2G4	4	Tin	.200"	.53	.47	.42	.35
8059-2G5	8	Gold	.200"	1.01	.93	.85	.66
8059-2G6	8	Tin	.200"	.94	.83	.73	.59
8059-2G7	8	Gold	.230"	1.01	.93	.85	.66
8059-2G8	8	Tin	.230"	.94	.83	.73	.59
8059-2G9	10	Gold	.230"	1.25	1.08	1.03	.81
8059-2G10	10	Tin	.230"	1.17	1.03	.92	.74

CRYSTAL SOCKETS

Teflon insulated sockets for HC-6/U, HC-13/U and HC-25/U crystal sizes. For severe shock and vibration applications. Crystal easily inserted and removed. Printed circuit mounting with beryllium copper crystal holding clip.

Augat No.	Contact Material	Net Each, Lots of			
		1-99	100-499	500-999	1000-4999
8000-DG1	Beryllium Copper	$1.46	$1.40	$1.29	$1.20
8000-DG3	Phosphor Bronze	1.23	1.18	1.08	.98

LED NUMERIC DISPLAY SOCKETS

Precision matched contacts for ultra reliability. Printed circuit or chassis mounting. Single units standard with multi-patterns available. Printed circuit, Wire Wrap* or solder pocket terminals Come in 8, 14, and 16 contacts with .300" between rows (.600" for 8 contacts). Gold plated contacts and tin plated sleeves standard. Gold plated sleeves available on request. Thermoplastic polyester insulators. Two piece contact assembly (inner contact and outer sleeve). **Overall Size:** 8 pins, .750" x .400" x .135"; 14 pins, .750" x .450" x .135"; 16 pins, .850" x .450" x .135". Dimensions without terminals. **Terminals:** PC, .020" dia. x .110" h. min.; W/W, .025" sq. x .500" h. *Reg. Gardner-Denver TM.

Augat No.	Contacts	Description	Net Each, Lots of			
			1-99	100-499	500-999	1000-4999
508-AG8D	8	Right angle mtg., P.C.	$1.38	$1.22	$1.08	$0.91
508-AG4A	8	Horizontal mtg., S.P.	.89	.77	.70	.59
508-AG4F	8	Horizontal mtg., W.W.	.82	.71	.65	.54
514-AG7D	14	Right angle mtg., P.C.	1.90	1.67	1.48	1.25
516-AG7D	16	Right angle mtg., P.C.	2.18	1.93	1.71	1.43

TO-3 POWER TRANSISTOR SOCKETS

Phenolic or diallyl phthalate sockets for transistors with TO-3 case. Integral mounting saddle and threaded extrusions for maximum torque. Integral solder lug(s). Contacts accept .040" dia. leads.

Augat No.	Insulation	Contact Plating	No. of Solder Lugs	Net Each, Lots of			
				1-99	100-499	500-999	1000-4999
8080-1G1	Phen.	Tin	2	$0.53	$0.46	$0.41	$0.34
8080-1G2	Dial	Silver	2	.55	.49	.47	.43
8080-1G3	Phen.	Tin	1	.53	.46	.41	.34
8080-1G4	Dial.	Silver	1	.55	.49	.47	.43
8080-1G7	Phen.	Gold	2	.56	.49	.44	.36

AUGAT Plugs and Sockets

DUAL INLINE IC SOCKETS

For testing and packaging of 14-, 16-, 24-, 36 and 40-pin integrated circuits. Accept packages with round or flat leads, 300-mil (500-mil for Series 324 type AG1; 600-mil for Series 324 type AG2 and Series 336 and 40 spacing between rows and 100-mil spacing between leads. Series 314 and 316 types AG1 and AG3 are standard profile types; Series 314 and 316 types AG5 and AG6 are low-profile types. Contoured entry holes guide IC leads into socket; suffix **R** indicates inner guide rails. Body is molded diallyl phthalate except (‡) polyester; contacts are gold over nickel plate except (§) tin plate. Series 314 and 316 are sold in multiples of 5 only.

14-Pin Types

Augat No.	Terminals	Max. Width	Net Each, Lots of 1-99	100-499	500-999	1000-4999
314-AG5A-R	Solder	.800″	$0.90	$0.80	$0.71	$0.60
314-AG5D-R	PC	.800″	.88	.79	.70	.59
314-AG5A-2R	Solder	.800″	.53	.46	.41	.35
314-AG5D-2R	PC	.800″	.49	.44	.39	.33
314-AG5A-3R	Solder	.800″	.75	.67	.61	.50
314-AG5D-3R	PC	.800″	.74	.65	.58	.49
314-AG6A-R	Solder*	1.15″	1.05	.92	.83	.69
314-AG6A-2R	Solder*	1.15″	.66	.59	.53	.43
314-AG6A-3R	Solder*	1.15″	.89	.80	.71	.59
16-Pin Types						
316-AG5A-R	Solder	.900″	$1.14	$1.01	$0.89	$0.76
316-AG5D-R	PC	.900″	1.14	1.01	.89	.76
316-AG5A-2R	Solder	.900″	.63	.56	.49	.40
316-AG5D-2R	PC	.900″	.60	.51	.45	.38
316-AG5A-3R	Solder	.900″	.86	.76	.68	.57
316-AG5D-3R	PC	.900″	.85	.75	.67	.56
316-AG6A-R	Solder*	1.25″	1.29	1.14	1.01	.85
316-AG6D-R	PC*	1.25″	1.29	1.14	1.01	.85
316-AG6A-2R	Solder*	1.25″	.78	.67	.59	.48
316-AG6D-2R	PC*	1.25″	.74	.64	.57	.46
316-AG6A-3R	Solder	1.25″	1.01	.88	.80	.66
316-AG6D-3R	PC	1.25″	1.01	.88	.80	.66
24-Pin Types						
324-AG1A	Solder Pocket	1.300″	$2.93	$2.57	$2.32	$1.92
324-AG2A		1.250″	2.33	2.06	1.82	1.51
324-AG1D	PC	1.300″	2.93	2.57	2.32	1.92
324-AG2D	PC	1.250″	2.33	2.06	1.82	1.51
324-AG1F	Wire-Wrap#	1.300″	4.01	3.53	3.08	2.58
324-AG2F		1.250″	3.02	2.67	2.33	1.96
36-Pin Types						
336-AG2A	Solder Pocket	1.897″	$2.80	$2.47	$2.18	$1.83
336-AG2D		1.897″	2.80	2.47	2.18	1.83
336-AG2F	Wire-Wrap	1.897″	3.84	3.38	2.97	2.48
40-Pin Types						
340-AG5A	Solder Pocket	2.00″	$2.64	$2.32	$2.10	$1.74
340-AG5D	PC	2.00″	2.64	2.32	2.10	1.74
340-AG5F	Wire-Wrap	2.00″	4.31	3.80	3.33	2.79

*With mounting saddle: .900″ centers, 14-pin types; 1.00″ centers 16-pin. #Reg. Gardner-Denver Co. TM.

LEAD SOCKET CARRIERS

Aluminum carrier provides patterns of lead sockets for easy group insertion into board. Eliminates time consuming assembly of individual lead sockets. Carrier is disposable after wave soldering. Contacts are two piece—four-leaf machined closed-entry contact and machined outer sleeve.

Augat No.	Contacts No.	Contacts Spacing	Plating	Net Each, Lots of 1-99	100-499	500-999	1000-4999
706-AG1D	0	.3″ x .1″	Gold	$0.41	$0.36	$0.32	$0.28
706-AG2D	0	.3″ x .1″	Tin	.36	.32	.29	.25
708-AG1D	8	.3″ x .1″	Gold	.51	.44	.40	.34
708-AG2D	8	.3″ x .1″	Tin	.44	.39	.35	.30
714-AG1D	14	.3″ x .1″	Gold	.80	.71	.63	.54
714-AG2D	14	.3″ x .1″	Tin	.71	.62	.56	.47
716-AG1D	16	.3″ x .1″	Gold	.91	.79	.71	.61
716-AG2D	16	.3″ x .1″	Tin	.79	.69	.62	.53
718-AG1D	18	.3″ x .1″	Gold	1.02	.90	.80	.68
718-AG2D	18	.3″ x .1″	Tin	.89	.78	.70	.60
722-AG1D	22	.4″ x .1″	Gold	1.26	1.09	.98	.83
722-AG2D	22	.4″ x .1″	Tin	1.09	.95	.85	.73
724-AG3D	24	.6″ x .1″	Gold	1.35	1.18	1.06	.91
724-AG4D	24	.6″ x .1″	Tin	1.17	1.02	.92	.78
728-AG3D	28	.6″ x .1″	Gold	1.59	1.38	1.24	1.06
728-AG4D	28	.6″ x .1″	Tin	1.37	1.19	1.07	.92
732-AG3D	32	.6″ x .1″	Gold	1.79	1.58	1.40	1.20
732-AG4D	32	.6″ x .1″	Tin	1.54	1.36	1.22	1.04
736-AG3D	36	.6″ x .1″	Gold	2.01	1.76	1.58	1.35
736-AG4D	36	.6″ x .1″	Tin	1.73	1.51	1.35	1.15
740-AG3D	40	.6″ x .1″	Gold	2.22	1.95	1.74	1.48
740-AG4D	40	.6″ x .1″	Tin	1.93	1.69	1.50	1.29

PACKAGING SOCKETS FOR TO-5 IC's

Teflon*-insulated sockets for use with TO-5 type integrated circuits. Closed-entry contacts are beryllium copper, gold over nickel-plated. Chamfered lead holes for easy insertion. All push-fit mount in .366″–.369″ dia. hole. Terminal sleeves, gold over nickel-plated brass.

*Reg. DuPont trademark.

Augat No.	No. Contacts	Type Terminals	Pin Circle Dia.	Net Each, Lots of 1-99	100-499	500-999	1000-4999
8058-1G19	8	Solder	.200″	$1.71	$1.51	$1.34	$1.09
8058-1G22	10	Solder	.230″	2.13	1.87	1.67	1.36
8058-1G28	12	Solder	.280″	2.49	2.17	1.97	1.59
8058-1G31	10	PC	.230″	2.12	1.86	1.66	1.35
8058-1G32	8	PC	.200″	1.71	1.51	1.39	1.16
8058-1G37	8	Turret	.200″	1.71	1.51	1.34	1.09
8058-1G38	10	Turret	.230″	2.12	1.86	1.66	1.35
8058-1G41	12	Turret	.280″	2.49	2.17	1.96	1.59
8058-1G42	6	PC	.200″	1.30	1.13	1.03	.83
8058-1G43	6	Solder	.200″	1.33	1.18	1.05	.85
8058-1G44	6	Turret	.200″	1.33	1.18	1.05	.85
8058-1G45	8	PC	.230″	1.65	1.45	1.30	1.07
8058-1G46	8	Solder	.230″	1.71	1.51	1.34	1.09
8058-1G47	8	Turret	.230″	1.71	1.51	1.34	1.09
8058-1G48	6	PC	.200″	1.33	1.18	1.05	.85
8058-1G49	8	PC	.200″	1.77	1.51	1.34	1.09
8058-1G50	8	PC	.230″	1.71	1.51	1.34	1.09
8058-1G51	12	PC	.280″	2.49	2.17	1.97	1.59
8058-1G55	12	PC	.250″	2.66	2.33	2.08	1.68
8058-1G91	10	PC	.230″	2.11	1.85	1.66	1.34
8058-24G1	10	PC	.230″	2.14	1.88	1.66	1.37
8058-39G3	8	PC	.200″	1.75	1.53	1.37	1.12
8058-39G4	8	PC	.230″	1.75	1.53	1.37	1.12

ADAPTER PLUGS

Used for interposing discrete components and for modular construction with PC boards and substrates. Terminals are on same dimension as IC pattern. Base is glass-filled nylon; pins are phosphor bronze, gold over nickel plated. Contact pins available in three styles: round, solder pocket and slotted (standard). Terminal pins are .190″ long x .016″ sq.

Augat No.	No. Contacts	Pin Spacing Inches	Net Each, Lots of 1-99	100-499	500-999	1000-4999
614-CG1	14	.300 x .100	$1.45	$1.27	$1.14	$0.94
614-CG3	14	.600 x .100	1.60	1.41	1.27	1.06
614-DG5	14	.300 x .100	.52	.47	.42	.35
616-CG1	16	.300 x .100	1.62	1.44	1.28	1.06
616-CG3	16	.600 x .100	1.78	1.56	1.39	1.14
616-DG5	16	.300 x .100	.54	.47	.42	.36
624-CG1	24	.600 x .100	2.51	2.20	1.98	1.62
628-CG2	28	.600 x .100	2.83	2.50	2.25	1.84
636-CG1	36	.600 x .100	3.52	3.10	2.79	2.31
640-CG1	40	.600 x .100	4.01	3.43	3.09	2.62

26-PIN PLUG AND HEADER ASSEMBLY

Self-stripping "U" contact connection on round multiconductor cable. Plug (Augat No. 4P26-1) is glass-filled nylon with phosphor bronze, gold over nickel plated contacts. Cable (Augat No. 14010-2P8) comes in 100-ft. rolls; 28-gauge stranded 26-conductor copper wire with P.V.C. insulation. Header assembly (Augat No. 5P26-1) is glass filled nylon with phosphor bronze, gold over nickel plated terminals. Size: plug, .245″ w. x 1.500″ d. x .490″ h.; header assembly, .240″ w. x 1.900″ d. x .125″ h. Mounting centers, 1.600″.

Augat No.	No. Contacts	Wire Type	Lgth. In.	Ends	Net Each, Lots of 1-99	100-499	500-999	1000-4999
4P26-1	26	Plug Only	......	.....	$3.04	$2.66	$2.37	$2.03
4P26-1R12-1	26	Flat	12	1	5.60	4.90	4.30	3.74
4P26-1R12-2	26	Flat	12	2	10.68	9.53	8.20	7.14
4P26-1R24-1	26	Flat	24	1	6.06	5.41	4.65	4.05
4P26-1R24-2	26	Flat	24	2	11.15	9.95	8.84	7.45
4P26-1R36-1	26	Flat	36	1	6.63	5.81	5.15	4.36
4P26-1R36-2	26	Flat	36	2	11.60	10.35	9.18	7.75
6P8-1T12-1	8	Sep.	12	1	2.31	2.03	1.82	1.49
6P26-1T12-1	26	Sep.	12	1	7.13	6.26	5.60	4.61

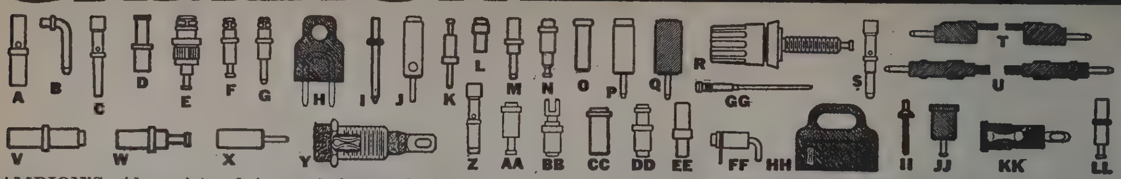
HIGH DENSITY PLUG ASSEMBLIES

Low profile 28-pin single and double ended plug and cable assemblies. Designed for use with Series 8136 High Density Packaging Panels or can be used separately for bulkhead mounting. **Plug:** Thermoplastic polyester. **Pins:** Phosphor bronze, gold over nickel plated. **Size:** .805″ w. x .410″ h. x .495″ d. **Color Code:** Write for detailed color code wiring diagram. Plugs mate with Series 528 Sockets.

Augat No.	Description	Net Each, Lots of 1-99	100-499	500-999	1000-4999
9P28-2S12-1	12″ assy. single	$10.60	$ 9.27	$ 8.28	$ 7.09
9P28-2S12-2	12″ assy. double	18.03	15.77	14.08	12.05
9P28-2S24-1	24″ assy. single	11.74	10.28	9.18	7.85
9P28-2S24-2	24″ assy. double	19.18	16.79	15.10	12.83
9P28-2S36-1	36″ assy. single	12.87	11.26	10.06	8.61
9P28-2S36-2	36″ assy. double	20.33	17.79	15.89	13.60
9P28-2G1	Base with pins	2.66	2.32	2.08	1.77
8136-742P1	Hood	.578	.525	.462	.409

CAMBRIDGE THERMIONIC CORPORATION
CAMBION®

MINIATURE PLUG AND JACK CONNECTORS



CAMBION'S wide variety of sizes and shapes of miniature plugs and jacks makes possible tight, space-saving connections; offers reliable "pluggability" for individual components or assemblies and provides unique PC board design possibilities with patching to or from boards. Positive grip, with low contact resistance after many repeated insertions and extractions. Insulated or noninsulated types—units for swaging, dip-soldering, press mount or threaded stud mounting. **To Order:** Use Cambion Type No. (1521); add Dash No. from "Recommended Board Thickness" column to indicate board thickness or patch cord length, as the case may be. Final suffix shown indicates finish; **03**, Gold; **04**, Electro-Tin; **05**, Electro-solder; **08**, Bright Alloy plating.

Cambion Type Number	Fig.	Pin Dia.	Description	Recommended Board Thickness per Dash Number					Net Each, Lots of		
				1/32	1/16	3/32	1/8	3/16	10-99	100-499	500-999*
450-0016-01-03-00	A	.062	Jack for patch cord use; MS-3190 crimp barrel, size 16						$ 0.67	$ 0.52	$ 0.48
460-1521-01/03-03-00	B	.040	Pin-plug	–1	–2	–3	....	....	142.60♦	133.60‡	116.70ɪ
465-1781-01-03-00	C	.061	Taper pin	....	....	....	....	....	156.40♦	146.20‡	128.00ɪ
465-2186-01/06-04-00	D	.061	Taper pin	–1	–2	–3	–4	–5•	97.40♦	91.10‡	79.70ɪ
450-2265-01/04-03-00	E	.080	Jack-term.	....	–1	–2	–3	–4	.71	.55	.50
450-2378-01/05-03-00	F	.045	Jack-term.	–1	–2	–3	–4	–5	.71	.55	.50
450-2378-01/05-08-00	F	.045	Jack	–1	–2	–3	–4	–5	.49	.38	.35
450-2650-01/05-03-00	G	.045	Plug-jack	–1	–2	–3	–4	–5	.83	.64	.59
461-2871-01-03-†	H	.040	Shorting plug; pins on .200″ centers						.32	.25	.23
461-2871-02-03-†	H	.040	Shorting plug; pins on .250″ centers						.32	.25	.23
460-2970-01/03-03-00	I	.040	Pin	–1	–2	–3	....	....	76.40♦	71.40‡	62.50ɪ
460-2971-01/03-03-00	I	.040	Pin	–1	–2	–3	....	....	64.40♦	60.30‡	52.70ɪ
450-3078-01-03-00	J	.025	Plug-jack	–1	–2	–3	–4	....	.49	.38	.35
460-3202-01/03-03-00	K	.025	Pin	–1	–2	–3	....	....	63.40♦	59.30‡	51.80ɪ
460-3220-01/04-05-00	I	.045	Pin	–1	–2	–3	–4	....	38.70♦	36.20‡	31.70ɪ
450-3230-01-03-00	L	.025	Jack for .031″ to .062″ boards						.24	.18	.17
460-3231-01/03-03-00	I	.025	Pin	–1	–2	–3	....	....	92.40♦	86.40‡	75.60ɪ
460-3232-01/03-03-00	I	.040	Pin	–1	–2	–3	....	....	88.60♦	82.80‡	72.50ɪ
460-3233-01/03-03-00	I	.040	Pin	–1	–2	–3	....	....	74.50♦	69.70‡	61.00ɪ
450-3263-01/04-03-00	M	.025	Plug-jack	–1	–2	–3	–4	....	.69	.53	.49
450-3266-01/04-03-00	N	.016/.020	Jack-term.	–1	–2	–3	–4	....	.69	.53	.49
450-3268-01-03-00	O	.016/.020	Jack for .031″ to .156″ boards						.24	.18	.17
450-3278-01-03-00	P	.040/.080	Plug-jack adapter						.39	.30	.28
450-3279-01-03-00	Q	.040/.080	Insulated 3278						.67	.52	.48
450-3284-01-03-*	R	.040	Insulated binding post with insulated jack						.85	.65	.60
450-3285-01-03-*	R	.080	Insulated binding post with insulated jack						1.03	.79	.73
450-3286-01-03-00	CC	.040	Jack same as 3388, but with thru-hole						.24	.18	.17
450-3293-01-03-00	L	.025	Jack same as 3230, but with thru-hole						.24	.18	.17
460-3299-01/03-03-00	S	.080	Crimp-barrel plug; pin lgth.: –1 (.200″) –2 (3/8″) –3 (1/2″)						186.60♦	174.50‡	152.60ɪ
445-3300-01/03-03-†	T	.040	Patch cord	–1 (2″)	–2 (4″)	–3 (6″)	....	....	1.64	1.40	1.23
445-3300-04/05-03-†	T	.040	Patch cord	....	....	....	–4 (8″)	–5 (12″)	1.74	1.49	1.30
450-3301-01-03-00	T	.040	Patch cord—"Piggy-back assembly"						.67	.52	.48
445-3306-02/03-03-†	U	.040	Patch cord	....	–2 (4″)	–3 (6″)	....	....	1.03	.89	.77
445-3306-04/05-03-†	U	.040	Patch cord	....	....	....	–4 (8″)	–5 (12″)	1.18	1.01	.88
460-3308-01-03-00	O	.040	Pin—I. D. for wire						160.80♦	150.30‡	131.50ɪ
450-3309-01/04-03-00	V	.025/.040	Jack-jack	....	–1	–2	–3	–4	.71	.55	.50
450-3310-01/05-03-00	M	.040	Plug-jack	–1	–2	–3	–4	–5	.69	.53	.49
450-3320-01/05-03-00	W	.040	Jack-term.	–1	–2	–3	–4	–5	.69	.53	.49
450-3324-01/05-03-00	W	.062	Jack-term.	–1	–2	–3	–4	–5	.69	.53	.49
450-3327-01-03-00	X	.025	Plug-jack adapter—.025 pin/.040 jack dia.						.39	.30	.28
450-3358-01-03-*	Y	.080	Nylon-insulated jack (MS16108-1C thru -11C)						.82	.63	.58
450-3359-01-03-19	Y	.080	Teflon♯-insulated jack (MS16108-12C)						.62	.48	.44
450-3367-01-03-00	Z	.040	Jack for patch cord usage						.59	.45	.42
460-3368-01-03-00	S	.062	Pin-crimp barrel plug for patch cord use						173.90♦	162.60‡	142.30ɪ
450-3375-02/05-03-00	AA	.025	Rivet-typejack-ter	....	....	–2	–3	■	.69	.53	.49
450-3378-01-03-00	Z	.040	Jack for patch cord usage with 3367 jack						.69	.53	.49
450-3379-02/05-03-00	BB	.040	Jack-term.	....	–2	–3	–4	–5	.75	.58	.53
450-3381-01-03-*	Y	.080	Nylon-insulated jack (MS16108-1A thru 11A)						.82	.63	.58
450-3382-01-03-19	Y	.080	Teflon-insulated jack (MS16108-12A)						.67	.52	.48
450-3388-01-03-00	CC	.040	Jack for .031″ to .156″ boards						.24	.18	.17
445-3389-02/03-03-†	T	.025	Patch cord	....	–2 (4″)	–3 (6″)	....	....	1.64	1.40	1.23
445-3389-04-03-†	T	.025	Patch cord	....	....	....	–4 (8″)	....	1.74	1.49	1.30
450-3390-01-03-00	S	.025	Plug-jack patch cord assembly with 3078 plug-jack						.56	.43	.40
445-3391-02/03-03-†	T	.080	Patch cord	....	–2 (4″)	–3 (6″)	....	....	3.30	2.84	2.49
445-3391-04/05-03-†	T	.080	Patch cord	....	....	....	–4 (8″)	–5 (12″)	3.30	2.84	2.49
450-3392-01/04-03-00	DD	.040	Jack-jack	....	–1	–2	–3	–4	.75	.58	.53
460-3393-01/04-03-00	I	.025	Pin	–1	–2	–3	–4	....	56.50♦	52.80‡	46.20ɪ
450-3394-01/04-03-00	EE	.025	Jack	–1	–2	–3	–4	....	.59	.45	.42
450-3398-01-03-00	CC	.080	Jack for .031″ to .250″ boards						.39	.30	.28
450-3422-01-03-00	FF	.040	Side mount jack for boards to .078″ max.						.71	.55	.50
450-3703-01-03-00	CC	.025	Jack for .031″ to .094″ boards						.29	.22	.21
450-3704-01-03-00	CC	.040	Jack for .031″ to .156″ boards						.29	.22	.21
445-3705-01/03-03-††	T	.040	Molded patch cord	–1 (2″)	–2 (4″)	–3 (6″)	....	....	1.81	1.56	1.36
445-3705-04/05-03-††	T	.040	Molded patch cord	....	....	....	–4 (8″)	–5 (12″)	1.95	1.67	1.46
450-3745-01-03-00	GG	.022 rd.	Jack/Wire Wrap▲ term. for .062″ to .188″ boards						.54	.42	.38
450-3750-01-03-00	O	.022 flat	Jack for .031″ to .188″ boards						.29	.22	.21
461-3771-01-03-†	H	.040	Shorting plug; pins on .400″ centers						.39	.30	.28
461-3771-02-03-†	H	.040	Shorting plug; pins on .500″ centers						.39	.30	.28
450-3772-01/02-03-00	O	.016/.020	Jack for .031″ to .188″ boards; –2 has thru-hole						.29	.22	.21
450-3844-01-03-00	GG	.018 flat	Jack/Wire Wrap term. for .062″ to .188″ boards						.54	.42	.38
450-3888-01-03-00	FF	.080	Side mount jack for .125″ max. board thickness						1.26	.97	.89
460-3889-01-03-00	II	.025	Pin for 1/32″ board thickness						71.70♦	67.00‡	58.70ɪ
450-4351-01-03-§	JJ	.045	Teflon-insulated jack for .031″ to .094″ boards						1.07	.82	.76
450-4352-01-03-§	JJ	.040	Teflon-insulated jack for .031″ to .094″ boards						.59	.45	.42
450-4353-01-03-§	JJ	.040	Teflon-insulated jack for .031″ to .094″ boards						.59	.45	.42
450-4354-01-03-§	KK	.080	Teflon-insulated jack for .031″ to .125″ boards						.75	.58	.53
450-4355-01-03-§	KK	.080	Teflon insulated jack for .031″ to .125″ boards						.42	.32	.30
450-7004-01-03-00	O	.030	Jack for .031″ to .188″ boards						.24	.18	.17
450-7005-01/05-03-00	LL	.030	Jack	–1	–2	–3	–4	–5	.69	.53	.49

*Available with black (suffix **10**) or red (suffix **12**) insulation. †Available with black (suffix **10**), red (suffix **12**) or blue (suffix **16**) wire insulation. §Available with black (suffix **10**), red (suffix **12**) or white (suffix **19**) insulation. ♯Reg. DuPont TM. •Use **-6** for 1/4″ bd. thickness. ■Order **-4** for 5/32″ bd. thickness, **-5** for 7/32″ bd. thickness. ▲Reg. Gardner-Denver TM. ♦Per 1000, lots of 1000-4999. ‡Per 1000, lots of 5000-9999. ɪPer 1000, lots of 10,000-24,999. ††Available in all colors, suffix 10 through 19.

***Larger Quantity Prices on Request. SEND FOR CAMBION CATALOG FOR DATA ON ALL PRODUCTS.**

CAMBRIDGE THERMIONIC CORPORATION

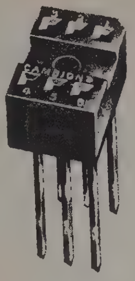
CAMBION®

Integrated Circuit Accessories
Sockets, Holders, Boards

DUAL IN-LINE IC SOCKETS

For 6, 8, 14, 16, 18, 22, 24, 36 and 40 pin dual in-line integrated circuits with either Wire-Wrap* or solder-tab terminations. One-piece molded diallyl insulators withstand high temperatures and provide excellent mechanical stability (Nos. -3777 and -3778 are one-piece molded glass-filled nylon with anti-moisture bosses). Phosphor bronze contacts accept flat or round pins up to .024″ dia. Standard terminal plating is **-03** gold for all Wire-Wrap; **-04** electrotin for all solder tab sockets. Sockets can be supplied with electrotin plating or Wire-Wrap pins or with gold plating on solder tab pins; prices on request. May be permanently mounted individually (rivet or screw) or press-mounted in PC boards or panels for production of breadboarding. Metric dimensional sockets for standard 14 and 16 pin DIPs are also available.

*Reg. Gardner-Denver Co. TM.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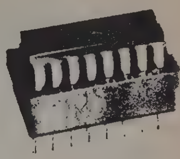
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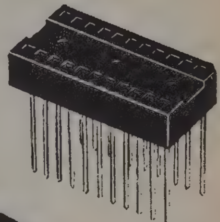
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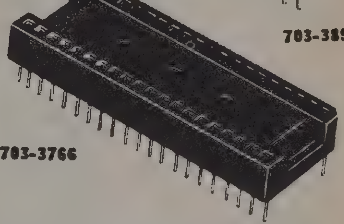
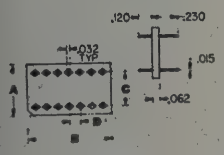

703-3766

Cambion Part No.	No. Contacts	Terminals	Inches		Net Each, Lots of			
			Overall Length	Term. Grid	10-99	100-499	500-999	1000-2499
703-3771-01-04-16	6	Solder tab	.334	.100 x	$0.94	$0.66	$0.60	$0.55
703-3881-01-03-16	6	Wire-Wrap	.334	.300	1.30	.90	.82	.76
703-3772-01-04-16	8	Solder tab	.434		.99	.69	.63	.58
703-3882-01-03-16	8	Wire-Wrap	.434		1.36	.95	.87	.80
703-3777-01-04-12	14	Solder tab	.780		.90	.63	.57	.53
703-3788-01-04-16	14	Solder tab	.784		1.11	.78	.71	.65
703-3897-01-03-16	14	Wire-Wrap	.784		1.53	1.07	.97	.89
703-3778-01-04-12	16	Solder tab	.834		.98	.68	.62	.57
703-3789-01-04-16	16	Solder tab	.884		1.20	.84	.76	.70
703-3898-01-03-16	16	Wire-Wrap	.884		1.68	1.17	1.07	.98
703-3787-01-04-16	18	Solder tab	.934		1.37	.96	.87	.80
703-3895-01-03-16	18	Wire-Wrap	.934		2.02	1.41	1.28	1.18
703-3785-01-04-16	22	Solder tab	1.180	.100 x	1.93	1.35	1.23	1.13
703-3892-01-03-16	22	Wire-Wrap	1.180	.400	2.39	1.67	1.52	1.39
703-3790-01-04-16	24	Solder tab	1.280	.100 x	2.24	1.56	1.42	1.30
703-3896-01-03-16	24	Wire-Wrap	1.280	.600	2.61	1.82	1.66	1.52
703-3783-01-04-16	28	Solder tab	1.480		2.50	1.74	1.59	1.46
703-3890-01-03-16	28	Wire-Wrap	1.480		3.05	2.14	1.95	1.79
703-3791-01-04-16	36	Solder tab	1.880		2.93	2.04	1.86	1.71
703-3893-01-03-16	36	Wire-Wrap	1.880		3.80	2.65	2.41	2.21
703-3766-01-04-16	40	Solder tab	2.080		3.15	2.21	2.01	1.85
703-3885-01-03-16	40	Wire-Wrap	2.080		4.10	2.85	2.59	2.38

COMPONENT SOCKET ADAPTERS

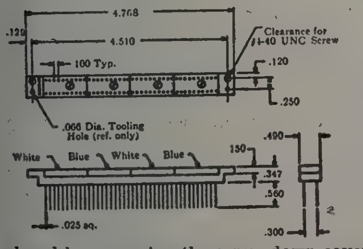


Component adapters plug into standard 14, 16, 24 or 36 pin dual in-line sockets as well as CAMBION's Integrated Socket strip. Larger width sizes for wider components straddle two sockets or socket strips. Terminal pairs are on .100″ or .200″ grid centers for varying component sizes; slotted for ease of parts mounting. Terminal is phosphor bronze, spring tempered per QQ-B-750 Comp. A. Finish is hard gold plate. Board material, .062″ type GEE glass epoxy per MIL-P-18177.

Cambion Part Number 702-	Dimensions, Inches				*	Net Each, Lots of		
	Board		Terminal Centers					
	A	B	C	D		10-49	50-99	100-249
3723-01-03-00	.450	.750	.300	.200	8	$0.90	$0.80	$0.70
3724-01-03-00	.950	.750	.800	.200	8	.90	.80	.70
3725-01-03-00	.450	.750	.300	.100	14	1.35	1.20	1.05
3726-01-03-00	.950	.750	.800	.100	14	1.35	1.20	1.05
3728-01-03-00	.450	.850	.300	.100	16	1.62	1.44	1.26
3730-01-03-00	.950	.850	.800	.100	16	1.62	1.44	1.26
3732-01-03-00	.750	1.235	.600	.200	12	1.19	1.06	.92
3734-01-03-00	.750	1.835	.600	.200	18	1.90	1.69	1.48

*No. of terminals.

80 PIN DUAL IN-LINE SOCKET STRIP



Molded diallyl body .025″ sq., Wire-Wrap posts and spring contacts, electro-tin plated. Mounts all dual in-line devices without a PC board. Flanges at the ends provide for independent mounting or into CAMBION mounting frame or relay rack drawers. Pins are replaced by removing the screw down covers. Socket strips accept five 14 pin DIPs, four or five 16 pin DIPs. Wider MSI or LSI DIPs can be mounted by bridging between two properly spaced strips.

Cambion Part No. 703-1000-01-04-00—
Net Each, 1–9.............**$4.95**; 10–99............**$4.75**
Net Each, 100–499.........**3.30**; 500–999.........**3.00**
Cambion Part No. 706-6050-01-00-00 Mounting Frame—Holds 21 socket strips (approx. 100 ICs). Size, 5″ x 11″ approximate. Net Each, 1–4............**$23.30**; 5–9............**$21.00**
Cambion Part No. 706-6051-01-00-00 Double Mounting Frame—Holds 2 rows of 21 socket strip each (approx. 200 IC total). Size, 10″ x 11″ approx. Net Each, 1–4........................**$34.30**
Net Each, 5–9.......................................**30.90**
Cambion Part No. 706-6054-01-00-00 Mini Mounting Frame—Holds 6 socket strips (approx. 28 IC's). Size, 4″ x 5″ approx. Net Each, 1–4..............**$14.10**; 5–9............**$12.70**

CAMBION drawer for 19″ relay rack 1¾″ h. or 3½″ h.; holds approx. 600 ICs. Information on request: 706-6000 Series.

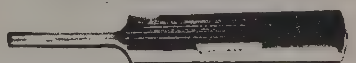
PRECUT AND STRIPPED WIRE KIT

For wire-wrapping. Solid copper 30 AWG white insulated Kynar* wire, silver plated, ends stripped to tolerance. Kit contains 13 pkgs. of varied lengths from 1″ thru 9″. Per pkg.: 1″ thru 4.5″, 100 pcs.; 5″ thru 9″, 50 pcs. Also available 1.0″ thru 25.0″ lengths in black, red and white insulation on request.

*Reg. Pennsalt Chemicals Corp. TM.

Cambion Part No. 718-1010-01-01-19—Net per Kit....**$56.60**

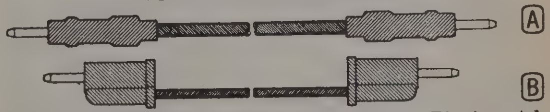
HAND WIRE WRAP TOOL



For wrapping solid copper 30 AWG wire. Low cost alternative to power equipment suitable for use in field repairs and by hobbyists and experimenters. Molded glass filled nylon. Size, 3.225″ x .480″ dia.

Cambion Part No. 435-1816-01-00-16—Net Each.......**$2.71**

IC PATCH CORD KIT



Contains 100 pieces (48 pcs., Fig. A; 52 pcs., Fig. B) pin patch cords .040″ dia. Red, blue and black in 2″, 4″, 6″ and 8″ lgths. Ideal for breadboarding requirements.

Cambion Part No. 446-3892-01-00-00—Net per Kit..**$107.40**
Cambion Part No. 446-3990-01-00-00—Contains 55 pieces stackable patch cords (Fig. B). Red, black and blue in 2″, 4″, 6″ and 8″ lengths. Net per Kit.................................**$64.00**
Cambion Part No. 446-3991-01-00-00—Contains 73 pieces stackable patch cords (Fig. B). Red, black and blue in 2″, 4″, 6″ and 8″ lengths. Net per Kit.................................**$85.50**

SOCKET TYPE HIGH DENSITY BREADBOARDS

16 pin dual-in-line sockets. Socket terminals connected via printed wiring to .040″ cage jacks. Use with Cambion IC patch boards. Power and ground planes included.

Cambion Part No. 705-1024-01-00-00—16 sockets. Board size, 6.5″ x 6.5″. Net Each, 1–4.......**$72.50**; 5–9.......**$68.90**
Cambion Part No. 705-1022-01-00-00—32 sockets. Board size, 6.5″ x 11.5″. Net Each, 1–4.....**$127.80**; 5–9.....**$121.40**

EXPERIMENTAL BREADBOARDS

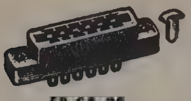
Socket type breadboards for small circuit building applications. Socket terminal connected via printed wiring to .040″ cage jacks. Use with Cambion IC patch cords. Binding posts for power supply connections included. Size, 4.5″ x 6.5″.

Cambion Part No.	Sockets	Pins/Socket	Accepts X-Pin DIPs	Net Ea., Lots	
				1-4	5-9
705-2105-02-00-00	4	18	6, 8, 14, 16, 18	$25.20	$23.90
705-2109-02-00-00	2†	22	22	25.00	23.80
705-2115-02-00-00	2	28	24, 28	23.70	22.50
705-2118-02-00-00	1*	40	24, 28, 36, 40	31.00	29.50

*Zero insertion force socket. †Includes decals for pin identification.

TRW® CINCH CONNECTORS
AN ELECTRONIC COMPONENTS DIVISION OF TRW INC.

PC EDGE CONNECTORS



50-6A-20
50-6A-20M

50-12A-30
50-12A-30M

Printed circuit connectors designed for minimum printed circuit card wear, low insertion force and positive contact with 1/16" printed circuit boards. All units utilize bifurcated contacts permitting two flexing surfaces instead of one for positive contact. Bifurcated contacts are especially recommended for added contact reliability where vibration or printed circuit board irregularities would otherwise cause trouble. Types meeting MIL spec MIL-C-21097 are also available as indicated. **Mounting:** Available with 0.128" dia. holes for standard mounting, molded-in bushings or floating bushings. **Insulator Material:** Green glass-filled diallyl phthalate type SDG-F per MIL-M-14. **Contacts:** Phosphor bronze with 30 micro-inches gold finish; beryllium copper with 50 micro-inches gold to meet MIL-C-21097 as specified. Contacts .156" on centers. **Polarizing Keys:** Ordered separately as follows: No. 50-PK-1 for in-contact polarization made of diallyl phthalate; No: 50-PK-2 for between-contact polarization made of glass epoxy. **Voltage Rating:** 830 VAC rms at sea level. **Current:** Rated 5.0 amps. **Contact Resistance:** 0.005 ohm at rated current. **Insulation Resistance:** 5,000 megohms. **Temperature Cycling:** 5 continuous cycles per Method 107B, Test Condition B. Beryllium copper, −65° C to +125° C; phosphor bronze, −65° C to −105° C. UL recognized.

COMMERCIAL TYPES

SINGLE READOUT WITH .128" MTG. HOLES

Solder eyelet termination.

Cinch Number	Contact Pos.	*Net Each, Lots of					
		1-24	25-49	50-99	100-249	250-499	500 Up
50-6A-20	6	$1.61	$1.29	$1.10	$0.87	$0.81	$0.77
50-10A-20	10	2.15	1.74	1.43	1.17	1.13	1.04
50-12A-20	12	2.44	2.04	1.62	1.30	1.23	1.18
50-15A-20	15	2.85	2.27	1.91	1.54	1.43	1.35
50-18A-20	18	3.25	2.60	2.16	1.74	1.66	1.58
50-22A-20	22	3.81	3.05	2.54	2.02	1.94	1.83
50-25A-20	25	4.55	3.63	3.03	2.43	2.31	2.16
5/32", DIP solder termination.							
50-6B-10	6	$1.61	$1.29	$1.12	$0.87	$0.81	$0.77
50-10B-10	10	2.15	1.74	1.43	1.17	1.13	1.04
50-15B-10	15	2.85	2.27	1.91	1.54	1.43	1.35
50-18B-10	18	3.25	2.60	2.16	1.74	1.66	1.58
50-22B-10	22	3.81	3.05	2.54	2.02	1.94	1.83
50-25B-10	25	4.55	3.63	3.03	2.43	2.31	2.16
15/64" DIP solder termination.							
50-6S-10	6	$1.61	$1.29	$1.12	$0.87	$0.81	$0.77
50-10S-10	10	2.15	1.74	1.43	1.17	1.13	1.04
50-12S-10	12	2.44	2.04	1.62	1.30	1.23	1.18
50-15S-10	15	2.85	2.27	1.91	1.54	1.43	1.35
50-18S-10	18	3.25	2.60	2.16	1.74	1.66	1.58
50-22S-10	22	3.81	3.05	2.54	2.02	1.94	1.83
50-25S-10	25	4.55	3.63	3.03	2.43	2.31	2.16

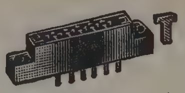
DOUBLE READOUT, .200" SPACING, .128" MTG. HOLES

Conventional solder eyelet termination.

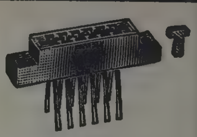
Cinch Number	Contact Pos.	*Net Each, Lots of					
		1-24	25-49	50-99	100-249	250-499	500 Up
50-12A-30	6	$1.61	$1.29	$1.10	$0.87	$0.81	$0.77
50-20A-30	10	2.15	1.74	1.43	1.17	1.13	1.04
50-24A-30	12	2.44	2.04	1.62	1.30	1.23	1.18
50-30A-30	15	2.85	2.27	1.91	1.54	1.43	1.35
50-36A-30	18	3.25	2.60	2.16	1.74	1.67	1.58
50-44A-30	22	3.81	3.05	2.54	2.02	1.94	1.83
50-50A-30	25	4.53	3.63	3.03	2.43	2.31	2.16
5/32" DIP solder termination.							
50-12B-10	6	$1.61	$1.29	$1.10	$0.87	$0.81	$0.77
50-20B-10	10	2.15	1.74	1.43	1.17	1.13	1.04
50-24B-10	12	2.44	2.04	1.62	1.30	1.23	1.18
50-30B-10	15	2.85	2.27	1.91	1.54	1.43	1.35
50-36B-10	18	3.25	2.60	2.16	1.74	1.67	1.58
50-44B-10	22	3.81	3.05	2.54	2.02	1.94	1.83
50-50B-10	25	4.53	3.63	3.03	2.43	2.31	2.16
15/64" DIP solder termination.							
50-12S-20	6	$1.61	$1.29	$1.10	$0.87	$0.81	$0.77
50-20S-20	10	2.15	1.74	1.43	1.17	1.13	1.04
50-24S-20	12	2.44	2.04	1.62	1.30	1.23	1.18
50-30S-20	15	2.85	2.27	1.91	1.54	1.43	1.35
50-36S-20	18	3.25	2.60	2.16	1.74	1.66	1.58
50-44S-20	22	3.81	3.05	2.54	2.02	1.94	1.83
50-50S-20	25	5.33	4.27	3.57	2.85	2.70	2.39

.030/.060" wire wrap termination.

Cinch Number	Contact Pos.	*Net Each, Lots of					
		1-24	25-49	50-99	100-249	250-499	500 Up
50-12B-20	6	$3.90	$3.14	$2.61	$2.08	$2.00	—
50-20B-20	10	4.89	3.91	3.26	2.61	2.49	—
50-24B-20	12	5.40	4.31	3.61	2.88	2.73	—
50-30B-20	15	6.13	4.89	4.09	3.26	3.12	—
50-36B-20	18	6.86	5.49	4.58	3.67	3.47	—
50-44B-20	22	7.83	6.26	5.23	4.18	3.97	—



50-12B-10
50-12B-10M



50-12B-20

DOUBLE READOUT, .140" SPACING, DIP SOLDER TERMINATION

.128" mounting holes.

Cinch No.	Contact Pos.	*Net Each, Lots of					
		1-24	25-49	50-99	100-249	250-499	500 Up
50-12S-30-2	6	$1.61	$1.29	$1.10	$0.87	$0.81	$0.77
50-20S-30-2	10	2.15	1.74	1.43	1.17	1.13	1.04
50-24S-30-2	12	2.44	2.04	1.62	1.30	1.23	1.18
50-30S-30-2	15	2.85	2.27	1.91	1.54	1.43	1.35
50-36S-30-2	18	3.25	2.60	2.16	1.74	1.67	1.58
50-44S-30-2	22	3.81	3.05	2.54	2.02	1.94	1.83
50-5QS-30-2	25	4.53	3.63	3.03	2.43	2.31	2.16
Without mounting ears.							
50-12S-30-1	6	$1.61	$1.29	$1.10	$0.87	$0.81	$0.77
50-20S-30-1	10	2.15	1.74	1.43	1.17	1.13	1.04
50-24S-30-1	12	2.44	2.04	1.62	1.30	1.23	1.18
50-30S-30-1	15	2.85	2.27	1.91	1.54	1.43	1.35
50-36S-30-1	18	3.25	2.60	2.16	1.74	1.67	1.58
50-44S-30-1	22	3.81	3.05	2.54	2.02	1.94	1.83
50-50S-30-1	25	4.53	3.63	3.03	2.43	2.31	2.16

MIL-C-21097 PC CONNECTORS

SINGLE READOUT

Solder eyelet termination, .128" mounting holes.

Cinch Number 50-	MIL No. M21097/	Contact Pos.	*Net Each, Lots of					
			1-24	25-49	50-99	100-249	250-499	500 Up
6A-20M	1-001	6	$2.06	$1.66	$1.36	$1.12	$1.07	$1.00
10A-20M	1-037	10	2.89	2.31	1.94	1.56	1.46	1.37
15A-20M	1-073	15	3.90	3.13	2.61	2.08	2.00	1.88
18A-20M	1-109	18	4.55	3.66	3.03	2.42	2.31	2.16
22A-20M	1-145	22	5.36	4.29	3.57	2.85	2.72	2.58
Solder eyelet termination, molded-in bushings.								
6A-20MB	1-004	6	$4.59	$3.67	$3.06	$2.45	$2.33	$2.02
10A-20MB	1-040	10	5.33	4.27	3.57	2.85	2.70	2.39
15A-20MB	1-076	15	6.27	4.37	4.20	3.38	3.19	2.84
18A-20MB	1-112	18	6.81	5.46	4.57	3.65	3.46	3.08
22A-20MB	1-148	22	7.55	6.04	5.04	4.04	3.83	3.46
Solder eyelet termination, floating bushings.								
6A-20MFB	1-007	6	$2.72	$2.19	$1.82	$1.44	$1.36	$1.13
10A-20MFB	1-043	10	3.53	2.84	2.37	1.88	1.80	1.71
15A-20MFB	1-079	15	4.57	3.66	3.05	2.44	2.33	2.21
18A-20MFB	1-115	18	5.19	4.16	3.46	2.78	2.62	2.49
22A-20MFB	1-151	22	5.99	4.80	4.01	3.21	3.06	2.89

DOUBLE READOUT

Solder eyelet termination, .128" mounting holes.

Cinch Number 50-	MIL No. M21097/	Contact Pos.	*Net Each, Lots of					
			1-24	25-49	50-99	100-249	250-499	500 Up
12A-30M	1-019	6	$2.06	$1.66	$1.36	$1.12	$1.07	$1.00
20A-30M	1-055	10	2.89	2.31	1.94	1.56	1.46	1.37
30A-30M	1-091	15	3.90	3.13	2.61	2.08	2.00	1.88
36A-30M	1-127	18	4.55	3.63	3.03	2.43	2.31	2.16
44A-30M	1-163	22	5.36	4.29	3.57	2.86	2.72	2.58
Solder eyelet termination, molded-in bushings.								
12A-30MB	1-022	6	$4.59	$3.67	$3.06	$2.45	$2.33	$2.02
20A-30MB	1-058	10	5.32	4.27	3.57	2.85	2.70	2.39
30A-30MB	1-094	15	6.27	5.03	4.20	3.38	3.19	2.84
36A-30MB	1-130	18	6.81	5.46	4.57	3.65	3.46	3.08
44A-30MB	1-166	22	7.55	6.04	5.04	4.04	3.83	3.46
Solder eyelet termination, floating bushings.								
12A-30MFB	1-025	6	$2.72	$2.19	$1.82	$1.44	$1.36	$1.31
20A-30MFB	1-061	10	3.53	2.84	2.37	1.88	1.80	1.71
30A-30MFB	1-097	15	4.57	3.66	3.05	2.44	2.33	2.21
36A-30MFB	1-133	18	5.19	4.16	3.46	2.78	2.62	2.49
44A-30MFB	1-169	22	5.99	4.80	4.01	3.21	3.06	2.89
Dip solder termination, .128" mounting holes.								
12B-10M	1-028	6	$2.06	$1.66	$1.36	$1.12	$1.07	$1.00
20B-10M	1-064	10	2.89	2.31	1.94	1.56	1.46	1.37
30B-10M	1-100	15	3.90	3.13	2.61	1.64	2.00	1.88
36B-10M	1-136	18	4.55	3.63	3.03	2.43	2.31	2.16
44B-10M	1-172	22	5.36	4.29	3.57	2.86	2.72	2.58

ACCESSORIES FOR EDGE CONNECTORS

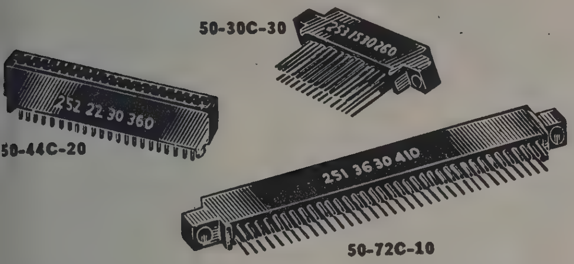
POLARIZING KEYS

Cinch No.	Polarization	Net Each, Lots of					
		1-24	25-49	50-99	100-249	250-499	500 Up
50-PK-1	In-contact	$0.100	$0.081	$0.069	$0.054	$0.052	$0.048
50-PK-2	Between contact	.084	.068	.068	.049	.045	.041
50-PK-2M	Between contact—MIL type	.084	.068	.068	.049	.045	.041

★DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR CONNECTORS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK US FOR THE LATEST QUOTATIONS.

PC BOARD EDGE CONNECTORS

PRECISION DOUBLE READ-OUT EDGE CONNECTORS WITH .100″ CONTACT CTRS., 1/16″ BOARDS



Unique bifurcated cantilever contact construction provides simple, dependable design capable of handling 1/16″ thick printed circuit boards. Contacts pre-loaded against an insulator stop to provide gap uniformity and assure rapid build-up of force to the PC board. Contacts are high-tensile brass alloy, plated with 30 micro-inches of gold over 50 micro-inches of nickel in contact area and 10 micro-inches minimum gold on remainder of contact. Insulation, glass-filled diallyl phthalate, Type SDG-F per MIL-M-14. **Polarizing Key: No. 50-PK-3**, ordered separately. **Card Guide: No. 50-GP-1**, must also be ordered separately.

WITH CONVENTIONAL CINCH CONTACT NUMBERING

Solder termination.

Cinch No.*	Contact Pos.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-30C-10	15	$4.07	$3.25	$2.72	$2.16	$2.05	$1.97
50-44C-10	22	4.80	3.83	3.20	2.56	2.42	2.31
50-72C-10	36	6.24	5.00	4.17	3.34	3.15	3.00
50-80C-10	40	6.60	5.28	4.39	3.50	3.32	3.17
50-86C-10	43	7.01	5.59	4.67	3.72	3.51	3.38
50-100C-10	50	7.70	6.15	5.11	4.10	3.89	3.68

*To order dip solder terminals, change suffix **−10** to **−20**; same prices apply.

.025″ sq. Wire Wrap termination.

50-30C-30	15	$4.13	$3.32	$2.79	$2.24	$2.12	$2.02
50-44C-30	22	4.86	3.89	3.25	2.62	2.48	2.37
50-72C-30	36	6.30	5.06	4.23	3.41	3.21	3.06
50-80C-30	40	6.65	5.34	4.45	3.59	3.40	3.22
50-86C-30	43	7.06	5.65	4.73	3.80	3.60	3.43
50-100C-30	50	7.83	6.25	5.23	4.18	3.95	3.75

WITH REVERSED CONTACT NUMBERING

Solder termination.

Cinch No.*	Contact Pos.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-30C-10-1	15	$4.07	$3.25	$2.72	$2.16	$2.05	$1.97
50-44C-10-1	22	4.80	3.83	3.20	2.56	2.42	2.31
50-72C-10-1	36	6.24	5.00	4.17	3.34	3.15	3.00
50-80C-10-1	40	6.60	5.28	4.39	3.50	3.32	3.17
50-86C-10-1	43	7.01	5.59	4.67	3.72	3.51	3.38
50-100C-10-1	50	7.70	6.15	5.11	4.10	3.89	3.68

*To order dip solder tails, change **−10** to **−20**; same prices apply.

.025″ sq. Wire Wrap termination.

50-30C-30-1	15	$4.13	$3.32	$2.79	$2.24	$2.12	$2.02
50-44C-30-1	22	4.86	3.89	3.25	2.62	2.48	2.37
50-72C-30-1	36	6.30	5.06	4.23	3.41	3.21	3.06
50-80C-30-1	40	6.65	5.34	4.45	3.59	3.40	3.22
50-86C-30-1	43	7.06	5.65	4.73	3.80	3.60	3.43
50-100C-30-1	50	7.83	6.25	5.23	4.18	3.95	3.75

CARD GUIDE FOR .100″ AND .156″ TYPES

Cinch Number	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-GP-1	$0.407	$0.328	$0.279	$0.227	$0.215	$0.206

POLARIZING KEY

50-PK-3	$0.100	$0.081	$0.069	$0.048	$0.046	$0.042

.156″ CONTACT CENTERS ECONO-LINE P.C. EDGE CONNECTORS FOR 1/16″ BOARDS

A lower-cost version of the standard commercial P.C. edge connector. The series 90 incorporates a newly developed high-tensile brass alloy in its bifurcated bellows contacts. The contact area is selectively plated with 20 microinches of gold over 30 micro-inches of nickel. A green, glass-filled thermoplastic polyester is used as the insulator. **Mounting:** 0.128″ hole for standard mounting. **Voltage Rating:** 830 VAC rms at sea level. **Current:** Rated 5.0 amps. **Contact Resistance:** 0.005 ohm at rated current. **Insulation Resistance:** 5000 megohms. **Operating Temperature Range:** −65° C to +125° C.

SINGLE READOUT

Dip solder termination.

Cinch No.*	Contact Pos.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-6EE-10	6	$1.21	$1.10	$0.99	$0.77	$0.72	$0.68
50-10EE-10	10	1.71	1.54	1.26	1.10	1.03	.96
50-12EE-10	12	1.98	1.71	1.45	1.23	1.18	1.07
50-15EE-10	15	2.19	2.06	1.81	1.49	1.34	1.22
50-18EE-10	18	2.46	2.30	2.03	1.62	1.54	1.41
50-22EE-10	22	2.68	2.63	2.19	1.76	1.64	1.54
50-25EE-10	25	3.62	2.89	2.41	1.94	1.83	1.74

*To order conventional solder eyelet termination, change suffix **−10** to **−20**; same prices apply.

DOUBLE READOUT

.200″ ROW SPACING

Dip solder termination.

Cinch No.*	Contact Pos.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-12EE-40	6	$1.21	$1.10	$0.99	$0.77	$0.72	$0.68
50-20EE-40	10	1.71	1.54	1.26	1.10	1.03	.96
50-24EE-40	12	1.98	1.71	1.45	1.23	1.18	1.07
50-30EE-40	15	2.19	2.06	1.81	1.49	1.34	1.22
50-36EE-40	18	2.46	2.30	2.03	1.62	1.54	1.41
50-44EE-40	22	2.68	2.63	2.19	1.76	1.64	1.54
50-50EE-40	25	3.62	2.89	2.41	1.94	1.83	1.74

*To order conventional solder eyelet termination, change suffix **−40** to **−30**; same prices apply.

.140″ ROW SPACING

Dip solder termination.

50-12EE-140	6	$1.21	$1.10	$0.99	$0.77	$0.72	$0.68
50-20EE-140	10	1.71	1.54	1.26	1.10	1.03	.96
50-24EE-140	12	1.98	1.71	1.45	1.23	1.18	1.07
50-30EE-140	15	2.19	2.06	1.81	1.49	1.34	1.22
50-36EE-140	18	2.46	2.30	2.03	1.62	1.54	1.41
50-44EE-140	22	2.68	2.63	2.19	1.76	1.64	1.54
50-50EE-140	25	3.62	2.89	2.41	1.94	1.83	1.74

WIRE WRAP TERMINAL SERIES

.156″ ON CENTERS

Single-level Wire Wrap tails .031″ x .062″.

Cinch No.*	Contact Pos.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-20E-10-1	10/20	$3.52	$2.82	$2.36	$1.88	$1.79	$1.70
50-30E-10-1	15/30	3.68	2.94	2.46	1.98	1.87	1.77
50-36E-10-1	18/36	4.10	3.27	2.76	2.21	2.07	1.98
50-44E-10-1	22/44	4.91	3.95	3.27	2.62	2.49	2.37
50-50E-10-1	25/50	5.13	4.10	3.44	2.76	2.60	2.46
50-60E-10-1	30/60	5.63	4.50	3.75	3.01	2.86	2.70

Also available in 2 and 3 levels; same prices apply. To order: change **E** to **F** for 2-level or to **G** for 3-level.

WITH TAIL TWISTED BELOW INSULATOR

Single-level Wire Wrap tails .031″ x .062″.

50-44E-10	22/44	$4.91	$3.95	$3.27	$2.62	$2.49	$2.37

Double-level Wire Wrap tails .031″ x .062″.

50-44F-10	22/44	$4.91	$3.95	$3.27	$2.62	$2.49	$2.37

Triple-level Wire Wrap tails .031″ x .062″.

50-44G-10	22/44	$4.91	$3.95	$3.27	$2.62	$2.49	$2.37

DOUBLE READOUT

.156″ ON CENTERS

Double-level Wire Wrap tails .045″ x .045″.

50-30W-10	15	$6.44	$5.15	$4.30	$3.44	$3.26	$3.08
50-44W-10	22	8.74	7.01	5.71	4.68	4.44	4.20

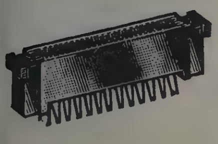
.125″ ON CENTERS

Double-level Wire Wrap tails .025″ x .025″.

50-80W-20	44	$9.50	$7.60	$6.35	$5.07	$4.82	$4.57

TYKON MINIATURE EDGE CONNECTORS

High density edge connectors with .050″ centers for use with double-sided .062″ printed circuit boards. Solder termination. Insulator is diallyl phthalate, type SDG-F per MIL-M-14F. Contacts are beryllium copper with .00003″ gold plate per MIL-G-45204 Type II. Carbon steel mounting clip for use in semi-flush printed circuit mounting, and cellulose acetate polarizing key available as separate items.

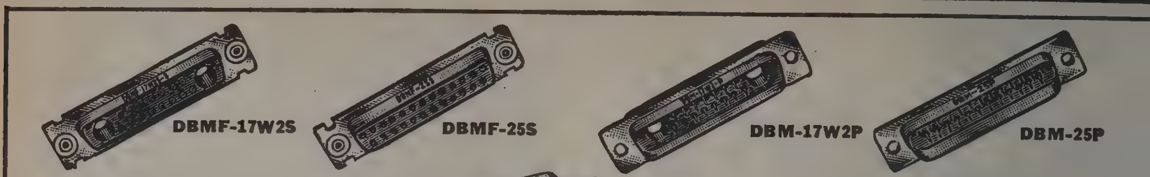


Cinch Number 50-	Cont. Pos.	No. of Cont.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
12A-40	6	12	$4.51	$3.60	$3.00	$2.40	$2.28	$2.16
20A-40	10	20	5.55	4.44	3.70	2.97	2.81	2.67
30A-40	15	30	6.86	5.51	4.58	3.66	3.48	3.31
40A-40	20	40	7.92	6.53	5.44	4.35	4.15	3.93
50A-40	25	50	9.47	7.58	6.30	5.07	4.79	4.55
50-MC	Mounting Clip		.306	.223	.195	.182	.167	.144
50-PK	Polarizing Key		.248	.197	.183	.170	.157	.144

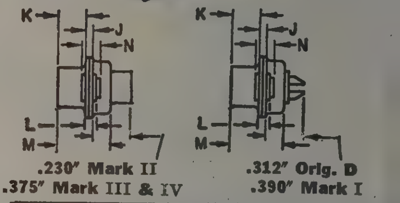
★DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR CONNECTORS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK US FOR THE LATEST QUOTATIONS.

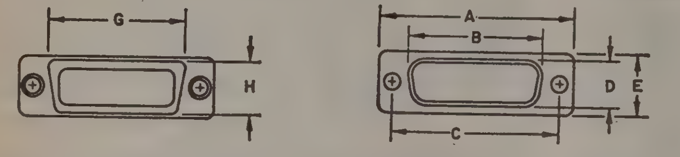
TRW® CINCH CONNECTORS
AN ELECTRONIC COMPONENTS DIVISION OF TRW INC.

D-SUBMINIATURE CONNECTORS*



0.25" square wire-wrap terminations
right angle dip solder PC terminations





Five series in five basic shell sizes cover a full array of contact configurations for most rack and panel applications. Keystone shape assures proper polarization. All series intermate and intermount. Friction coupling, locking accessories and floating mount shells are available. Contacts are rated 5 amps (1.5 amps, MIL). Cadmium-plated steel shell has yellow chromate coating. Insulators glass filled diallyl phthalate per MIL-M-14F, Type SDG in monobloc construction; or, two-piece nylon insulator. Pins and sockets are #20 AWG; coaxial contacts and high-voltage contacts available.

Cinch No. by Shell Size	Dimension Key, Inches											
	A	B‡	C†	D‡	E	G	H	J	K	L	M	N
DE*-9P	1.213	.697	.984	.360	.494	.759	.422	.030	.236	.045	.422	.120
DE*-9S	1.213	.640	.984	.308	.494	.759	.422	.030	.243	.045	.429	.120
DA*-15P	1.541	1.025	1.312	.360	.494	1.083	.422	.030	.236	.045	.422	.120
DA*-15S	1.541	.968	1.312	.308	.494	1.083	.422	.030	.243	.045	.429	.120
DB*-25P	2.088	1.583	1.852	.378	.494	1.625	.422	.039	.231	.060	.426	.129
DB*-25S	2.088	1.508	1.852	.308	.494	1.625	.422	.030	.243	.045	.429	.120
DC*-37P	2.729	2.231	2.500	.378	.494	2.272	.422	.039	.231	.060	.426	.129
DC*-37S	2.729	2.156	2.500	.308	.494	2.272	.422	.030	.243	.045	.429	.120
DD*-50P	2.635	2.127	2.406	.484	.605	2.178	.534	.039	.231	.060	.426	.129
DD*-50S	2.635	2.062	2.406	.420	.605	2.178	.534	.030	.243	.045	.429	.120

*Refer to ordering code for insulator type designation. †.120" dia. holes, standard units; .086" dia., float mount units. ‡Measured as outside dimensions at bottom of the draw.

HOW TO ORDER

D E SM F -9 P
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ

Ⓐ **Prefix:** Indicates Cinch Series **D.**

Ⓑ **Shell Size:** Five basic sizes determined by insert arrangement. See table of dimensions for sizes: **E, A, B, C** and **D.**

Ⓒ **Insulator Type:** If **none**, insulator is two-piece nylon; **M**, monobloc diallyl phthalate with solder pot contacts; **MA**, same as M, but with snap-in, removable, crimp, rear release assembly; **SM**, same as M, but crimp, snap-in contacts; **C**, Burgun-D with 2-pc. nylon and crimp, removable contacts.

Ⓓ **Float Mount:** Float-mounting shell type available for all standard connectors. Has stainless steel washers and rivets.

Ⓔ **Insert Arrangement:** Choice of 9, 15, 20, 37 or 50 contacts, standard. Combination layouts available with coaxial cavities in Mark I Golden "D" series (see listing). High voltage cavities also available; details on request.

Ⓕ **Contact Type: P**, Pin; **S**, Socket.

MARK III ROYAL "D" CONNECTOR

Snap-in, removable crimp contacts with rear release assembly. Contacts not interchangeable but units will mate and are interchangeable with all other D Series. Insulator diallyl phthalate, glass fiber filled, per MIL-P-19833, Type GDK-30F, royal purple color, monobloc construction. **Contacts:** Pin, leaded copper, gold plate over silver plate; socket, copper alloy, gold plate over silver plate with stainless steel sleeves.

Cinch Number	Net Each, Lots of				
	1-9	10-49	50-99	100-249	250-499
DEMA-9P	$ 7.56	$ 6.81	$ 5.69	$ 4.53	$ 4.17
DEMAF-9P	8.43	7.59	6.34	5.06	4.64
DEMA-9S	7.80	7.02	5.83	4.69	4.29
DEMAF-9S	8.66	7.80	6.50	5.19	4.76
DAMA-15P	9.63	8.67	7.21	5.79	5.30
DAMAF-15P	10.50	9.44	7.87	6.30	5.78
DAMA-15S	10.84	9.76	8.12	6.51	5.97
DAMAF-15S	11.70	10.55	8.78	7.03	6.43
DBMA-25P	12.93	11.65	9.71	7.76	7.12
DBMAF-25P	13.89	12.52	10.42	8.34	7.63
DDMA-25S	15.77	14.18	11.83	9.45	8.67
DBMAF-25S	16.72	15.05	12.55	10.03	9.20
DCMA-37P	16.89	15.20	12.66	10.15	9.31
DCMAF-37P	17.85	16.04	13.38	10.73	9.81
DCMA-37S	21.61	19.46	16.23	12.97	11.88
DCMAF-37S	22.57	20.33	16.93	13.53	12.43
DDMA-50P	21.12	19.00	15.83	12.66	11.62
DDMAF-50P	22.07	19.86	16.56	13.26	12.14
DDMA-50S	27.91	25.10	20.93	16.75	15.36
DDMAF-50S	28.86	25.98	21.65	17.33	15.87

MARK III MIL-C-24308 VERSIONS

Cinch Number	Description	Net Each, Lots of				
		1-9	10-49	50-99	100-249	250-499
M24308/2-1	DEMA-9S	$ 8.27	$ 7.25	$ 6.07	$ 4.90	$ 4.52
M24308/2-2	DAMA-15S	11.41	10.16	8.52	6.91	6.37
M24308/2-3	DBMA-25S	16.48	14.84	12.48	10.11	9.33
M24308/2-4	DCMA-37S	22.94	20.43	17.18	13.93	12.88
M24308/2-5	DDMA-50S	29.39	26.41	22.24	18.08	16.66
M24308/4-1	DEMA-9P	7.92	7.07	5.95	4.79	4.44
M24308/4-2	DAMA-15P	10.06	9.00	7.56	6.14	5.63
M24308/4-3	DBMA-25P	13.49	12.12	10.18	8.24	7.59
M24308/4-4	DCMA-37P	17.91	15.99	13.44	10.91	10.07
M24308/4-5	DDMA-50P	22.31	19.97	16.78	13.62	12.56

ORIGINAL "D" CONNECTORS

Two-piece construction utilizes Zytel® insulator material. **Temp. Range:** −65° F to +250° F. **Contacts:** Pin, gold plate over silver-plated brass; socket, gold plate over silver-plated phosphor bronze.
® DuPont trademark.

Cinch Number	Net Each, Lots of				
	1-9	10-49	50-99	100-249	250-499
DE-9P	$ 1.57	$1.41	$1.20	$0.94	$0.88
DE-9S	2.26	2.02	1.68	1.34	1.23
DEF-9P	2.48	2.26	1.87	1.52	1.36
DEF-9S	3.18	2.84	2.38	1.91	1.74
DA-15P	2.22	2.00	1.67	1.33	1.22
DA-15S	3.26	2.94	2.45	1.97	1.80
DAF-15P	3.15	2.83	2.36	1.87	1.72
DAF-15S	4.15	3.76	3.17	2.54	2.33
DB-25P	3.21	2.99	2.45	1.92	1.76
DB-25S	5.01	4.51	3.75	3.01	2.77
DBF-25P	4.22	3.80	3.19	2.55	2.34
DBF-25S	6.01	5.43	4.52	3.64	3.31
DC-37P	4.35	3.92	3.25	2.62	2.40
DC-37S	7.09	6.39	5.33	4.26	3.92
DCF-37P	5.37	4.83	4.04	3.22	2.97
DCF-37S	8.11	7.31	6.09	4.88	4.49
DD-50P	5.67	5.10	4.24	3.42	3.13
DD-50S	9.36	8.42	7.03	5.59	5.14
DDF-50P	6.67	6.00	5.02	4.03	3.68
DDF-50S	10.36	9.34	7.80	6.22	5.71

ORIGINAL "D" CONNECTORS .025" X .025" WIRE WRAP TAILS, ⅜" LONG

Cinch Number	Net Each, Lots of				
	1-9	10-49	50-99	100-249	250-499
DE-9P-F179	$ 2.55	$2.06	$1.80	$1.58	$1.52
DE-9S-F179	4.61	3.68	3.07	2.45	2.26
DA-15P-F179	3.30	2.62	2.31	2.06	1.95
DA-15S-F179	6.33	5.03	4.19	3.35	3.08
DB-25P-F179	5.18	4.13	3.59	2.99	2.84
DB-25S-F179	7.34	5.91	5.17	4.61	4.33
DC-37P-F179	7.06	5.59	4.96	4.28	4.04
DC-37S-F179	9.78	7.84	7.47	7.08	6.71
DD-50P-F179	8.38	6.68	5.88	5.30	5.01
DD-50S-F179	12.89	10.29	9.79	9.22	8.61

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*Manufactured by agreement with ITT Cannon Electric Co.

DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR CONNECTORS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK US FOR THE LATEST QUOTATIONS.

D-SUBMINIATURE CONNECTORS★ (CONT'D)

MARK I GOLDEN "D" CONNECTORS

Monobloc insulator design of glass-filled diallyl phthalate (FS-5) per MIL-M-14F, Type SGD. **Temperature Range:** −65° F to +300° F. **Contacts:** Pin contacts, gold plate over silver-plated brass; female contacts, gold plate over silver-plated phosphor bronze.

Cinch Number	Net Each, Lots of				
	1-9	10-49	50-99	100-249	250-499
DEM-9P	$ 3.11	$ 2.80	$ 2.34	$ 1.86	$ 1.70
DEM-9S	4.28	3.85	3.22	2.59	2.37
DEMF-9P	4.03	3.63	3.00	2.42	2.21
DEMF-9S	5.19	4.69	3.91	3.13	2.88
DAM-15P	4.47	4.03	3.34	2.68	2.45
DAM-15S	6.35	5.71	4.76	3.80	3.49
DAMF-15P	5.38	4.85	4.05	3.23	2.98
DAMF-15S	7.26	6.53	5.44	4.35	3.99
DBM-25P	6.59	5.92	4.96	3.95	3.64
DBM-25S	9.76	8.77	7.33	5.84	5.36
DBMF-25P	7.59	6.83	5.70	4.56	4.18
DBMF-25S	10.78	9.70	8.07	6.95	5.92
DCM-37P	9.18	8.26	6.88	6.88	5.52
DCM-37S	13.93	12.52	10.42	8.33	7.64
DCMF-37P	10.20	9.18	7.64	6.14	5.60
DCMF-37S	14.91	13.41	11.18	8.94	8.22
DDM-50P	11.88	10.71	8.92	7.16	6.55
DDM-50S	18.21	16.38	13.69	10.95	10.02
DDMF-50P	12.92	11.64	9.69	7.75	7.12
DDMF-50S	19.24	17.31	14.45	11.54	10.57

MARK I GOLDEN "D" CONNECTORS— RIGHT ANGLE PC CONTACTS

Pins are 0.040″ nominal diameter and extend 0.093″ below the 90° bracket. A terminal alignment strip, held on by means of the brackets, is supplied with each connector.

DEM-9PA	$ 9.12	$ 8.96	$ 8.16	$ 7.34	$ 6.53
DAM-15PA	12.94	11.76	9.80	8.92	8.17
DBM-25PA	19.37	17.61	16.01	14.40	12.91
DCM-37PA	21.32	19.36	18.10	16.78	16.33

MARK I GOLDEN "D" COAXIAL AND HIGH VOLTAGE CONNECTORS

Includes solder type #20 AWG contacts assembled, but not coaxial or high-voltage contacts (ordered separately, see below).

Cinch Number	Number of		Net Each, Lots of				
	Cavi-ties	Con-tacts	1-9	10-49	50-99	100-249	250-499
DEM-5W1P	1	4	$2.67	$2.39	$2.01	$1.60	$1.49
DEM-5W1S	1	4	3.07	2.76	2.30	1.84	1.68
DAM-3W3P	3	None	2.06	1.85	1.55	1.24	1.14
DAM-3W3S	3	None	2.06	1.85	1.55	1.24	1.14
DAMF-3W3S	3	None	2.98	2.69	2.26	1.80	1.64
DAM-11W1P	1	10	3.85	3.47	2.88	2.33	2.12
DAM-11W1S	1	10	4.82	4.35	3.64	2.89	2.67
DAMF-11W1P	1	10	4.77	4.29	3.61	2.86	2.63
DAMF-11W1S	1	10	5.76	5.17	4.31	3.45	3.18
DAM-7W2P	2	5	2.92	2.66	2.22	1.77	1.62
DAM-7W2S	2	5	3.43	3.11	2.59	2.06	1.89
DAMF-7W2S	2	5	4.35	3.92	3.25	2.62	2.39
DBM-13W3P	3	10	4.09	3.68	3.08	2.44	2.27
DBM-13W3S	3	10	5.06	4.56	3.80	3.06	2.80
DBM-9W4P	4	5	3.19	2.85	2.38	1.91	1.76
DBM-9W4S	4	5	3.67	3.30	2.77	2.21	2.02
DBMF-9W4P	4	5	4.19	3.76	3.17	2.52	2.33
DBMF-9W4S	4	5	4.69	4.22	3.51	2.82	2.59
DBM-17W2P	2	15	5.00	4.50	3.73	2.99	2.76
DBM-17W2S	2	15	6.45	5.81	4.85	3.89	3.59
DBMF-17W2P	2	15	6.00	5.42	4.52	3.63	3.31
DBMF-17W2S	2	15	7.48	6.74	5.59	4.50	4.12
DBM-21W1P	1	20	5.91	5.31	4.45	3.53	3.24
DBM-21W1S	1	20	7.85	7.07	5.91	4.72	4.32
DCM-13W6P	6	7	3.83	3.45	2.88	2.30	2.12
DCM-13W6S	6	7	4.52	4.07	3.39	2.71	2.48

COAXIAL AND HIGH VOLTAGE CONTACTS

Use with the above coaxial and high-voltage shell assemblies. **Prefix: 53740**—Coaxial straight solder male; **53741**—Coaxial right angle solder male; **53742**—Coaxial straight solder receptacle; **53743**—Coaxia right angle solder receptacle; **53744**—High-voltage male; **53745**—High-voltage receptacle.

Cinch Number	For Cable RG-	Net Each, Lots of				
		1-9	10-49	50-99	100-249	250-499
DM-53740-5000†	196/U	$2.23	$2.05	$1.85	$1.67	$1.51
DM-53740-5001	187, 188/U	2.21	2.03	1.91	1.64	1.49
DM-53740-5002	195/U	2.28	2.08	1.91	1.72	1.52
DM-53740-5008	196/U	2.23	2.05	1.85	1.67	1.51
DM-53741-5000	196/U	2.48	2.27	2.06	1.85	1.64
DM-53741-5001	187, 188/U	2.67	2.45	2.23	2.01	1.77
DM-53742-5000	196/U	2.35	2.13	1.95	1.75	1.57
DM-53742-5001	187, 188/U	2.23	2.05	1.85	1.67	1.51
DM-53742-5002	195/U	2.39	2.21	2.01	1.80	1.60
DM-53742-5004	58/U	3.27	2.94	2.70	2.45	2.22
DM-53743-5000	196/U	2.97	2.72	2.48	2.23	2.00
DM-53743-5001	187, 188/U	2.91	2.68	2.44	2.19	1.98
DM-53744-0000‡	#20 wire	1.58	1.44	1.31	1.19	1.08
DM-53744-5000*	#20 wire	1.98	1.79	1.63	1.47	1.31
DM-53745-0000‡	#20 wire	1.40	1.30	1.18	1.08	.93
DM-53745-5000*	#20 wire	2.21	2.03	1.91	1.72	1.54

*Right-angle. †Short type plug. ‡Straight.
*Manufactured by agreement with ITT Cannon Electric Co.

MARK II GOLDEN "D" CONNECTORS

Snap-in, crimp type contacts. Monobloc insulator is diallyl phthalate, asbestor filled. **Contacts:** Gold plate over silver-plated, leaded copper. Contacts supplied, but unassembled.

Cinch Number	Net Each, Lots of				
	1-9	10-49	50-99	100-249	250-499
DESM-9P	$ 4.40	$ 4.13	$ 3.67	$ 3.27	$ 2.92
DESM-9S	5.18	4.76	4.33	3.91	3.47
DESMF-9P	5.29	4.96	4.35	3.83	3.43
DESMF-9S	6.07	5.56	5.00	4.45	3.95
DASM-15P	6.68	6.14	5.57	5.02	4.46
DASM-15S	8.11	7.43	6.78	6.09	5.42
DASMF-15P	7.59	6.93	6.25	5.56	4.96
DASMF-15S	9.00	8.26	7.44	6.64	5.91
DBSM-25P	10.16	8.88	8.07	6.83	6.14
DBSM-25S	12.24	11.24	10.22	8.31	7.38
DBSMF-25P	11.04	9.68	8.74	7.38	6.62
DBSMF-25S	13.13	12.06	10.88	8.88	7.86
DCSM-37P	11.80	10.81	9.89	8.88	7.86
DCSM-37S	16.83	15.44	14.04	12.95	11.02
DCSMF-37P	12.68	11.64	10.55	9.41	8.35
DCSMF-37S	17.72	16.26	14.70	12.56	11.51
DDSM-50P	18.24	16.69	14.96	11.74	10.78
DDSM-50S	22.71	20.82	18.94	15.68	14.24
DDSMF-50S	23.60	21.62	19.59	16.22	14.72

MARK IV BURGUN "D" CONNECTORS

"D" connectors for commercial applications where economy is an important factor. Rear release, crimp, snap-in contacts that are readily inserted and removed with a simple plastic tool. Two-piece, glass-filled nylon insulator. Copper alloy contacts with 30 microinches of gold over nickel. Uses same shell as other series.

Cinch Number	Net Each, Lots of				
	1-9	10-49	50-99	100-249	250-499
DEC-9P	$1.56	$1.39	$1.11	$0.88	$0.85
DEC-9S	2.12	1.91	1.51	1.23	1.15
DAC-15P	2.09	1.87	1.49	1.20	1.13
DAC-15S	3.00	2.69	2.13	1.71	1.64
DBC-25P	2.94	2.62	2.10	1.67	1.60
DBC-25S	4.36	3.90	3.14	2.54	2.38
DCC-37P	4.05	3.62	2.93	2.36	2.23
DCC-37S	6.23	5.60	4.56	3.64	3.42
DDC-50P	5.08	4.57	3.68	2.96	2.79
DDC-50S	7.94	7.11	5.81	4.67	4.30

MARK III CONTACTS (D-MA)

Crimp contacts, commercial and military types.

Cinch Number		Type	Std. Pkg.	Net Each, Lots	
Commercial	Military			100-4999	5000-24,999
330-5291-000	....	Pin	100	$0.182	$0.156
031-1007-000	....	Socket	100	.276	.233
....	**M-24308/11-1**	Pin	100	.197	.168
....	**M-24308/10-1**	Socket	100	.289	.244

"DATAPHONE" CONNECTORS AND HOODS

Insulators are diallyl phthalate (FS-4) per MIL-M-19833, Type GDI-30. Hoods black phenolic, fit plug or socket connector.

Cinch Number	Description	Net Each, Lots of				
		1-9	10-49	50-99	100-249	250-499
DA-19603-404	15-cont. sckt.	$ 7.66	$ 7.03	$ 6.44	$5.75	$5.12
DB-19604-433	25-cont. sckt.	12.48	11.42	10.38	9.36	8.31
DA-19603-403	15-pin plug	3.53	3.31	2.99	2.67	2.56
DB-19604-432	25-pin plug	4.88	4.56	4.09	3.62	3.45
DA-51225-1	15-size hood	1.79	1.60	1.29	1.18	1.09
DB-51226-1	25-size hood	1.98	1.66	1.32	1.21	1.12

D-SUBMINIATURE CONNECTOR ACCESSORIES

JUNCTION SHELLS

Cinch Number	Type & Size	Net Each, Lots of				
		1-9	10-49	50-99	100-249	250-499
DA-19678-1	Straight, A	$1.36	$1.24	$1.04	$0.84	$0.76
DB-19678-2	Straight, B	1.62	1.46	1.23	.97	.90
DC-19678-3	Straight, C	1.94	1.75	1.46	1.17	1.08
DD-19678-4	Straight D	2.12	1.96	1.58	1.28	1.17
DA-19977-1	Rt.-angle, A	1.79	1.60	1.33	1.08	.97
DB-19977-2	Rt.-angle, B	1.97	1.77	1.49	1.18	1.09
DC-19977-3	Rt.-angle, C	2.07	1.86	1.56	1.24	1.14
DD-19977-4	Rt.-angle, D	2.26	2.02	1.68	1.34	1.23
DE-19977-5	Rt.-angle, E	2.28	2.05	1.72	1.35	1.24
DE-24657	Straight, E*	2.55	2.35	1.97	1.57	1.42
DA-24658	Straight, A*	2.51	2.33	1.92	1.54	1.45
DB-24659	Straight, B*	2.02	1.84	1.54	1.24	1.17
DC-24660	Straight, C*	2.10	1.92	1.59	1.29	1.20
DD-24661	Straight, D*	2.37	2.23	1.86	1.51	1.35

*Deep, straight clamp junction shell.

SCREW LOCK ASSEMBLIES

D-20418-2	Female, A–E	$0.53	$0.49	$0.44	$0.34	$0.32
D-20419-0	Male, A–C, E	.34	.31	.27	.23	.21
D-20420-0	Male, D	.50	.47	.38	.32	.30

CLEAR POLYPROPYLENE DUST COVERS

DA-,DB-,DC-,DD-, or DE-59-20-SKT	For sockets	$.768	$.674	$.571	$.457	$.419
DA-,DB-,DC-,DD-, or DE-60-20-PLG	For plugs	.768	.674	.571	.457	.419

SLIDING LOCK ASSEMBLIES

DE-51224-1	1.392″ long	$1.10	$0.98	$0.84	$0.68	$0.59
DA-51220-1	1.720″ long	.57	.53	.47	.38	.36
DB-51221-1	2.260″ long	.57	.52	.46	.37	.34
DC-51222-1	2.908″ long	.75	.71	.57	.48	.45
DD-51223-1	2.814″ long	.93	.86	.72	.54	.52

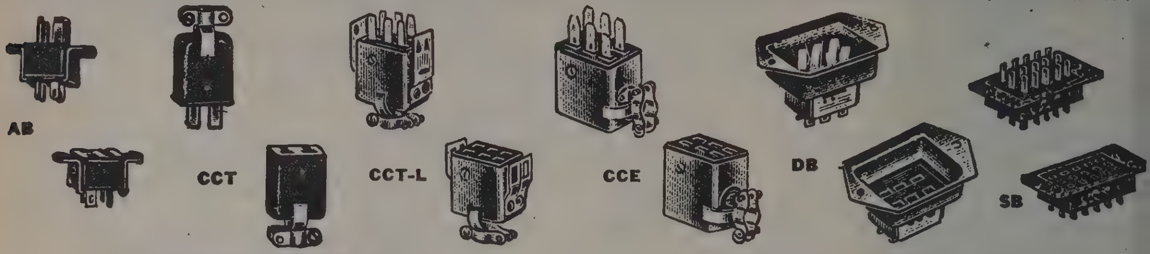
DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR CONNECTORS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK US FOR THE LATEST QUOTATIONS.

TRW® CINCH CONNECTORS

AN ELECTRONIC COMPONENTS DIVISION OF TRW INC.

"JONES" PLUGS AND SOCKETS

300 SERIES PLUGS AND SOCKETS from famous "Jones" line, the standard for the electrical and electronic industry for many years. Small size, with good separation between contacts, for medium-duty applications. Molded phenolic insulator; 2 to 33 cadmium-plated phosphor bronze contacts; for cap or panel mounting. Polarized so only common sizes will mate. "Knife-switch" type socket contacts engage both sides of flat plug contacts. Rated 730 V rms, 10 A max. Contact resistance, .016 ohms max. UL Standard #498 rated (all contacts simultaneously) 7.5 amps, 1875 watts for 2–12 contacts; 4.5 amps, 1125 watts, 15–33 contacts.



PLUGS WITH ANGLE BRACKETS

Cinch Number	Con-tacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-302-AB	2	$0.48	$0.36	$0.33	$0.29	$0.27
P-303-AB	3	.53	.39	.35	.31	.30
P-304-AB	4	.57	.48	.38	.33	.32
P-306-AB	6	.70	.57	.50	.37	.36
P-308-AB	8	.81	.63	.55	.47	.42
P-310-AB	10	.91	.71	.61	.51	.49
P-312-AB	12	1.02	.82	.66	.55	.53
P-315-AB	15	1.36	1.08	.91	.71	.67
P-318-AB	18	1.61	1.31	1.08	.88	.83
P-321-AB	21	2.01	1.61	1.36	1.08	1.04
P-324-AB	24	2.42	1.94	1.62	1.32	1.24
P-327-AB	27	2.84	2.29	1.91	1.52	1.44
P-330-AB	30	3.26	2.60	2.17	1.76	1.64
P-333-AB	33	3.65	2.91	2.43	1.94	1.87

PLUGS WITH CABLE CLAMPS/TOP

P-302-CCT	2	$0.92	$0.73	$0.61	$0.51	$0.49
P-303-CCT	3	1.02	.82	.66	.55	.53
P-304-CCT	4	1.07	.86	.71	.57	.55
P-306-CCT	6	1.18	.97	.82	.63	.61
P-308-CCT	8	1.32	1.05	.89	.70	.66
P-310-CCT	10	1.43	1.14	.97	.80	.73
P-312-CCT	12	1.54	1.24	1.05	.84	.80
P-315-CCT	15	2.05	1.64	1.40	1.10	1.07
P-318-CCT	18	2.40	1.92	1.61	1.31	1.20
P-321-CCT	21	2.85	2.30	1.92	1.53	1.45
P-324-CCT	24	3.35	2.68	2.26	1.82	1.70
P-327-CCT	27	3.84	3.05	2.56	2.05	1.94
P-330-CCT	30	4.31	3.44	2.87	2.31	2.19
P-333-CCT	33	4.77	3.82	3.19	2.56	2.42

PLUGS WITH CABLE CLAMPS/TOP & LOCKS

P-302-CCT-L	2	$1.13	$0.92	$0.78	$0.61	$0.58
P-303-CCT-L	3	1.20	.98	.83	.65	.62
P-304-CCT-L	4	1.31	1.04	.88	.67	.65
P-306-CCT-L	6	1.43	1.14	.96	.78	.73
P-308-CCT-L	8	1.52	1.20	1.04	.83	.80
P-310-CCT-L	10	1.64	1.35	1.11	.91	.86
P-312-CCT-L	12	1.76	1.42	1.17	.96	.92
P-315-CCT-L	15	2.29	1.85	1.53	1.20	1.16
P-318-CCT-L	18	2.61	2.08	1.79	1.41	1.36
P-321-CCT-L	21	3.06	2.46	2.06	1.64	1.59
P-324-CCT-L	24	3.56	2.85	2.40	1.92	1.83
P-327-CCT-L	27	4.04	3.25	2.70	2.17	2.06
P-330-CCT-L	30	4.52	3.63	3.03	2.42	2.31
P-333-CCT-L	33	4.98	3.99	3.35	2.68	2.52

PLUGS WITH CABLE CLAMPS/END

P-306-CCE	6	$1.26	$1.03	$0.86	$0.66	$0.63
P-308-CCE	8	1.37	1.09	.92	.73	.70
P-310-CCE	10	1.49	1.17	1.02	.82	.78
P-312-CCE	12	1.61	1.31	1.08	.88	.83
P-315-CCE	15	2.09	1.67	1.42	1.13	1.08
P-318-CCE	18	2.45	1.95	1.63	1.33	1.26
P-321-CCE	21	3.26	2.61	2.19	1.73	1.65
P-324-CCE	24	3.41	2.73	2.29	1.85	1.80
P-327-CCE	27	3.88	3.09	2.60	2.07	1.97
P-330-CCE	30	4.36	3.48	2.90	2.34	2.21
P-333-CCE	33	4.81	3.86	3.24	2.59	2.45

PLUGS WITH DEEP BRACKETS

P-302-DB	2	$1.09	$0.89	$0.73	$0.58	$0.57
P-303-DB	3	1.10	.89	.77	.59	.57
P-304-DB	4	1.16	.94	.80	.62	.59
P-306-DB	6	1.32	1.04	.88	.70	.65
P-308-DB	8	1.40	1.13	.94	.77	.71
P-312-DB	12	1.60	1.31	1.08	.86	.83
P-315-DB	15	1.94	1.57	1.33	1.05	1.02
P-318-DB	18	2.33	1.87	1.57	1.28	1.17
P-321-DB	21	2.79	2.25	1.87	1.49	1.42
P-324-DB	24	3.26	2.61	2.19	1.76	1.65
P-327-DB	27	3.73	3.00	2.49	1.98	1.91
P-330-DB	30	4.17	3.36	2.82	2.26	2.14
P-333-DB	33	4.61	3.73	3.11	2.47	2.40

PLUGS WITH SHALLOW BRACKETS

P-315-SB	15	$1.94	$1.57	$1.33	$1.05	$1.02
P-318-SB	18	2.33	1.87	1.57	1.28	1.17
P-321-SB	21	2.79	2.25	1.87	1.49	1.42
P-324-SB	24	3.26	2.61	2.19	1.76	1.65
P-327-SB	27	3.73	3.00	2.49	1.98	1.91
P-330-SB	30	4.17	3.36	2.82	2.26	2.14
P-333-SB	33	4.61	3.73	3.11	2.47	2.40

SOCKETS WITH ANGLE BRACKETS

Cinch Number	Con-tacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-302-AB	2	$0.50	$0.38	$0.34	$0.30	$0.29
S-303-AB	3	.55	.47	.36	.32	.31
S-304-AB	4	.59	.50	.39	.34	.33
S-306-AB	6	.77	.59	.53	.39	.38
S-308-AB	8	.91	.72	.61	.51	.49
S-310-AB	10	1.05	.84	.71	.57	.54
S-312-AB	12	1.24	.98	.84	.66	.62
S-315-AB	15	1.57	1.26	1.05	.84	.81
S-318-AB	18	1.81	1.43	1.18	.97	.92
S-321-AB	21	2.20	1.80	1.46	1.16	1.13
S-324-AB	24	2.61	2.08	1.79	1.40	1.36
S-327-AB	27	3.03	2.42	2.03	1.62	1.54
S-330-AB	30	3.47	2.79	2.33	1.87	1.80
S-333-AB	33	3.88	3.09	2.59	2.06	1.97

SOCKETS WITH CABLE CLAMPS/TOP

S-302-CCT	2	$0.94	$0.78	$0.63	$0.53	$0.51
S-303-CCT	3	1.04	.83	.67	.56	.54
S-304-CCT	4	1.09	.89	.73	.58	.57
S-306-CCT	6	1.26	1.02	.84	.66	.63
S-308-CCT	8	1.41	1.11	.94	.78	.71
S-310-CCT	10	1.59	1.29	1.07	.86	.82
S-312-CCT	12	1.81	1.43	1.17	.96	.92
S-315-CCT	15	2.29	1.85	1.53	1.20	1.16
S-318-CCT	18	2.59	2.06	1.73	1.40	1.33
S-321-CCT	21	3.05	2.45	2.05	1.63	1.57
S-324-CCT	24	3.53	2.84	2.37	1.89	1.82
S-327-CCT	27	4.01	3.21	2.69	2.15	2.04
S-330-CCT	30	4.52	3.63	3.03	2.42	2.31
S-333-CCT	33	4.98	3.99	3.35	2.68	2.52

SOCKETS WITH CABLE CLAMPS/TOP & KEEPERS

S-302-CCT-K	2	$1.15	$0.94	$0.81	$0.62	$0.59
S-303-CCT-K	3	1.26	1.02	.84	.66	.63
S-304-CCT-K	4	1.33	1.07	.89	.70	.66
S-306-CCT-K	6	1.46	1.16	.98	.81	.77
S-308-CCT-K	8	1.62	1.32	1.09	.89	.84
S-310-CCT-K	10	1.82	1.44	1.18	.97	.93
S-312-CCT-K	12	2.01	1.61	1.36	1.08	1.04
S-315-CCT-K	15	2.49	2.01	1.66	1.36	1.29
S-318-CCT-K	18	2.82	2.26	1.88	1.51	1.43
S-321-CCT-K	21	3.28	2.62	2.20	1.79	1.65
S-324-CCT-K	24	3.75	3.02	2.50	2.01	1.92
S-327-CCT-K	27	4.24	3.39	2.84	2.29	2.15
S-330-CCT-K	30	4.76	3.82	3.18	2.52	2.42
S-333-CCT-K	33	5.21	4.16	3.48	2.80	2.64

SOCKETS WITH CABLE CLAMPS/END

S-306-CCE	6	$1.32	$1.05	$0.91	$0.70	$0.66
S-308-CCE	8	1.45	1.15	.98	.81	.77
S-310-CCE	10	1.63	1.33	1.11	.89	.84
S-312-CCE	12	1.85	1.46	1.24	.98	.94
S-315-CCE	15	2.34	1.88	1.57	1.26	1.17
S-318-CCE	18	2.62	2.09	1.80	1.42	1.36
S-321-CCE	21	3.11	2.49	2.07	1.65	1.60
S-324-CCE	24	3.59	2.87	2.41	1.92	1.85
S-327-CCE	27	4.05	3.26	2.73	2.19	2.06
S-330-CCE	30	4.55	3.65	3.05	2.45	2.33
S-333-CCE	33	5.02	4.03	3.38	2.70	2.58

SOCKETS WITH DEEP BRACKETS

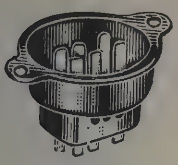
S-302-DB	2	$1.11	$0.92	$0.78	$0.61	$0.58
S-303-DB	3	1.11	.91	.78	.61	.58
S-304-DB	4	1.17	.96	.82	.63	.61
S-306-DB	6	1.36	1.08	.92	.71	.67
S-308-DB	8	1.49	1.17	1.02	.82	.77
S-312-DB	12	1.85	1.45	1.24	.98	.94
S-315-DB	15	2.17	1.76	1.45	1.15	1.10
S-318-DB	18	2.50	2.01	1.66	1.37	1.31
S-321-DB	21	3.00	2.40	1.98	1.60	1.52
S-324-DB	24	3.45	2.78	2.33	1.87	1.79
S-327-DB	27	3.92	3.12	2.61	2.08	1.98
S-330-DB	30	4.40	3.53	2.96	2.37	2.26
S-333-DB	33	4.85	3.90	3.26	2.60	2.47

SOCKETS WITH SHALLOW BRACKETS

S-315-SB	15	$2.17	$1.76	$1.45	$1.15	$1.10
S-318-SB	18	2.50	2.01	1.66	1.37	1.31
S-321-SB	21	3.00	2.40	1.98	1.60	1.52
S-324-SB	24	3.45	2.78	2.33	1.87	1.79
S-327-SB	27	3.92	3.12	2.61	2.08	1.98
S-330-SB	30	4.40	3.53	2.96	2.37	2.26
S-333-SB	33	4.85	3.90	3.26	2.60	2.47

LARGER QUANTITY PRICING AVAILABLE ON REQUEST

300 SERIES "JONES" PLUGS AND SOCKETS (CONTINUED)



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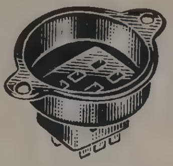

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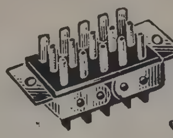

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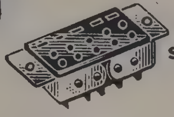


S-315-EB

PLUGS WITH RECESSED PLATES

Cinch Number	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-302-RP	2	$0.86	$0.67	$0.58	$0.49	$0.48
P-303-RP	3	.91	.71	.61	.51	.49
P-304-RP	4	.96	.78	.63	.54	.51
P-306-RP	6	1.10	.89	.70	.58	.57
P-308-RP	8	1.26	1.02	.84	.66	.63
P-310-RP	10	1.44	1.11	.94	.78	.71
P-312-RP	12	1.57	1.26	1.05	.84	.81

PLUGS WITH END BRACKETS

P-315-EB	15	$1.40	$1.10	$0.93	$0.77	$0.70
P-318-EB	18	1.64	1.35	1.10	.89	.86
P-321-EB	21	2.05	1.63	1.39	1.10	1.05
P-324-EB	24	2.46	1.97	1.64	1.35	1.29
P-327-EB	27	2.87	2.31	1.93	1.54	1.46
P-330-EB	30	3.29	2.62	2.20	1.80	1.66
P-333-EB	33	3.68	2.96	2.46	1.97	1.88

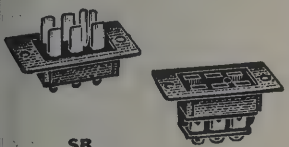
SOCKETS WITH RECESSED PLATES

Cinch Number	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-302-RP	2	$0.91	$0.71	$0.59	$0.50	$0.49
S-303-RP	3	.93	.77	.62	.51	.50
S-304-RP	4	.98	.81	.66	.55	.53
S-306-RP	6	1.13	.92	.78	.61	.58
S-308-RP	8	1.36	1.08	.92	.73	.67
S-310-RP	10	1.57	1.26	1.05	.84	.81
S-312-RP	12	1.81	1.43	1.18	.97	.92

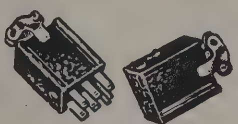
SOCKETS WITH END BRACKETS

S-315-EB	15	$1.60	$1.31	$1.07	$0.86	$0.83
S-318-EB	18	2.56	1.46	1.24	.98	.94
S-321-EB	21	2.26	1.82	1.51	1.18	1.14
S-324-EB	24	2.64	2.12	1.81	1.43	1.37
S-327-EB	27	3.06	2.46	2.05	1.64	1.57
S-330-EB	30	3.51	2.82	2.35	1.89	1.81
S-333-EB	33	3.92	3.12	2.61	2.08	1.98

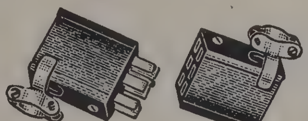
400 SERIES PLUGS AND SOCKETS are rated for duty beyond the range of 300 Series: 1200 V rms at 15 amps. Contact resistance, 001 ohm avg. Polarized and suitable for either cap or panel mounting in 2, 4, 6, 8, 10 and 12 contact sizes. "Knife-switch" type socket contacts of cadmium-plated phosphor bronze engage both sides of flat plug contacts. Plug prongs are cadmium-plated brass ¼" wide, 1/16" thick. Caps finished in black wrinkle and fiber lined.



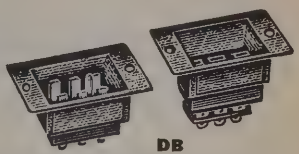
SB



CCT



CCE



DB

PLUGS WITH ANGLE BRACKETS

Cinch Number	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-402-AB	2	$1.10	$0.89	$0.74	$0.59	$0.57
P-404-AB	4	1.36	1.09	.91	.71	.67
P-406-AB	6	1.59	1.26	1.08	.86	.82
P-408-AB	8	1.83	1.45	1.20	.97	.93
P-410-AB	10	2.05	1.64	1.40	1.11	1.07
P-412-AB	12	2.30	1.85	1.53	1.22	1.16

PLUGS WITH CABLE CLAMPS/TOP

P-402-CCT	2	$1.82	$1.45	$1.20	$0.97	$0.93
P-404-CCT	4	2.06	1.65	1.40	1.11	1.07
P-406-CCT	6	2.37	1.89	1.60	1.29	1.20
P-408-CCT	8	2.62	2.08	1.76	1.42	1.36
P-410-CCT	10	3.02	2.41	2.03	1.62	1.53
P-412-CCT	12	3.28	2.63	2.19	1.79	1.66

PLUGS WITH CABLE CLAMPS/END

P-402-CCE	2	$1.87	$1.51	$1.26	$1.02	$0.96
P-404-CCE	4	2.12	1.68	1.43	1.14	1.09
P-406-CCE	6	2.42	1.94	1.62	1.32	1.23
P-408-CCE	8	2.69	2.15	1.81	1.44	1.39
P-410-CCE	10	3.06	2.45	2.06	1.65	1.57
P-412-CCE	12	3.35	2.68	2.25	1.81	1.68

PLUGS WITH DEEP BRACKETS

P-402-DB	2	$1.45	$1.16	$0.97	$0.80	$0.74
P-404-DB	4	1.79	1.42	1.17	.94	.92
P-406-DB	6	2.06	1.65	1.40	1.11	1.07
P-408-DB	8	2.37	1.89	1.60	1.29	1.20
P-410-DB	10	2.68	2.14	1.81	1.44	1.39
P-412-DB	12	3.00	2.40	2.01	1.60	1.52

PLUGS WITH SHALLOW BRACKETS

P-402-SB	2	$1.41	$1.13	$0.94	$0.74	$0.71
P-404-SB	4	1.68	1.39	1.14	.92	.88
P-406-SB	6	2.01	1.61	1.37	1.09	1.04
P-408-SB	8	2.33	1.86	1.54	1.23	1.17
P-410-SB	10	2.62	2.08	1.79	1.42	1.36
P-412-SB	12	2.91	2.33	1.95	1.57	1.49

PLUGS LESS ANGLE BRACKETS, DRILLED*

P-402-LAB	2	$0.62	$0.53	$0.42	$0.34	$0.33
P-404-LAB	4	.88	.67	.58	.50	.47
P-406-LAB	6	1.15	.93	.80	.62	.59
P-408-LAB	8	1.41	1.13	.94	.74	.67
P-410-LAB	10	1.79	1.43	1.18	.96	.92
P-412-LAB	12	2.05	1.64	1.39	1.10	1.07

*For 6-32 self-tapping screw; except in 2-contact size.

SOCKETS WITH ANGLE BRACKETS

Cinch Number	Con-tacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-402-AB	2	$1.29	$1.03	$0.86	$0.67	$0.65
S-404-AB	4	1.64	1.32	1.10	.89	.84
S-406-AB	6	2.01	1.61	1.37	1.09	1.04
S-408-AB	8	2.37	1.89	1.59	1.28	1.18
S-410-AB	10	2.71	2.18	1.83	1.45	1.40
S-412-AB	12	3.08	2.46	2.06	1.65	1.59

SOCKETS WITH CABLE CLAMPS/TOP

S-402-CCT	2	$2.05	$1.64	$1.39	$1.10	$1.07
S-404-CCT	4	2.43	1.95	1.64	1.32	1.23
S-406-CCT	6	2.84	2.29	1.89	1.52	1.44
S-408-CCT	8	3.21	2.60	2.17	1.72	1.65
S-410-CCT	10	3.63	2.90	2.43	1.98	1.87
S-412-CCT	12	4.04	3.21	2.69	2.17	2.06

SOCKETS WITH CABLE CLAMPS/END

S-402-CCE	2	$2.09	$1.67	$1.42	$1.14	$1.09
S-404-CCE	4	2.49	2.01	1.67	1.36	1.29
S-406-CCE	6	2.90	2.33	1.94	1.57	1.49
S-408-CCE	8	3.29	2.63	2.20	1.79	1.67
S-410-CCE	10	3.68	2.96	2.46	1.98	1.88
S-412-CCE	12	4.08	3.26	2.73	2.19	2.07

SOCKETS WITH DEEP BRACKETS

S-402-DB	2	$1.64	$1.32	$1.10	$0.89	$0.84
S-404-DB	4	2.06	1.65	1.40	1.11	1.07
S-406-DB	6	2.49	2.01	1.67	1.37	1.29
S-408-DB	8	2.91	2.35	1.95	1.57	1.49
S-410-DB	10	3.36	2.68	2.25	1.82	1.70
S-412-DB	12	3.80	3.03	2.52	2.04	1.93

SOCKETS WITH SHALLOW BRACKETS

S-402-SB	2	$1.59	$1.26	$1.08	$0.86	$0.82
S-404-SB	4	2.01	1.61	1.37	1.09	1.04
S-406-SB	6	2.43	1.97	1.64	1.32	1.23
S-408-SB	8	2.86	2.31	1.93	1.53	1.45
S-410-SB	10	2.62	2.20	2.20	1.80	1.67
S-412-SB	12	3.72	3.00	2.49	2.01	1.89

SOCKETS LESS ANGLE BRACKETS, DRILLED*

S-402-LAB	2	$0.81	$0.63	$0.55	$0.42	$0.39
S-404-LAB	4	1.16	.93	.80	.63	.61
S-406-LAB	6	1.52	1.20	1.03	.83	.80
S-408-LAB	8	1.88	1.51	1.28	1.03	.96
S-410-LAB	10	2.25	1.82	1.51	1.18	1.15
S-412-LAB	12	2.61	2.08	1.73	1.41	1.35

*For 6-32 self-tapping screw; except in 2-contact size.

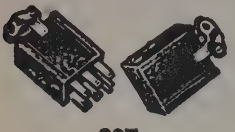
LARGER QUANTITY PRICING AVAILABLE ON REQUEST

TRW® CINCH CONNECTORS
AN ELECTRONIC COMPONENTS DIVISION OF TRW INC.

"JONES" PLUGS AND SOCKETS

"JONES" PLUGS AND SOCKETS 2400 SERIES

2400 SERIES PLUGS AND SOCKETS are designed for excellent electrical and mechanical performance. Ratings are the same as 400 Series, except for higher (1700 volts) voltage rating. Fully interchangeable with corresponding units of the 400 Series.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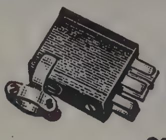
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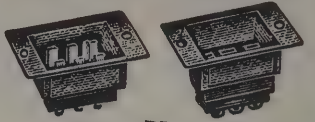
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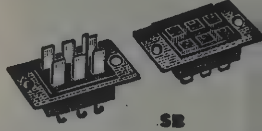

SB

PLUGS WITH CABLE CLAMPS/TOP

Cinch Number	Contacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
P-2402-CCT	2	$1.91	$1.53	$1.29	$1.03	$0.97
P-2404-CCT	4	2.17	1.72	1.45	1.16	1.11
P-2406-CCT	6	2.42	1.94	1.62	1.32	1.23
P-2408-CCT	8	2.68	2.15	1.82	1.44	1.39
P-2410-CCT	10	2.96	2.37	1.97	1.59	1.51
P-2412-CCT	12	3.08	2.47	2.07	1.65	1.57

PLUGS WITH CABLE CLAMPS/END

Cinch Number	Contacts	1-24	25-49	50-99	100-249	250-499
P-2402-CCE	2	$1.95	$1.59	$1.33	$1.07	$1.02
P-2404-CCE	4	2.23	1.80	1.49	1.18	1.14
P-2406-CCE	6	2.47	1.98	1.66	1.36	1.29
P-2408-CCE	8	2.73	2.19	1.85	1.46	1.41
P-2410-CCE	10	3.01	2.42	2.03	1.61	1.53
P-2412-CCE	12	3.27	2.62	2.18	1.73	1.66

PLUGS WITH DEEP BRACKETS

Cinch Number	Contacts	1-24	25-49	50-99	100-249	250-499
P-2402-DB	2	$1.51	$1.18	$1.02	$0.82	$0.78
P-2404-DB	4	1.73	1.36	1.16	.94	.91
P-2406-DB	6	2.01	1.60	1.36	1.09	1.03
P-2408-DB	8	2.25	1.82	1.51	1.18	1.15
P-2410-DB	10	2.49	2.01	1.66	1.36	1.29
P-2412-DB	12	2.73	2.19	1.85	1.46	1.41

PLUGS WITH SHALLOW BRACKETS

Cinch Number	Contacts	1-24	25-49	50-99	100-249	250-499
P-2402-SB	2	$1.40	$1.11	$0.93	$0.74	$0.71
P-2404-SB	4	1.64	1.32	1.10	.89	.84
P-2406-SB	6	1.88	1.51	1.26	1.03	.96
P-2408-SB	8	2.14	1.72	1.43	1.14	1.08
P-2410-SB	10	2.38	1.91	1.60	1.29	1.20
P-2412-SB	12	2.65	2.09	1.79	1.42	1.36

PLUGS LESS ANGLE BRACKETS, DRILLED AND TAPPED*

Cinch Number	Contacts	1-24	25-49	50-99	100-249	250-499
P-2402-LAB	2	$0.80	$0.62	$0.54	$0.39	$0.38
P-2404-LAB	4	1.03	.83	.67	.56	.54
P-2406-LAB	6	1.29	1.03	.86	.67	.65
P-2408-LAB	8	1.52	1.20	1.03	.83	.80
P-2410-LAB	10	1.80	1.42	1.17	.96	.92
P-2412-LAB	12	2.03	1.62	1.37	1.09	1.04

*Except in 2 contact size.

SOCKETS WITH CABLE CLAMPS/TOP

Cinch Number	Contacts	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
S-2402-CCT	2	$2.07	$1.33	$1.41	$1.11	$1.08
S-2404-CCT	4	2.30	1.85	1.53	1.22	1.16
S-2406-CCT	6	2.58	2.05	1.70	1.40	1.32
S-2408-CCT	8	2.84	2.29	1.89	1.52	1.44
S-2410-CCT	10	3.11	2.47	2.07	1.66	1.59
S-2412-CCT	12	3.38	2.70	2.26	1.82	1.72

SOCKETS WITH CABLE CLAMPS/END

Cinch Number	Contacts	1-24	25-49	50-99	100-249	250-499
S-2402-CCE	2	$2.14	$1.70	$1.43	$1.14	$1.10
S-2404-CCE	4	2.35	1.88	1.59	1.26	1.18
S-2406-CCE	6	2.62	2.08	1.79	1.42	1.36
S-2408-CCE	8	2.89	2.33	1.94	1.54	1.46
S-2410-CCE	10	3.17	2.52	2.12	1.68	1.61
S-2412-CCE	12	3.44	2.76	2.31	1.85	1.73

SOCKETS WITH DEEP BRACKETS

Cinch Number	Contacts	1-24	25-49	50-99	100-249	250-499
S-2402-DB	2	$1.61	$1.31	$1.09	$0.88	$0.83
S-2404-DB	4	1.87	1.51	1.26	1.02	.96
S-2406-DB	6	2.14	1.70	1.43	1.14	1.10
S-2408-DB	8	2.40	1.91	1.61	1.31	1.20
S-2410-DB	10	2.64	2.12	1.79	1.43	1.37
S-2412-DB	12	2.90	2.34	1.95	1.57	1.49

SOCKETS WITH SHALLOW BRACKETS

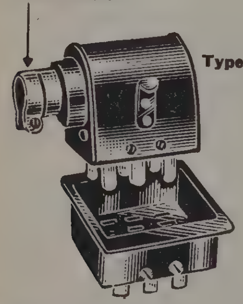
Cinch Number	Contacts	1-24	25-49	50-99	100-249	250-499
S-2402-SB	2	$1.51	$1.18	$1.02	$0.82	$0.78
S-2404-SB	4	1.76	1.42	1.17	.94	.91
S-2406-SB	6	2.03	1.62	1.37	1.09	1.04
S-2408-SB	8	2.29	1.83	1.53	1.22	1.16
S-2410-SB	10	2.56	2.04	1.68	1.39	1.31
S-2412-SB	12	2.82	2.25	1.88	1.51	1.43

SOCKETS LESS ANGLE BRACKETS, DRILLED AND TAPPED*

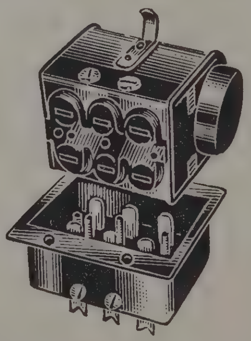
Cinch Number	Contacts	1-24	25-49	50-99	100-249	250-499
S-2402-LAB	2	$0.89	$0.71	$0.59	$0.50	$0.49
S-2404-LAB	4	1.14	.92	.80	.62	.59
S-2406-LAB	6	1.42	1.13	.94	.78	.71
S-2408-LAB	8	1.66	1.36	1.13	.91	.86
S-2410-LAB	10	1.93	1.54	1.31	1.04	.98
S-2412-LAB	12	2.18	1.79	1.46	1.16	1.11

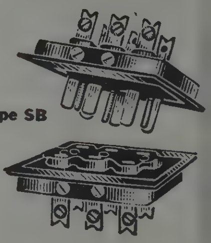
*Except in 2 contact size.

"JONES" PLUGS AND SOCKETS 500 SERIES



Type CE


Type DB


Type SB

500 SERIES PLUGS AND SOCKETS feature three types—**Type DB** with deep bracket for recessed mounting; **Type CE** for cable clamp in end; **Type SB** with shallow bracket for flush mounting. **Rated Voltage:** 3 kV, max. **Rated Current:** 25 amperes per contact. **Power Capacity:** 5 kW, max. **Contacts:** Male, cadmium plated brass; Female, cadmium plated phosphor. **Caps and Brackets:** Parkerized steel.

DEEP BRACKET FOR RECESSED MOUNTING

Cinch Number		Contacts	Net Each, Lots of			
Plug	Socket		1-24	25-49	50-99	100-249
P-502-DB	S-502-DB	2	$13.39	$10.76	$ 8.42	$ 7.25
P-504-DB	S-504-DB	4	15.37	12.28	9.97	8.80
P-506-DB	S-506-DB	6	17.19	13.76	11.43	10.27
P-508-DB	S-508-DB	8	18.77	15.04	12.70	11.49
P-510-DB	S-510-DB	10	20.35	16.29	13.98	12.79
P-512-DB	S-512-DB	12	21.48	17.27	14.94	13.76

CABLE CLAMP IN END

Cinch Number		Contacts	Net Each, Lots of			
Plug	Socket		1-24	25-49	50-99	100-249
P-502-CE	S-502-CE	2	$15.84	$12.69	$10.35	$ 9.19
P-504-CE	S-504-CE	4	18.30	14.62	12.28	11.13
P-506-CE	S-506-CE	6	20.00	16.00	13.68	12.49
P-508-CE	S-508-CE	8	21.08	16.75	14.44	13.23
P-510-CE	S-510-CE	10	22.91	18.35	16.00	14.84
P-512-CE	S-512-CE	12	24.38	19.51	16.79	16.00

SHALLOW BRACKET FOR FLUSH MOUNTING

Plug	Socket	Contacts	1-24	25-49	50-99	100-249
P-502-SB	S-502-SB	2	$13.37	$10.76	$ 8.42	$ 7.25
P-504-SB	S-504-SB	4	15.37	12.28	9.97	8.80
P-506-SB	S-506-SB	6	17.19	13.76	11.43	10.27
P-508-SB	S-508-SB	8	18.77	15.04	12.70	11.49
P-510-SB	S-510-SB	10	20.35	16.29	13.98	12.79
P-512-SB	S-512-SB	12	21.48	17.27	14.94	13.76

LARGER QUANTITY PRICING AVAILABLE ON REQUEST

GW Elco Corporation
a Gulf + Western manufacturing company

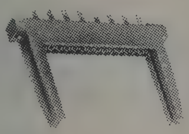
PC Edge Connectors

HOW TO ORDER ELCO CONNECTORS

00 0000 000 000 000
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

Ⓐ Product Code
Ⓑ Series Number
Ⓒ Number of Contacts
Ⓓ Contact Code
Ⓔ Variation Code

SERIES 6030 PC CARD-EDGE CONNECTORS



Series 6030 PC card-edge connectors have extended card guides to facilitate PC card insertion and reduce effects of vibration. Contacts are on .156″ centers. For 1⁄16″ printed circuit card. **Current Rating:** 5 amps. **Contact Material and Plating:** Phosphor bronze per QQ-B-750, composition A, nickel plate, 30 to 100 µinches, followed by gold plate, 10 µinches. **Insulator Material:** Polyester meeting UL 94 V requirements.

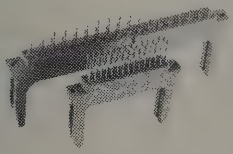
Number of Contacts:
 15 Single-readout contacts
 30 Double-readout contacts

Contact Code:
 Single-Readout Contact:
  457—60 6007 06 52—wire hole (two terminals), special
  551—60 6007 16 23—wire hole (single sided card)
  552—60 6007 16 33—PC tab (single sided card)
  936—60 6007 06 43—solderless wrap .016″ x .047″, special
  938—60 6007 06 33—PC tab, special
  940—60 6007 06 23—wire hole, special
 Double Readout Contact:
  450—60 6007 19 23—wire hole
  451—60 6007 19 33—PC tab
  452—60 6007 18 13—wire wrap .016″ x .044″
  453—60 6007 18 23—PC tab
  454—60 6007 18 33—PC tab .016″ x .044″
  941—60 6007 05 13—switching (used only in pairs)

Variation Code:
 001—15 single readout contacts staggered (936, 938, 940 only)
 002—30 dual readout contacts loaded in all insulator positions
 003—15 single readout contacts loaded on numbered side only (551, 552, 936, 938, 940)
 004—15 single readout contacts loaded on lettered side only (551, 552, 936, 938, 940)

Polarization: Order inserts by part number.
 A type: Eliminates contact position. No. 60 6007 33 14.
 B type: Fits between contact positions. No. 60 6002 31 24.
 C type: Fits between contact positions. No. 60 6061 31 18.

SERIES 6114 PC CARD EDGE CONNECTORS



Series 6114 PC card edge connectors feature extended card guides to facilitate card insertion and optional center guide for two cards. Available as 30 and 36 single readout contacts or as 60 and 72 double readout contacts on .156″ centers. **Current Rating:** 5 amps. **Contact Material and Plating:** Phosphor bronze per QQ-B-750, composition A, nickel plate, 30 to 100 µinches, followed by gold plate, 10 µinches. **Insulator Material:** Polycarbonate. **Dielectric Withstanding Voltage:** 1800 VAC rms between contacts at sea level.

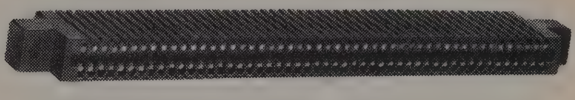
Number of Contacts:
 30, 36 single readout contacts
 60, 72 double readout contacts

Contact Code:
 Single Readout:
  430—60 6112 02 13—wire wrap, .280″ tail length
  431—60 6112 02 23—wire wrap, .530″ tail length
  433—60 6112 02 43—wire wrap, .780″ tail length
 Double Readout:
  432—60 6112 02 33—wire wrap, .780″ tail length

Variation Code:
 001—Without center guide (36 or 72 contacts)
 002—With snap-on center guide (30 or 60 contacts)

Polarization: Order separately by No. 60 6018 3219; fits between contacts.

SERIES 6042 PC CARD EDGE CONNECTORS



Available with crimp type contacts either loose or in reel form for automatic insertion machines. Contacts are on .100″ centers. **Current Rating:** 4 amps. **Contact Material and Plating:** Phosphor bronze per QQ-B-750, composition A, nickel plate, 30 to 100 µinches, followed by gold plate, 10 µinches. **Insulator Material:** Thermoplastic polyester with glass fiber reinforcement. **Dielectric Withstanding Voltage:** 1500 VAC rms between contacts at sea level.

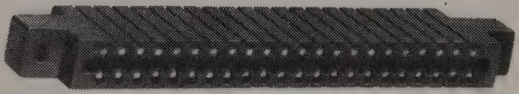
Insulators and contacts to be ordered separately by numbers listed.

No. of Contacts	Insulator Number	With Mtg. Holes	Without Mtg. Holes
80	**60 6042 3080**	X	
100	**60 6042 3090**	X	
100	**60 6042 3190**		X

Contact Numbers:
 60 6042 02 13 00 011—crimp type loose
 00 6042 02 13 99 384—crimp type reeled

Polarization: Must be ordered separately by No. 60 6042 3318; eliminates one contact position.

SERIES 6044 PC CARD EDGE CONNECTORS



Available with crimp type contacts either loose or in reel form for automatic insertion machines. Contacts are on .156″ centers. **Current Rating:** 4 amps. **Contact Material and Plating:** Phosphor bronze per QQ-B-750, composition A, nickel plate, 30 to 100 µinches, followed by gold plate, 10 µinches. **Insulator Material:** Thermoplastic polyester with glass fiber reinforcement. **Dielectric Withstanding Voltage:** 1800 VAC rms between contacts at sea level.

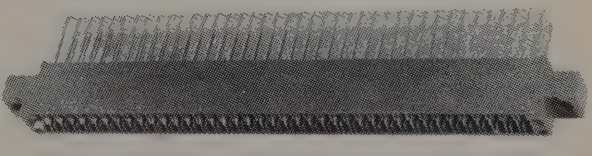
Insulators and contacts to be ordered separately by numbers listed.

Insulator with mounting holes: 60 6044 3010, 44-pos. dual readout.

Contact Numbers:
 000—60 6042 0213 00 011—crimp type loose
 000—60 6042 0213 00 011—crimp type reeled

Polarization: Order inserts separately by No:
 Type A: No. 60 6042 3318.
 Type B: No. 60 6007 4828.

SERIES 6337 PC CARD EDGE CONNECTORS



Series 6337 PC card edge connectors are available as discrete connectors and also as part of "Variframe"™ backpanels with connectors mounted and wired; prices and information available on request. Contacts are on .156″ x .200″ centers and are bifurcated bellows type with .025″ square tails which will accept three levels of wrapped wire. **Current Rating:** 3 amps. **Contact Material and Plating:** Phosphor bronze per QQ-W-321, nickel plate, 30 to 100 µinches, followed by gold plate, 10 µinches. **Insulator Material:** Polyester per UL 94 V-0. **Dielectric Withstanding Voltage:** 1500 VAC rms between contacts at sea level.

Number of Contacts:
 20, 30, 44, 50, 56, 72 and 86 double readout contacts.

Contact Code:
 671—Tail length .585″

Variation Code:
 001—With mounting holes.

Polarization Code: Order inserts separately by No. 60 6007 4828; fits between contacts.

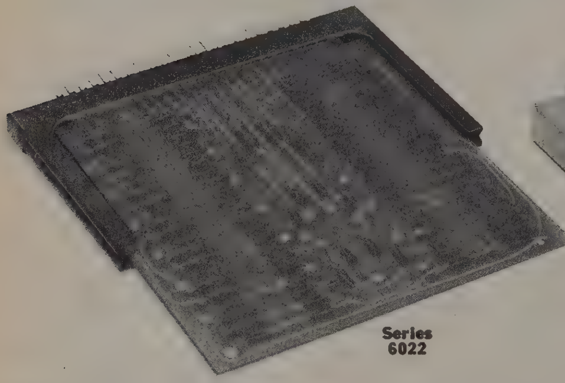
SERIES 6007 PC CARD-EDGE CONNECTORS

Single and dual readout contacts in standard MIL spec connector design. Available in nine sizes, 6/12, 10/20, 12/24, 15/30, 18/36 22/44, 28/56, 36/72 and 43/86 contacts. Three mounting styles—mounting holes, floating eyelets and threaded inserts. Ribbon-type contacts with bifurcated nose. Contacts are on .156″ centers. Terminations available in solder (wire hole and PC tab), taper tab, or low cost solderless wrap contacts. For .062″ printed circuit card. Meet MIL spec MIL-C-21097. **Current Rating:** 5 amps. **Contact Material:** Phosphor bronze per QQ-B-750, composition A. **Standard Plating:** Gold, 10–20 µinches over nickel, 30–150 µinches. **Insulator Material:** Diallyl phthalate, glass filled, flame resistant, per MIL-M-14F, Type SDGF. **Withdrawal Force:** 2 to 16 oz. per contact pair. **HOW TO ORDER:** Specify Elco series number, number of contacts, contact code and variation code. Example: 6007-030-450-012 is a Series 6007 dual readout connector with 30 contacts, wire hole terminations, and .128″ diameter mounting holes.

Number of Contacts:
  Single-Readout—006, 010, 012, 015, 018, 022, 028, 036, 043
  Dual-Readout—012, 020, 024, 030, 036, 044, 056, 072, 086
Contact Code:
  Single-Readout Contacts:
    457—60 6007 06 53—Wire hole, two terminals.
    551—60 6007 16 23—wire hole, single sided.
    552—60 6007 16 33—PC tab, single sided.
    936—60 6007 06 43—Solderless wrap.
    938—60 6007 06 33—PC tab.
    939—60 6007 06 13—Taper tab.
    940—60 6007 06 23—Wire hole, one terminal.
  Dual-Readout Contacts:
    449—60 6007 19 13—Taper tab.
    450—60 6007 19 23—Wire hole.
    451—60 6007 19 33—PC tab.
    452—60 6007 18 13—Solderless wrap.
    453—60 6007 18 23—PC tab.
    454—60 6007 18 33—Solderless wrap.
    941—60 6007 05 13—Switching (used only in pairs).
Variation Code:
  012—.128″ dia. mounting holes.
  013—.117″ I.D. floating eyelets.
  018—#4/40 threaded insert.
Polarization: Order polarizing key separately by part number 60 6007 48218.

Five different sizes of Series 6007

SERIES 6022 AND 6024 PC CARD EDGE CONNECTORS


Series 6022

Series 6024

Extended card guides facilitate printed circuit card insertions and minimize effects of vibration. Series 6022 offers choice of 22 single-readout and 44 dual-readout contacts. Series 6024 offers 18 single-readout and 36 dual-readout contacts. Contacts are on .156″ centers. For 1/16″ printed circuit cards. **Contact Rating:** 5 amps. **Contact Material:** Phosphor bronze per QQ-B-750, composition A. **Contact Plating:** 10–20 µinches gold over 30–150 µinches nickel. **Insulator Material:** Polyester per UL94VO. To order, specify Elco series number, number of contacts, contact code and variation code. Example: 6022-044-449-001 is a Series 6022 dual-readout connector with 44 contacts, taper tab terminations, contacts installed in all positions, and polycarbonate insulator.

Series 6022
Number of Contacts: Single-Readout—022. Dual-Readout—044.
Contact Code:
  Single-Readout Contacts:
    551—60 6007 16 23—Wire hole, single sided.
    552—60 6007 16 33—PC tab, single sided.
    936—60 6007 06 43—Solderless wrap.
    938—60 6007 06 33—PC tab.
    939—60 6007 06 13—.078″ taper tab.
    940—60 6007 06 23—Wire hole.
  Dual-Readout Contacts:
    449—60 6007 19 13—Taper tab.
    450—60 6007 19 23—Wire hole.
    451—60 6007 19 33—PC tab.
    452—60 6007 18 13—Solderless wrap.
    453—60 6007 18 23—PC tab.
    454—60 6007 18 33—PC tab.
    941—60 6007 05 13—Switching (used in pairs only).
Variation Code:
  001—44 dual-readout contacts installed in all positions.
  002—22 single-readout contacts installed on numbered side only
  003—22 single-readout contacts installed on lettered side only.
  004—22 contacts installed staggered with position 1, B, 3, D etc
  005—22 contacts installed staggered with position A, 2, C, 4 etc
Polarization: Must be specified separately.

Series 6024
Number of Contacts: Single-Readout—018. Dual Readout—036.
Contact Code:
  Single-Readout Contacts:
    551—60 6007 16 23—Wire hole, single sided.
    552—60 6007 16 33—PC tab, single sided.
    936—60 6007 06 43—Solderless wrap.
    938—60 6007 06 33—PC tab.
    939—60 6007 06 13—.078″ Taper tab.
    940—60 6007 06 23—Wire hole.
  Dual-Readout Contacts:
    449—60 6007 19 13—Taper tab.
    450—60 6007 19 23—Wire hole.
    451—60 6007 19 33—PC tab.
    452—60 6007 18 13—Solderless wrap.
    453—60 6007 18 23—PC tab.
    454—60 6007 18 33—PC tab.
    941—60 6007 05 13—Switching (used only in pairs).
Variation Code:
  001—Dual-readout contacts.
  002—Single-readout contacts with tails in positions 1 to 18.
  003—Single-readout contacts with tails in positions A to V.
  004—Single-readout contacts with tails in positions 1-B-3 etc.
  005—Single-readout contacts with tails in positions A-2-C etc.
Polarization: Order inserts separately.
  B Type: Fits at right of contact positions. Specify 60 6002 31 24.
  C Type: Fits between opposing contacts. Specify 60 6007 33 14

PC VARICON™ CONNECTORS

Series 5023

Series 7020

SERIES 5023 PC VARICON CONNECTORS

Printed circuit Varicon connectors have extended card guides to facilitate printed circuit card insertion and minimize effects of vibration. Insertable and removable Varilok™ contacts. Contacts are on .200″ centers. Choice of wire crimp, solderless wrap, tapered tab, and wire hole terminations. Crimping, insertion and extraction equipment available. Center guide for two printed circuit cards is optional. **Current Rating:** 8.5 amps. **Contact Material and Plating:** Phosphor bronze per QQ-B-750. Composition A. 10–20 μinches gold plate over 30–150 μinches nickel plate. **Insulator Material:** Polycarbonate per OS-12531 BuWeps. Meet MIL specs MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 BuWeps, par. 3.5.5. To order, specify Elco series number, number of contacts, contact code, variation code. Example: 5023-014-000-001.

Number of Contacts:
014, 033

Contact Code:

216—60 8017 04 13
.078″ Taper Tab

217—60 8017 05 13
Wire Hole

218—60 8017 06 13
Solderless Wrap Tail — .024″ x .050″ x .567″

750—60 8017 06 23
Solderless Wrap Tail — .024″ x .050″ x .760″

296—60 8017 06 33
Solderless Wrap Tail — .024″ x .026″ x .580″

*000—60 8017 03 13
Wire Crimp Tail (Contacts Loose)

*000—60 8017 03 23
Wire Crimp Tail (Contacts on a Reel)

*ORDER SEPARATELY BY PART NO.

Variation Code:
001—For 1/16″ thick card without center guide.*
002—For 1/16″ thick card with snap-on guide.

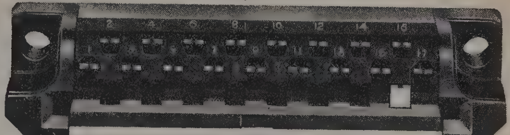
*Center guide available for use only on 33 contact size.

Polarization: Must be specified separately.

SERIES 7001, 7008, 7020 VARICON CONNECTORS

Series 7001 and 7008 printed circuit Varicon connectors are available with or without card guides. For 1/16″ or 3/32″ printed circuit cards. Series 7020 is available only with 51 contacts, card guides, and 1/16″ boards. Choose from wide range of contact terminations. Contacts are on .100″ centers. **Current Rating:** 10 amps. **Contact Material and Plating:** Phosphor bronze per QQ-B-750, Composition A. 10–20 μinches gold plate over 30–150 μinches nickel plate. **Insulator Material:** Diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, Type SDGF. Meet MIL specs MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 BuWeps, par. 3.5.5. To order, specify Elco series number, number of contacts, contact code, and variation code. Example: 7001-017-146-001 is a Series 7001 connector with 17 contacts, .078″ base taper tab termination with card guides, and for 1/16″-card slot.

Series 7001


Series 7008

Series 7009

SERIES 7001, 7008, 7020 (CONT'D)

Number of Contacts:
017, 023, 029, 035, 041, 047.

Contact Code:

141—60 7001 06 33
P.C. Termination for 1/8″ Card

146—60 7001 13 13
.078″ Base Taper Tab

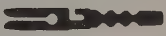
156—60 7001 18 13
Wire wrapping (.026 x .062 x .600″)

158—60 7001 18 33
Wire wrapping w/Wire Hole (.026 x .062 x .600″)

163—60 7001 19 13
.098″ Base Taper Tab w/Wire Hole

165—60 7001 20 13
Forked Tail Solder Termination for Bus Line Connection (.056 x .125″ Slot)

166—60 7001 20 23
Dual Solder Termination for 2 Wires or Bus Line (.056 x .125″ Slot)

189—60 7004 02 13


Variation Code:
001—With card guides, 1/16″ card slot.
002—Without card guides, 1/16″ card slot.
003—With card guides, 3/32″ card slot.
004—Without card guides, 3/32″ card slot.

Polarization: Described separately by contact position.

SERIES 7009 PC VARICON CONNECTOR

Series 7009 connectors with contacts designed for Series 53 tapered pins. Two tapered pins per contact. Contacts on .100″ centers. For 1/16″ or 3/32″ printed circuit cards. Available with or without card guides. **Current Rating:** 10 amps. **Contact Material and Plating:** Phosphor bronze per QQ-B-750, composition A. 10–20 μinches gold plate over 30–150 μinches nickel plate. **Insulator Material:** Diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, Type SDGF. MIL specs MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600 BuWeps, par. 3.5.5. To order, specify series number, number of contacts, contact code, and variation code. Example: 7009-024-193-001.

Number of Contacts: 034, 040.

Contact Code: 193—60 7009 02 13—
Varitwin Pin™ contact.

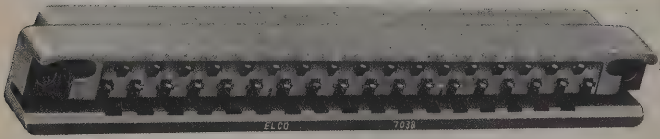
Variation Code:
001—With card guides, 1/16″ card slot.
002—Without card guides, 1/16″ card slot.
003—With card guides, 3/32″ card slot.
004—Without card guides, 3/32″ card slot.

Polarization: Must be specified separately.

PC VARICON™ CONNECTORS

Series 7024

Series 7015

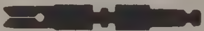

Series 7038

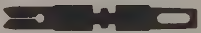
SERIES 7015, 7038 PC VARICON CONNECTORS

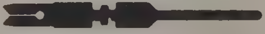
Insertable and removable Varilok™ contacts. Contacts lock in position by spring lances. Choice of wire crimp, solderless wrap, tapered tab, and wire hole terminations. Contacts are on .100″ centers. For 1/16″ or 3/32″ printed circuit cards. All crimping, insertion and extraction equipment available. Series 7015 is available with or without card guides. Series 7038 has open-ended card slot. **Current Rating:** 8.5 amps. **Contact Material and Plating:** Phosphor bronze per QQ-B-750, composition A. 10–20 μinches gold plate over 30–150 μinches nickel plate. **Insulator Material:** Diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, Type SDGF. Meet MIL specs MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600, BuWeps, par. 3.5.5. To order, specify Elco series number, number of contacts, contact code and variation code. Example: 7015-017-000-001.

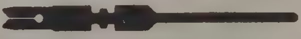
Number of Contacts: 017, 023, 029, 035, 041, 047, 059.

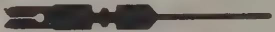
Contact Code:

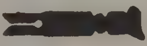
216—60 8017 04 13

.078 Taper Tab

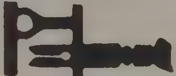
217—60 8017 05 13

Wire Hole

218—60 8017 06 13

Solderless Wrap Tail — .024″ x .050″ x .567″

750—60 8017 06 23

Solderless Wrap Tail — .024″ x .050″ x .760″

296—60 8017 06 33

Solderless Wrap Tail — .024″ x .026″ x .580″

*000—60 8017 03 13

Wire Crimp Tail (Contacts Loose)

*000—60 8017 03 23

Wire Crimp Tail (Contacts on a Reel)

*ORDER SEPARATELY BY PART NO.

Variation Code:

Series 7015:
001—1/16″ thick card with card guides.
002—1/16″ thick card without card guides.
003—3/32″ thick card with card guides.
004—3/32″ thick card without card guides.

Series 7038:
001—1/16″ thick card.
002—3/32″ thick card.

Polarization: Must be specified separately.

SERIES 5001 PC VARICON PLUG

For Series 5000 receptacles. Consists of contacts staked (soldered, if required) directly to printed circuit card. Require no insulators. Contacts supplied on disposable plastic strips. Staking and strip removing equipment available. Contacts on .200″ centers. For 1/16″ or 3/32″ printed circuit cards. **Current Rating:** 10 amps. Contact material and plating, same as Series 7024. MIL specs, same as Series 7024. To order, specify number of contacts required and contact code number after the first two characters of ordering number. Example: 02-063-013-5-200 is a Series 5001 connector with 63 contacts, wire hole termination, for 1/16″ thick card.

Number of Contacts: 001 to 063.

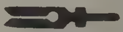
Contact Code No.:
013—60 5001 19 13—Wire hole termination, 1/16″ card.
014—60 5001 19 23—Wire hole termination, 3/32″ card.

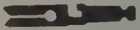
SERIES 7024
PC VARICON CONNECTORS

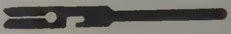
Guide sockets facilitate mating, ensure correct alignment. Open-ended card slot permits use with printed circuit card of any width. For 1/16″ or 3/32″ printed circuit cards Contacts are on .100″ centers. Feature wide range of contact terminations. **Current Rating:** 10 amps. **Contact Materia and Plating:** Phosphor bronze per QQ-B 750, composition A. 10–20 μinches gol plate over 30–150 μinches nickel plate **Insulator Material:** Diallyl phthalate glass-filled, flame resistant, per MIL-M 14F, Type SDGF. Meet MIL specs MIL C-21097, MIL-E-5400, MIL-E-8189, MIL T-21200, MIL-E-19600 par. 3.5.5, MIL STD-454. QPL Approved. To order, specif Elco series number, number of contacts contact code and variation code. Example 7024-023-163-001 is a Series 7024 connecto with 23 contacts, .098″ base taper ta with wire hole termination, for 1/16″ thic card.

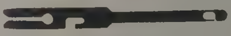
Number of Contacts: 017, 023, 029, 035, 041.

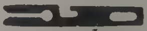
Contact Code:

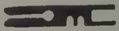
141—60 7001 06 33

P.C. Termination for 1/8″ Card

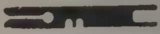
146—60 7001 13 13

.078″ Base Taper Tab

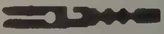
156—60 7001 18 13

Wire wrapping (.026 x .062 x .600″)

158—60 7001 18 33

Wire wrapping w/Wire Hole (.026 x .062 x .600″)

163—60 7001 19 13

.098″ Base Taper Tab w/Wire Hole

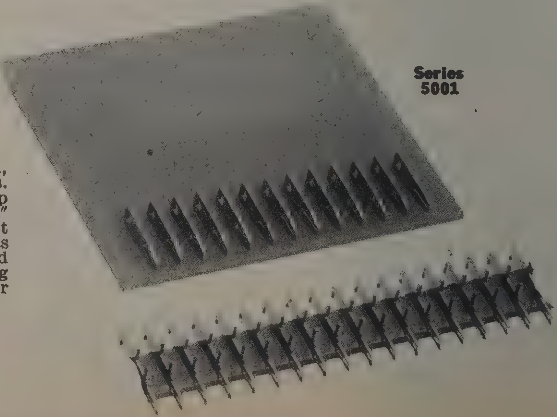
165—60 7001 20 13

Forked Tail Solder Termination for Bus Line Connection
(.056 x .125″ Slot)

166—60 7001 20 23

Dual Solder Termination for 2 Wires or Bus Line
(.056 x .125″ Slot)

189—60 7004 02 13

Conventional Solder Termination for 3 Wires

Variation Code:
001—1/16″ thick card.
002—3/32″ thick card.
110—1/16″ thick card. For conformance to MIL-C-21097B.
111—3/32″ thick card. For conformance to MIL-C-21097B.

Polarization: Must be specified separately.


Series 5001

Crimping Pliers
Insertion Tool
Extraction Tool

MULTIPLE POST INSERTER

Manually operated arbor press for small or medium scale production insertion of Varipost pins. Posts are strip fed with 20 posts per cycle capacity. Mechanical stop feature insures reliable and consistent insertion. **Elco Part No. 06 7741 01**

CRIMPING PLIERS

Crimping pliers designed for hand-crimping contacts.
Elco Part No. 06 7515 01—For Varilok™ contacts.
Elco Part No. 06 7700 01—For Mini-Varilok contacts.
Elco Part No. 06 7745 01—For Varipost Box contacts.

CONTACT EXTRACTION TOOLS

Designed to extract contacts from their insulator quickly, easily.
Elco Part No. 06 1877 04—For Varilok contacts.
Elco Part No. 06 7699 01—For Mini-Varilok contacts.
Elco Part No. 06 7754 01—For Varipost Box contacts.

CONTACT INSERTION TOOLS

Small hand tool designed to insert contacts into insulator.
Elco Part No. 06 1742 04—For Varilok contacts.
Elco Part No. 06 1698 01—For Mini-Varilok contacts.
Elco Part No. 06 7760 01—For Varipost Box contacts.

Series 7021
Series 7022
Series 7023

SERIES 7021, 7022 AND 7023 VARICON CONNECTORS

Series 7021 connectors designed for use with Series 7000 receptacles with card guides. Series 7022 connectors for use with Series 7000 receptacles without card guides. Series 7023 connector mates with Series 7024 receptacle. Guide pins facilitate mating, ensure correct alignment. Contacts are on .100″ centers. Insulator rigidity reduces printed circuit card warp. Insulator maintains exact spacing between contacts. Fewer holes reduces cost of card punching operation. Contact staking reduced to one operation instead of two. Assembly time is reduced because of no plastic strips to remove. For 1/16″ or 3/32″ printed circuit cards. **Current Rating:** 10 amps. **Contact Material and Plating:** Phosphor bronze, per QQ-B-750, composition A. Gold plate over nickel. **Insulator Material:** Diallyl phthalate, glass-filled, flame resistant per MIL-M-14F, Type SDGF. Meet MIL specs MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600, par. 3.5.5. MIL-C-21097*. To order, specify Elco series number, number of contacts and variation code. Example: 7021-023-000-001 is a Series 7021 connector with 23 contacts, for 1/16″ thick card.

Series: 7021, 7022.

Number of Contacts:
017, 023, 029, 035, 041, 047—For Series 7001, 7008 receptacles.
016, 022, 028, 034, 040, 046—For Series 7009 receptacles.
(Number 1 contact omitted.)

Variation Code:
001—For 1/16″ thick card.
002—For 3/32″ thick card.

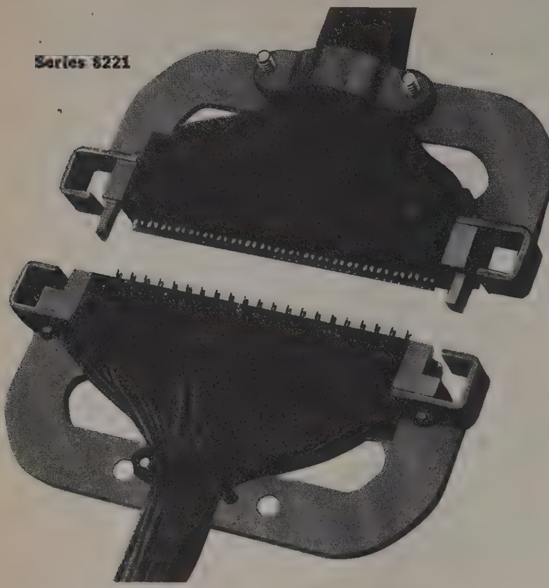
Series: 7023.

Number of Contacts:
017, 023, 029, 035, 041, 047.

Variation Code:
001—For 1/16″ thick card.
002—For 3/32″ thick card.
*110—For 1/16″ thick card. Conforms to MIL-C-21097D.
*111—For 3/32″ thick card. Conforms to MIL-C-21097D.

SEE FIRST PAGE OF ELCO LISTING FOR ORDERING CODE

SERIES 8221 PC MINIATURE 2-PIECE METAL-TO-METAL CONNECTORS


Series 8221

Mini-Varilok™ contacts are insertable and removable. Metal guidance hardware includes gold color left hand guides and silver color right hand guides. **Current Rating:** 3 amps. **Contact Material and Plating:** Phosphor bronze per QQ-B-750, composition A, with 10–20 μinches gold over 30–100 μinches nickel. **Insulator Material:** Diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, type SDGF. Meet applicable portions of MIL spec MIL-C-55302. To order, specify Elco series number, number of contacts, contact code and variation code. Example: 8221-042-000-001. Contacts are ordered separately by part number.

Number of Contacts: 018, 030, 036, 042, 054, 072.

Contact Code:
491—60 8216 04 13—Loose contact, .025″ sq. wrap tail.

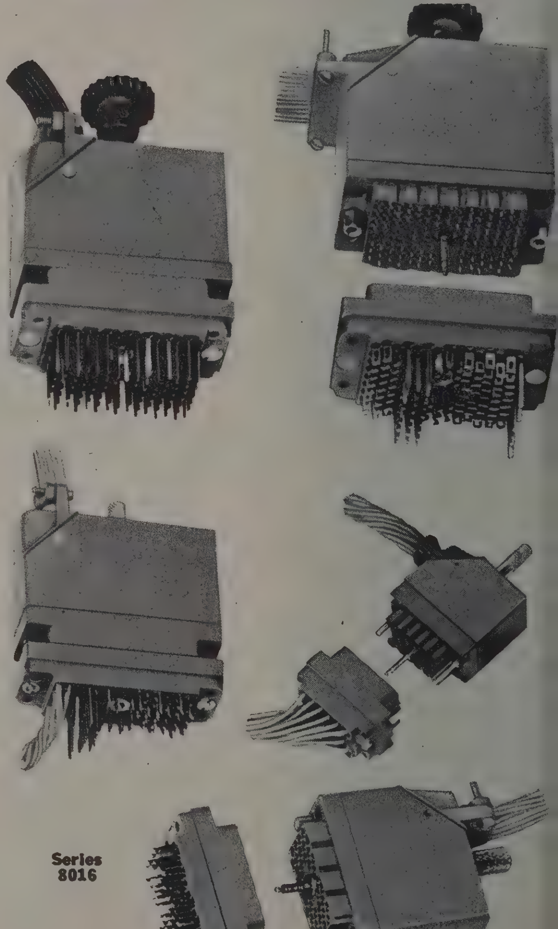
Variation Code:

Without Keying	With Keying	
001	011	Receptacle
002	012	Plug, perpendicular board mounting.
005	015	Plug, parallel board mounting.
003	013	Receptacle with small clamp assy.
004	014	Plug (Var. 005) with small clamp assy.
006	016	Receptacle with large clamp assy.
007	017	Plug (Var. 005) with large clamp assy.
008	018	Receptacle with self locking tie.
009	019	Plug (Var. 005) with self locking tie.

Contacts: Order separately.
60 8216 0313—Loose contacts, crimp.
60 8216 0323—3000 contacts on reel, crimp.

Polarization: Must be specified separately.

SERIES 8016 RECTANGULAR RACK-AND-PANEL CONNECTORS


Series 8016

Available in five sizes, 20, 38, 56, 90 and 120 contacts. Have insertable and removable Varilok contacts. Choice of crimp, solder, solderless wrap and taper tab terminations. Polarizing hardware can be set to any of six positions at factory. Can also be reset by user (thirty-six possible polarizing positions, combinations per pair). Optional cover with top or side cable entry and clamp. Guide pins and sockets ensure correct alignment when mating. UL Approved. **Current Rating:** 8.5 amps, maximum. **Contact Material:** Phosphor bronze per QQ-B-750, composition A. **Contact Plating:** Gold, 10–20 μinches over nickel, 30–150 μinches. **Insulator Material:** Diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, Type SDGF. Aluminum cover and clamp. To order, specify Elco series number, number of contacts, contact code, and variation code. Example: 8016-020-216-803 is a Series 8016, with 20 contacts, .078″ taper tab contact terminations, diallyl insulator, plug type connector with top cable entry on cover, with actuating screw.

Number of Contacts: 20, 38, 56, 90, 120.

Contact Code:
216*—60 8017 04 13—.078″ taper tab.
217*—60 8017 05 13—Solder/.098″ taper tab.
218*—60 8017 06 13—Solderless wrap tail, .024″ x .050″ x .567″.
750*—60 8017 06 23—Solderless wrap tail, .024″ x .050″ x .760″.
296 —60 8017 06 33—Solderless wrap tail, .024″ x .026″ x .580″.
504 —60 8017 06 63—Solderless wrap tail, .024″ x .026″ x .170″.
000†—60 8017 03 13—Loose contact, crimp.
000†—60 8017 03 23—1800 contacts on reel, crimp.

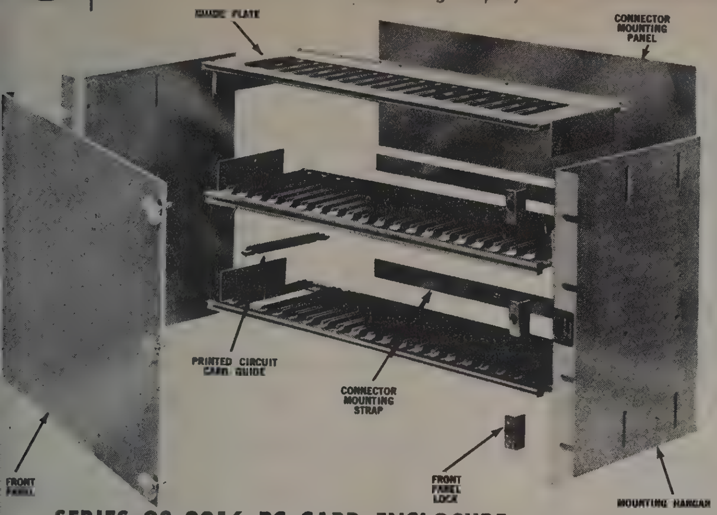
*Contact terminations should be insulated as they protrude from insulator. †Use 000 code number in complete assembly number, but order loose contacts separately by part no., e.g.: 60 8017 03 13.

Type Conn.	Variation Code			Number of Contacts	Cable Entr.
	Std.† Clamp	Large† Clamp	No Cover		
Plug	....	....	701	20, 38, 56, 90, 120	....
Plug	....	....	702	20, 38, 56, 90, 120	....
Plug	803	819	......	20, 38, 56, 90, 120	Top
Plug	804	820	......	20, 38, 56, 90, 120	Side
Plug	805	821	......	20, 38, 56, 90, 120	Top
Plug	806	822	......	20, 38, 56, 90, 120	Side
Recp.	....	....	707	20, 38, 56, 90, 120	....
Recp.	....	....	708	20, 38, 56, 90, 120	....
Recp.	809	823	......	20, 38, 56, 90, 120	Top
Recp.	810	824	......	20, 38, 56, 90, 120	Side
Recp.	811	825	......	20, 38, 56, 90, 120	Top
Recp.	812	826	......	20, 38, 56, 90, 120	Side
Plug	....	....	713	20, 38, 56	...
Plug	814	827	......	20, 38, 56	Top
Plug	815	828	......	20, 38, 56	Side
Recp.	....	....	716	20, 38, 56	....
Recp.	817	829	......	20, 38, 56	Top
Recp.	818	830	......	20, 38, 56	Side

†Standard and large clamps are cable strain relief clamps available only for sizes 38 and 56 contacts. Clamps are adjustable for large or small cable bundles. Can be mounted on plug and/or receptacle. For plug and cable-to-cable applications, order by **Elco Part No. 30-8026-9601.** For receptacle applications, order by **Part No. 30-8026-9602.** Note: Covers for 20. 90 and 120 contact sizes are only available with a standard clamp. Use only crimp contacts for 20 contact connectors with covers.

SEE FIRST PAGE OF ELCO LISTING FOR ORDERING CODE

VARIPAK™ PC CARD ENCLOSURES, ACCESSORIES



SERIES 03-9016 PC CARD ENCLOSURE COMPLETE PACKAGE ASSEMBLIES

Component parts needed to assemble a complete printed circuit card enclosure package can be ordered under one assembly number. To order, specify Elco series number, assembly code number, connector mounting number and accessories number. Example: 03-9016-20-02-03 is a Varipak double tier unit with blank connector mounting straps, marker strip and front door panel. Card guides must be ordered separately.

Single Tier Units			Nominal PC Card Width	Double Tier Units		
Assembly Code No.		Enclosure Width,		Assembly Code No.		Enclosure Width,
19″	24″	In.	Inches	19″	24″	In.
01	51	4.343	3.625	20	70	8.718
02	52	5.218	4.500	21	71	10.468
03	53	6.968	6.250	22	72	13.968
04	54	8.718	8.000	23	73	17.468
05	55	4.343	3.625	24	74	8.718
06	56	5.218	4.500	25	75	10.468
07	57	6.968	6.250	26	76	13.968
08	58	8.718	8.000	27	77	17.468
09	59	4.343	3.625	28	78	8.718
10	60	5.218	4.500	29	79	10.468
11	61	6.968	6.250	30	80	13.968
12	62	8.718	8.000	31	81	17.468
13	63	4.343	3.625	32	82	8.718
14	64	5.218	4.500	33	83	10.468
15	65	6.968	6.250	34	84	13.968
16	66	8.718	8.000	35	85	17.468

Connector Mounting Number:
00—No connector mounting parts.
01—Blank connector panel.
02—Blank connector mounting straps.
03—Connector mounting straps with 82 (.128″ dia.) holes on .200″ centers.
04—Blank panel and blank connector mounting straps. For double tier models only.
05—Blank panel and connector mounting straps with 82 (.128″ dia.) holes on .200″ centers. For double tier models only.

Accessories Number:
00—None.
01—Marker strip.
02—Front door panel.
03—Marker strip and front door panel.
04—Reinforcement bar.
05—Reinforcement bar and front door panel.

HINGED FRONT PANELS

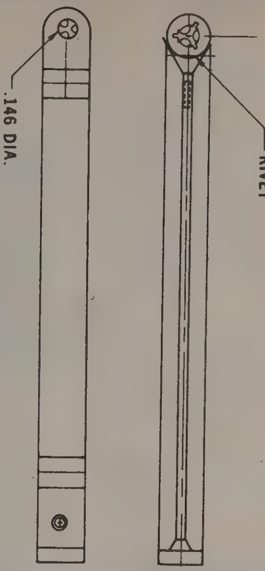
Constructed of 6061-T4 aluminum, clear anodize finish. Single tier model is hinged at bottom, opens from top; held by two slothead fasteners. Double tier model can be hinged to open from left or right, is held in place by three wing-head fasteners. Includes mounting hardware.

Single Tier Part Number	Will Fit Assemblies	Double Tier Part Number	Will Fit Assemblies
3 9016 2201 01	01, 05, 09, 13	33 9016 2209 00	20, 24, 28, 32
3 9016 2201 02	02, 06, 10, 14	33 9016 2210 00	21, 25, 29, 33
3 9016 2201 03	03, 07, 11, 15	33 9016 2211 00	22, 26, 30, 34
3 9016 2201 04	04, 08, 12, 16	33 9016 2212 00	23, 27, 31, 35
3 9016 2201 11	51, 55, 59, 63	33 9016 2209 01	70, 74, 78, 82
3 9016 2201 12	52, 56, 60, 64	33 9016 2210 01	71, 75, 79, 83
3 9016 2201 13	53, 57, 61, 65	33 9016 2211 01	72, 76, 80, 84
3 9016 2201 14	54, 58, 62, 66	33 9016 2212 01	73, 77, 81, 85

VARIPAK ACCESSORIES

Elco Reinforcement Bar—Provides additional support. Slides into front guide plate. Aluminum. Part Numbers **63 9016 7504 00** (19″); **3 9016 7504 01** (24″).

.D. Marker Strip—White matte finish surface. Extruded flexible polyvinyl. Slides into front guide plate. Part Numbers **63 9016 402 00** (19″); **63 9016 2402 01** (24″).

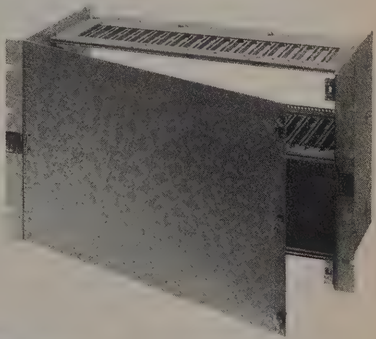


PRINTED CIRCUIT CARD GUIDES

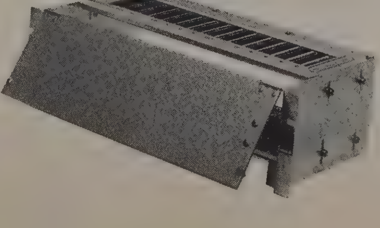
Designed to align card with connector and hold card in place. Features wide beveled lead-in edge for easy card alignment. Guides easily assembled and removed causing no damage to the guide or the enclosure. Special guide float allows for tolerance accumulation between guide and connector. Made of rugged polycarbonate, temperature rating of 280° F to 300° F. Sizes available for 1/16″, 3/32″ and 1/8″ thick printed circuit cards.

Elco Part Number	Nom. Card Thick., In.	Will Fit Assemblies
33 9016 12 01 01	1/16	01, 02, 03, 04 51, 52, 53, 54
33 9016 12 01 02	3/32	20, 21, 22, 23
33 9016 12 01 03	1/8	70, 71, 72, 73
		05, 06, 07, 08
33 9016 12 01 04	1/16	55, 56, 57, 58
33 9016 12 01 05	3/32	24, 25, 26, 27
33 9016 12 01 06	1/8	74, 75, 76, 77
		09, 10, 11, 12
33 9016 12 01 07	1/16	59, 60, 61, 62
33 9016 12 01 08	3/32	28, 29, 30, 31
33 9016 12 01 09	1/8	78, 79, 80, 81
		13, 14, 15, 16
33 9016 12 01 10	1/16	63, 64, 65, 66
33 9016 12 01 11	3/32	32, 33, 34, 35
33 9016 12 01 12	1/8	82, 83, 84, 85

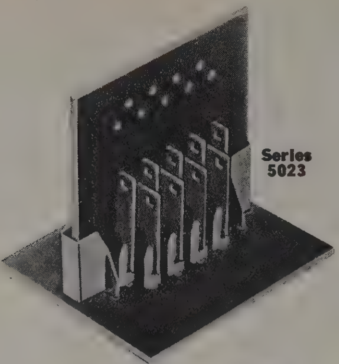
NOTE: Snap-in rivet supplied with each card guide. However, to fasten guides to center guide plate (double tier model) special two-piece snap-together rivet is required to hold two guides back-to-back on opposite sides of the plate. To order guides for the center guide plate, change prefix part number from 33 to 63, and order special rivet separately by part number as follows: 33 9016 20 53.



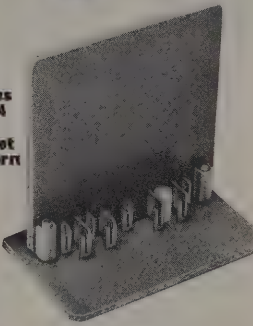
Hinged Front Panel Double Tier



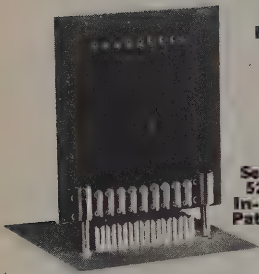
Hinged Front Panel Single Tier



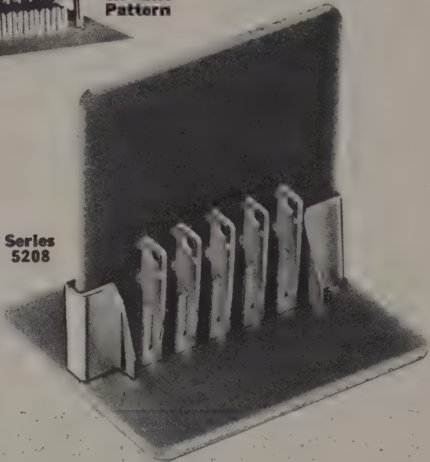
Series 5023



Series 5204 Offset Pattern



Series 5204 In-Line Pattern



Series 5208

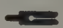
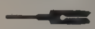
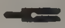
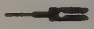
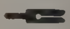
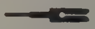
SERIES 5023, 5204, 5208 PC CONTACTS BOARD TO BOARD APPLICATIONS

Contacts supplied on disposable plastic carrier strips. **Current Rating:** 10 amps. **Contact Resistance:** 0.006 ohm, maximum. **Contact Material and Plating:** Phosphor bronze per QQ-B-750, composition A, gold over nickel. **Withdrawal Force:** 2 to 16 ounces per contact. Meet MIL specs MIL-E-5400, MIL-E-8189, MIL-T-21200, MIL-E-19600, par. 3.5.5. For 1/16", 3/32" and 1/8" printed circuit cards. To order, specify series number, number of contacts required, contact type, card thickness, pattern and contact spacing.

SERIES 5023

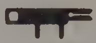
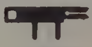
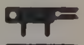
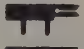
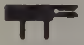
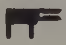
Perpendicular cards, .200" pad spacing, pattern No. 1.

Contact Type:

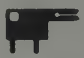
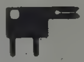
113		1/16" Card
120		1/16" Card
114		3/32" Card
121		3/32" Card
115		1/8" Card
122		1/8" Card

Module card contacts. .200" spacing, pattern 5. Upper tier and lower tier contacts on separate strips. Order upper and lower tier contacts separately. Order one extra lower tier contact when pattern is to start and end with a lower tier contact. Example: 9 lower tier and 8 upper tier.

Lower Tier Contacts:

135		1/16" card
136		3/32" card
144		1/16" card
147		1/16" card
148		3/32" card
228		1/16" card

Upper Tier Contacts:

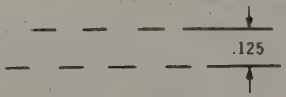
137		1/16" card
138		3/32" card

CARD GUIDES: (ORDER SEPARATELY)

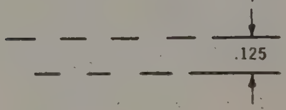
Left Hand Guides	Right Hand Guides
Elco No. **62 5201 40 22**—1/16"	Elco No. **62 5201 40 12**—1/16"
Elco No. **62 5201 41 22**—3/32"	Elco No. **62 5201 41 12**—3/32"

PATTERNS

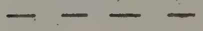
No. 1



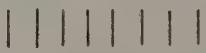
No. 2



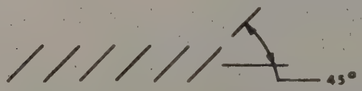
No. 3



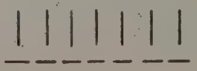
No. 5



No. 6



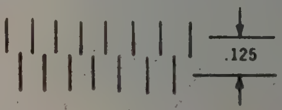
No. 7



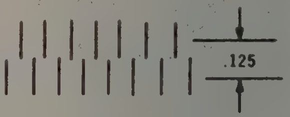
Supplied on two strips

ADDITIONAL PATTERNS, VARIATIONS

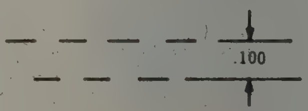
No. 007



No. 008



No. 009

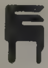
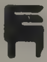


SERIES 5204 PC CONTACTS (CONT'D)

Perpendicular cards, .100″ pad spacing, inline or offset patterns.
Module Card: Contacts for inline pattern.

331		1/32″ CARD
332		1/16″ CARD

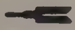
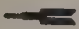
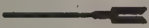
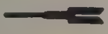
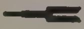
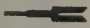
Contacts for offset pattern.

332		1/16″ CARD, LOWER TIER
372		1/16″ CARD, UPPER TIER
331		1/32″ CARD, LOWER TIER
371		1/32″ CARD, UPPER TIER

Spacing Code: 100—inline pattern. 200—offset pattern.

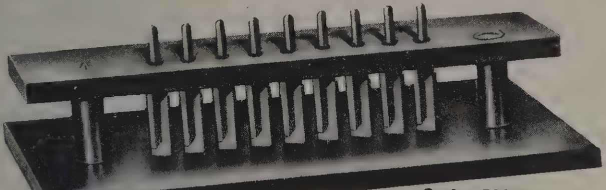
Order lower and upper tier contacts separately. Order one extra lower tier contact when pattern is to start and end with a lower tier contact. Example: 9 lower tier and 8 upper tier.

Base Card: Contacts.

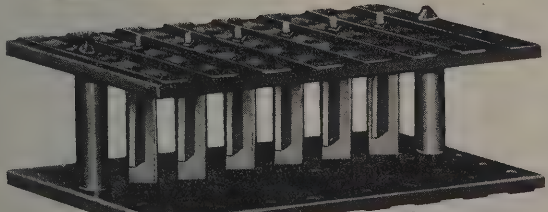
322		1/32″ CARD
323		1/16″ CARD
324		1/16″ CARD
325		3/32″ CARD
327		3/32″ CARD
328		3/32″ CARD

Pattern: 3, inline. 9, offset. **Spacing Code:** .100″, .200″. **Variation:** 000–009.

Order the following separately: Guide socket—**62 5204 40 12.** Polarizing sleeve—**62 5204 30 18.** Guide Pin—**62 5204 41 12.**



Series 5304



Series 5301

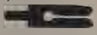
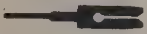
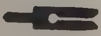
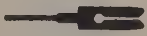
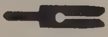
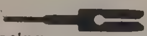
SERIES 5304 PC CONTACTS FOR BOARD TO BOARD APPLICATIONS

For board to board applications. Parallel cards, .203″ spacing between cards. Pattern No. 6, .100″ spacing. To order, specify Elco series number, contact type (322, 323, or 324, see contact type silhouettes, above) and order the following by Elco Part No.: Polarizing sleeve—**62 5204 30 18.** Guide pin—**60 8202 40 12,** for 1/16″ card; **60 8202 40 02,** for 1/32″ card. Guide socket—**62 5304 40 12,** for 1/16″ card; **62 5304 40 02,** for 1/32″ card.

SERIES 5208 PC CONTACTS (CONT'D)

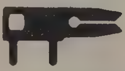
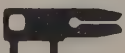
Perpendicular cards, .200″ pad spacing, pattern No. 3.

Base Card Contacts:

113		1/16″ Card
120		1/16″ Card
114		3/32″ Card
121		3/32″ Card
115		1/8″ Card
122		1/8″ Card

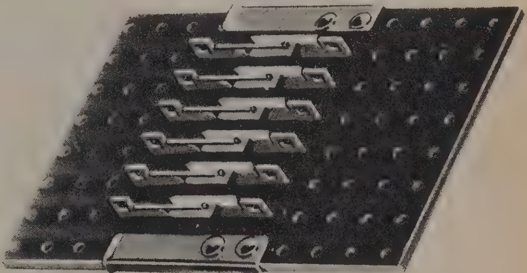
Pattern No. 5, .200″ spacing.

Module Card Contacts:

013		1/16″ card
014		3/32″ card

CARD GUIDES: (ORDER SEPARATELY)

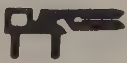
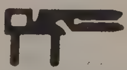
Left Hand Guides	Right Hand Guides
Elco No. **62 5201 40 22**—1/16″	Elco No. **62 5201 40 12**—1/16″
Elco No. **62 5201 41 22**—3/32″	Elco No. **62 5201 41 12**—3/32″



SERIES 5101 PC CONTACTS

Tandem cards. Contacts are available on three spacings—Pattern No. 5, .125″, .150″ and .200″.

Contact Type:

111		1/16″ card
112		3/32″ card

To order, specify series number, contact type, and spacing, and order the following by Elco Part No: spacing, and order the following by Elco Part No.: Card guides—62 5101 40 12, for 1/16″ card; 62 5101 41 12, for 3/32″ card. Rivet (2 required per guide)—90 2168 00 14 01, for 1/16″ card; 90 2168 00 14 02, for 3/32″ guide.

SERIES 5301 PC CONTACTS FOR BOARD TO BOARD APPLICATIONS

For board to board applications. Parallel cards, .438″ between cards. Pattern No. 6, .125″, .150″, .156″, or .200″ spacing. To order, specify Elco series number, contact types (113, 120, 114, 121, 115, 122, see contact type silhouettes, above), contact spacing and order the following by Elco Part No.: Guide pin—**62 5301 41 12,** for 1/16″ card; **62 5301 41 22,** for 3/32″ card; **62 5301 41 32,** for 1/8″ card. Guide sockets: **62 5301 40 12,** for 1/16″ card; **62 5201 40 22,** for 3/32″ card; **62 5301 40 32,** for 1/8″ card. Contacts are available on four spacings, .125″, .150″, .156″ and .200″; each spacing has a corresponding maximum number of contacts. Fewer contacts can be ordered.

SEE PREVIOUS PAGE FOR ORDERING INFORMATION

C. P. CLARE & COMPANY
GENERAL INSTRUMENT CORPORATION

PLUG-IN MERCURY-WETTED CONTACT RELAYS

HG

HGP

HG2A, HG3A

HG4A

HGS

BASE/WIRING DIAGRAMS

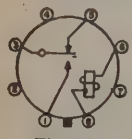


Fig. S4

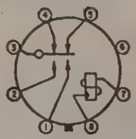


Fig. 1

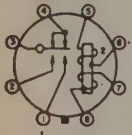


Fig. 2

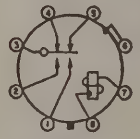


Fig. 4

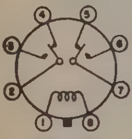


Fig. 2A1

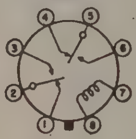


Fig. 2A2

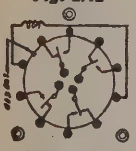


Fig. 4A1

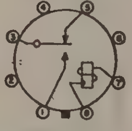


Fig. S1

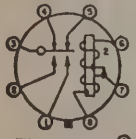


Fig. 3

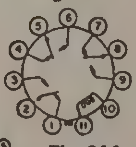


Fig. 3A1

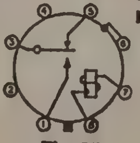


Fig. S5

HG SERIES PLUG-IN MERCURY-WETTED CONTACT RELAYS

Type HG relays have SPDT make-before-break form D contacts rated 5 amps, 500 V, 250 VA max.; operating time, 2 msec. **Type HG2A:** DPDT operation; 2 capsules; operating time, 2¼ msec. **Type HG3A:** 3PDT operation; 3 capsules; operating time, 2½ msec. **Type HG4A:** 4PDT operation; 4 capsules; operating time, 3¾ msec. Life, 22 x 10^9 at specified ratings. Octal plug-in base, except HG4A (10-pin glass-to-metal plug). Size (not including pins): HG, 1.105″ dia. x 2.660″ h.; HG2A and HG3A, 1.696″ dia. x 3.440″ h.; HG4A, 1.855″ dia. x 3.565″ h.

C. P. Clare Number	Coil Resis., Ohms	Must mADC		Must Oper. VDC	Max. VDC	Base Figure	Net Each, Lots of				
		Operate	Release				1-9	10-24	25-49	50-99	100-499
HG1019	40	67	30	2.9	11	4	$21.00	$15.75	$14.70	$13.65	$12.60
HG1012	130	37	16	5.4	20	4	21.00	15.75	14.70	13.65	12.60
HG1026	500	20	8.7	11	39	1	21.00	15.75	14.70	13.65	12.60
HG1004	700	19	8.3	15	45	1	21.00	15.75	14.70	13.65	12.60
HG1051	700	......	......	15	45	4	21.00	15.75	14.70	13.65	12.60
HG1043	1000	15	6.6	17	55	1	21.00	15.75	14.70	13.65	12.60
HG1001	2500	10	4.4	28	87	1	21.00	15.75	14.70	13.65	12.60
HG1002	4000	7.5	3.3	33	110	1	12.86	9.65	9.01	8.36	7.72
HG1017	4000	7.5	3.3	33	110	4	21.00	15.75	14.70	13.65	12.60
HG1009	7000	5.8	2.6	45	145	1	21.00	15.75	14.70	13.65	12.60
HG1011	11,000	5.0	2.2	61	180	1	21.00	15.75	14.70	13.65	12.60
HG1024	25,000	3.4	1.5	94	275	1	21.00	15.75	14.70	13.65	12.60
HG1003†	700/ 3300	32/ 13	14/ 4.9	25/ 47	46/ 99	2	21.00	15.75	14.70	13.65	12.60
HG2A1042	140	67	28	10	24	2A1	34.00	25.50	23.80	22.10	20.40
HG2A1003	315	44	19	15	36	2A2	34.00	25.50	23.80	22.10	20.40
HG2A1017	500	35	15	19	45	2A2	34.00	25.50	23.80	22.10	20.40
HG2A1009	700	31	13	24	53	2A1	34.00	25.50	23.80	22.10	20.40
HG2A1002	700	31	13	24	53	2A2	34.00	25.50	23.80	22.10	20.40
HG2A1015	1250	22	9.3	30	71	2A2	34.00	25.50	23.80	22.10	20.40
HG2A1068	2500	17	7.0	46	100	2A1	34.00	25.50	23.80	22.10	20.40
HG2A1001	5000	11	4.7	62	142	2A1	34.00	25.50	23.80	22.10	20.40
HG2A1004	5000	11	4.7	62	142	2A2	34.00	25.50	23.80	22.10	20.40
HG2A1013	10,000	8.6	3.6	94	200	2A2	34.00	25.50	23.80	22.10	20.40
HG3A1004	315	44	19	15	36	2A1	44.20	33.15	30.94	28.73	26.52
HG3A1006	500	35	15	19	45	3A1	44.20	33.15	30.94	28.73	26.52
HG3A1002	700	31	13	24	53	3A1	44.20	33.15	30.94	28.73	26.52
HG3A1008	1250	22	9.3	30	71	3A1	44.20	33.15	30.94	28.73	26.52
HG3A1005	2500	17	7.0	46	100	3A1	44.20	33.15	30.94	28.73	26.52
HG3A1003	5000	11	4.7	62	142	3A1	44.20	33.15	30.94	28.73	26.52
HG3A1010	10,000	8.6	3.6	94	200	3A1	44.20	33.15	30.94	28.73	26.52
HG4A1013	65	......	......	7.2	16	4A1	56.80	42.60	39.76	36.92	34.08
HG4A1011	390	42	18	18	40	4A1	56.80	42.60	39.76	36.92	34.08
HG4A1001	700	35	15	27	53	4A1	56.80	42.60	39.76	36.92	34.08
HG4A1007	1400	23	9.9	35	75	4A1	56.80	42.60	39.76	36.92	34.08
HG4A1003	4000	16	6.7	69	126	4A1	56.80	42.60	39.76	36.92	34.08
HG4A1006	10,000	8.6	3.7	94	200	4A1	56.80	42.60	39.76	36.92	34.08

HGP SERIES OCTAL-BASED MERCURY-WETTED RELAYS

Similar to HG series, but with permanent magnets making a slight increase in height. Single side stable, except as indicated. Size, 1.105″ dia. x 3.130″ high (not incl. pins).

HGP1001	90	16	1.3	1.6	16	1	$22.85	$17.14	$16.00	$14.85	$13.71
HGP1005	1000	5.6	0.4	6.2	55	1	22.85	17.14	16.00	14.85	13.71
HGP1002	4000	3.0	0.24	13	110	1	22.85	17.14	16.00	14.85	13.71
HGP1008	4000	4.7	1.7	21	110	1	22.85	17.14	16.00	14.85	13.71
HGP1055	7000	2.2	0.19	17	145	1	22.85	17.14	16.00	14.85	13.71
HGP1052	11,000	1.9	0.21	23	180	1	22.85	17.14	16.00	14.85	13.71
HGP1056	25,000	1.3	0.15	36	275	1	22.85	17.14	16.00	14.85	13.71
HGP1006†	700/ 3300	14/ 5.7	2.8	11/ 21	46/ 99	3	22.85	17.14	16.00	14.85	13.71
HGP1047*	600	±3.4	.....	±2.2	43	1	22.85	17.14	16.00	14.85	13.71
HGP1003*	4000	±1.5	.....	±6.6	110	1	22.85	17.14	16.00	14.85	13.71
HGP1012†	700/ 3300	6.0/ 2.4	.....	4.6/ 8.7	46/ 99	3	22.85	17.14	16.00	14.85	13.71
HGP1031*†	7500/ 7500	±1.7/ 1.7	.....	±14/ 14	150/ 150	3	22.85	17.14	16.00	14.85	13.71
HGP1028§	500	......	.....	6.3#	....	4	22.85	17.14	16.00	14.85	13.71
HGP1009§	4000	......	.....	18.5#	....	4	22.85	17.14	16.00	14.85	13.71

HGS SERIES OCTAL-BASED MERCURY-WETTED RELAYS

Plug-in relays SPDT type rated 2 amps, 500 V, 100 VA max. Operate time, 1 msec. Life, 22 x 10^9 at specified ratings. Single element assemblies. **HGS1:** Make-before-break contacts. **HGS5:** Break-before-make contacts. Size, 1.312″ max. dia. x 2.650″ h. (not including pins). Base HGS1048, S4; HGS5008, S5; all others, S1. Single side stable except as indicated.

C. P. Clare Number	Coil Resis., Ohms	Must mADC		Must Oper. VDC	Max. VDC	Net Each, Lots of				
		Operate	Release			1-9	10-24	25-49	50-99	100-499
HGS1015	90	6.3	1.1	.63	13	$17.35	$13.01	$12.15	$11.28	$10.41
HGS1045	350	3.6	0.61	1.4	26	17.35	13.01	12.15	11.28	10.41
HGS1018	500	2.9	0.50	1.6	31	17.35	13.01	12.15	11.28	10.41
HGS1009	600	2.9	0.69	1.9	34	17.35	13.01	12.15	11.28	10.41
HGS1046	700	2.9	0.49	2.2	37	17.35	13.01	12.15	11.28	10.41
HGS1014	1000	2.2	0.38	2.4	44	17.35	13.01	12.15	11.28	10.41
HGS1006	2500	1.4	0.17	3.9	70	17.35	13.01	12.15	11.28	10.41
HGS1005	4000	1.25	0.25	5.5	90	17.35	13.01	12.15	11.28	10.41
HGS1048	4000	1.25	0.25	8.4	90	17.35	13.01	12.15	11.28	10.41
HGS1016	7000	0.87	0.14	6.7	118	17.35	13.01	12.15	11.28	10.41
HGS1017	11,000	0.72	0.12	8.7	148	17.35	13.01	12.15	11.28	10.41
HGS1113*	1000	‡1.2	.....	1.4	45	17.35	13.01	12.15	11.28	10.41
HGS1114*	2500	‡0.82	.....	2.3	70	17.35	13.01	12.15	11.28	10.41
HGS1026*	4000	‡0.48	.....	2.1	90	17.35	13.01	12.15	11.28	10.41
HGS1056*	7000	‡0 48	.....	3.7	118	17.35	13.01	12.15	11.28	10.41
HGS1096*	25,000	‡0.29	.....	8.0	223	17.35	13.01	12.15	11.28	10.41
HGS1004§	600	....	.....	6.3#	....	17.35	13.01	12.15	11.28	10.41
HGS5011	350	3.6	0.61	1.4	26	17.35	13.01	12.15	11.28	10.41
HGS5015	1000	2.2	0.38	2.4	44	17.35	13.01	12.15	11.28	10.41
HGS5003	2500	1.4	0.17	3.9	70	17.35	13.01	12.15	11.28	10.41
HGS5008	4000	1.25	0.25	5.5	90	17.35	13.01	12.15	11.28	10.41
HGS5047	11,000	0.72	0.12	8.7	148	17.35	13.01	12.15	11.28	10.41
HGS5016	25,000	0.52	0.09	14.3	224	17.35	13.01	12.15	11.28	10.41
HGS5006	1000	1.2	.....	1.4	45	17.35	13.01	12.15	11.28	10.41
HGS5004	4000	0.48	.....	2.1	90	17.35	13.01	12.15	11.28	10.41
HGS5017§	600	....	.....	6.3#	....	17.35	13.01	12.15	11.28	10.41

*Bi-stable. †Double wound. §Chopper. #VAC.

C. P. CLARE & COMPANY
GENERAL INSTRUMENT CORPORATION

MODULAR MERCURY-WETTED CONTACT RELAYS

HGM SERIES MODULAR MERCURY-WETTED RELAYS

Consist of standard HG switch capsules in module form, with plated steel covers for excellent mechanical protection and magnetic shielding. Standard HG switch is not polarity sensitive. SPDT make-before-break contacts rated 5 amps, 500 volts, 250 VA maximum. Life expectancy, 22 x 10⁹ at specified ratings. Size, ¾" x ¾" x 3¹³⁄₆₄".

C. P. Clare Number	Coil Resis., Ohms	Must mADC		Must Oper. VDC	Max. DC Volts	Net Each, Lots of				
		Operate	Release			1-9	10-24	25-49	50-99	100-499
HGM1005	40	119	52	5.24	12.6	16.30	$12.23	$11.41	$10.60	$9.78
HGM1008	150	53	23	8.75	24	16.30	12.23	11.41	10.60	9.78
HGM1002	450	32.9	14.5	16.3	42	16.30	12.23	11.41	10.60	9.78
HGM1001	750	18.6	8.2	21.0	55	16.30	12.23	11.41	10.60	9.78
HGM1012	1100	21.6	9.5	27.1	66	16.30	12.23	11.41	10.60	9.78

HG2M SERIES DPDT MODULAR RELAYS

Same characteristics as HGM series, but contains two capsules for DPDT make-before-break configuration. Contacts rated 5 amps, 500 volts, 250 VA maximum with life expectancy of 22 x 10⁹. Size, ¾" x 1³⁄₃₂" x 3¹³⁄₆₄" max.

HG2M1007	90	82.2	28.6	8.2	19	$22.20	$16.65	$15.54	$14.43	$13.32
HG2M1008	350	42.0	14.6	16.2	37	22.20	16.65	15.54	14.43	13.32
HG2M1020	580	32.5	11.2	20.7	48	22.20	16.65	15.54	14.43	13.32
HG2M1026	1250	23.0	8.0	31.8	70	22.20	16.65	15.54	14.43	13.32

HGSM SERIES PRINTED CIRCUIT MODULE RELAYS

Mercury-wetted relays for printed circuit board mounting. **HGSM-1000** series have SPDT make-before-break contacts; **HGSM-5000,** break-before-make. Contacts rated 2 amps, 500 volts, 100 VA max. at rated load. Max. dissipation, 2 watts continuous at 25° C. Temperature rise, 30° C per watt at 25° C ambient. Life expectancy, 22 x 10⁹. Single side stable, except as indicated. Size, ⅝" x ⅝" x 2¹⁄₁₆" max.

C. P. Clare Number	Coil Resis., Ohms	Must mADC		Must Oper. VDC	Max. VDC	Net Each, Lots of				
		Operate	Release			1-9	10-24	25-49	50-99	100-499
HGSM1008	115	....	.....	3.8	15.1	$14.00	$10.50	$9.80	$9.10	$8.40
HGSM1009	275	17.0	2.8	5.2	23.4	14.00	10.50	9.80	9.10	8.40
HGSM1010	450	12.9	2.1	6.4	30.0	14.00	10.50	9.80	9.10	8.40
HGSM1011	675	11.6	1.9	8.6	36.7	14.00	10.50	9.80	9.11	8.40
HGSM1002	940	10.1	1.7	10.5	43.3	14.00	10.50	9.80	9.10	8.40
HGSM1001	1425	8.3	1.4	13	53.4	14.00	10.50	9.80	9.10	8.40
HGSM1003	2400	7.35	1.2	20.6	69.2	14.00	10.50	9.80	9.10	8.40
HGSM1005	65	....	.....	2.7	11.4	14.00	10.50	9.80	9.10	8.40
HGSM1007	90	....	.....	3.8	13.4	14.00	10.50	9.80	9.10	8.40
HGSM1063	460/ 460	....	.....	±3.9/ ±3.9	30.3	14.00	10.50	9.80	9.10	8.40
HGSM1016*	1100/ 1100	±7.25/ 5.7	.....	±8.77/ 6.9	46.9/ 46.9	14.00	10.50	9.80	9.10	8.40
HGSM5035	275	17.0	2.8	5.2	23.4	14.00	10.50	9.80	9.10	8.40
HGSM5009	450	12.9	2.1	6.4	30.0	14.00	10.50	9.80	9.10	8.40
HGSM5010	675	11.6	1.9	8.6	36.7	14.00	10.50	9.80	9.10	8.40
HGSM5011	940	10.1	1.7	10.5	43.3	14.00	10.50	9.80	9.10	8.40
HGSM5001	1425	8.3	1.4	13	53.4	14.00	10.50	9.80	9.10	8.40
HGSM5064	2400	7.35	1.2	20.6	69.2	14.00	10.50	9.80	9.10	8.40
HGSM5003*	1100/ 1100	±7.25/ 5.7	.....	±8.77/ 6.9	46.9/ 46.9	14.00	10.50	9.80	9.10	8.40

*Bi-stable double wound.

HGS2MT SERIES MERCURY-WETTED CONTACT RELAYS

Capable of handling input switching functions for any type of reasonable high speed, low level data acquisition system. Contacts rated 2 amps, 500 volts, 100 VA maximum DPDT, Form C break-before-make. Life expectancy, 22 x 10⁹. Size, ¾" x 1³⁄₃₂" x 2¹⁄₁₆" max.

C. P. Clare Number	Nom. VDC	Coil Resis., Ohms	Must VDC		Net Each, Lots of				
			Operate	Release	1-9	10-24	25-49	50-99	100-499
HGS2MT51111F00	6	130	3.0	0.5	$26.35	$19.76	$18.45	$17.13	$15.81
HGS2MT51111J00	12	520	6.0	1.0	26.35	19.76	18.45	17.13	15.81
HGS2MT51111M00	24	2200	12.0	2.0	26.35	19.76	18.45	14.13	15.81

HGJM SERIES MERCURY-WETTED CONTACT RELAYS

Noise is only 15 μV at 4 ms after coil energization with 10 kHz bandwidth; less than 5 μV at 5 ms. Fast response time approaches 1 ms; ultra-stable to 250 Hz. SPDT contacts rated 2 amps at 500 volts max.; 100 VA max. AC or DC.

0.350" LOW PROFILE SINGLE SIDE STABLE

C. P. Clare Number	Nom. VDC	Coil Resis. Ohms	Must VDC		Net Each, Lots of				
			Operate	Release	1-9	10-24	25-49	50-99	100-499
HGJM51131J00	5.0	68	2.7	.58	$15.90	$11.92	$11.13	$10.33	$9.54
HGJM51131N00	12.0	375	6.5	1.4	15.90	11.92	11.13	10.33	9.54
HGJM51131R00	24.0	1425	13.0	2.7	15.90	11.92	11.13	10.33	9.54
HGJM51131V00	48.0	6100	25.0	5.4	15.90	11.92	11.13	10.33	9.54

0.400" HIGH SENSITIVITY SINGLE SIDE STABLE

HGJM51111K00	5.0	125	2.9	.61	$15.15	$11.36	$10.60	$9.85	$9.09
HGJM51111P00	12.0	685	7.1	1.5	15.15	11.36	10.60	9.85	9.09
HGJM51111T00	24.0	2650	14.0	3.0	15.15	11.36	10.60	9.85	9.09
HGJM51111W00	48.0	9850	29.0	6.0	15.15	11.36	10.60	9.85	9.09

HGJ2MT SERIES MERCURY-WETTED CONTACT RELAYS

Same as HGJM Series except two capsules for DPDT configurations.

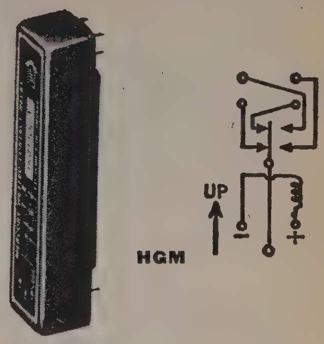
0.350" LOW PROFILE SINGLE SIDE STABLE

HGJ2MT51231E00	5.0	27	6.7	.54	$29.60	$22.20	$20.72	$19.24	$17.76
HGJ2MT51231K00	12.0	230		1.4	29.60	22.20	20.72	19.24	17.76
HGJ2MT51231N00	24.0	800		2.4	29.60	22.20	20.72	19.24	17.76
HGJ2MT51231R00	48.0	2850		4.8	29.60	22.20	20.72	19.24	17.76

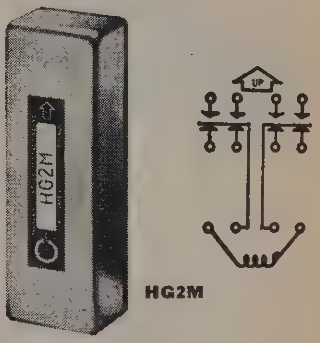
0.400" HIGH SENSITIVITY SINGLE SIDE STABLE*

HGJ2MT54211G00	5.0	55	2.6	.55	$28.45	$21.34	$19.91	$18.49	$17.07
HGJ2MT54211L00	12.0	370	6.7	1.4	28.45	21.34	19.91	18.49	17.07
HGJ2MT54211P00	24.0	1370	13.0	2.7	28.45	21.34	19.91	18.49	17.07

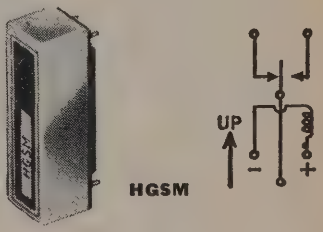
*With common open time.



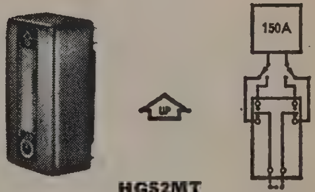
HGM



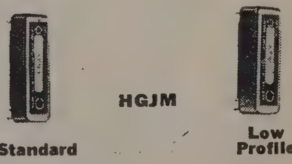
HG2M



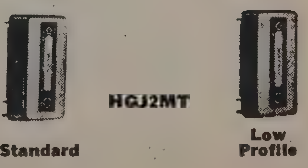
HGSM



HGS2MT

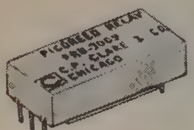

HGJM

Standard Low Profile

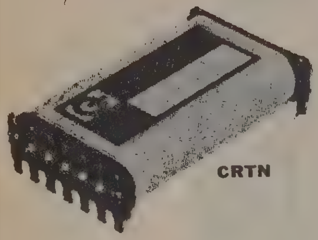

HGJ2MT

Standard Low Profile

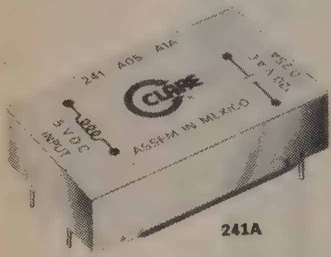
Reed and Hybrid Relays



PRB



CRTN



241A

SERIES PRB PICOREED® RELAYS

A state-of-the-art advancement in sealed contact reed relays; small in size, ultra-fast in operation. Response time, physical size, sensitivity and reliability characteristics combine to provide complete electrical and packaging compatibility with integrated circuit devices. Ideal for economical and reliable solid-state input-output isolation buffering applications. High speed operation, with operate time as low as 500 μsec., including bounce, at normal coil power. Contacts rated 0.5 amp max., 100 volts max., 10 VA max.; 1.0 amp maximum carry load. Life expectancy: 100 million operations at low-level loads; 5 million operations at 28 VDC, 0.125 amp. Series 3000 five-volt Picoreed relays are specially designed for compatibility with standard 5-volt DTL and TTL logic families; have must operate voltage value of 3.75 volts at 25° C. PRB low profile Series have straight pin terminals; permits PC board mounting on .375″ centers. Suffix **H** indicates high sensitivity units that allow .500″ mtg. centers; others are low-profile types. All types are .800″ long (width and height shown in table).

C. P. Clare Number	Nom. V	Coil Resis., Ohms	Contact Form	Size, Inches		Net Each, Lots of			
				W.	H.	1-24	25-49	50-99	100-249
PRB-2510	6	387	1A	.275	.187	$3.20	$2.88	$2.72	$2.40
PR2B-2007	6	136	2A	.375	.225	4.60	4.14	3.91	3.45
PR3B-2006	6	117	3A	.475	.225	6.10	5.49	5.19	4.57
PR4B-2005	6	88	4A	.575	.225	7.50	6.75	6.38	5.63
PR5B-2005	6	105	5A	.675	.225	9.00	8.10	7.65	6.75
PRB-2513	12	1200	1A	.275	.187	3.20	2.88	2.72	2.40
PR2B-2011	12	740	2A	.375	.225	4.60	4.14	3.91	3.45
PR3B-2009	12	483	3A	.475	.225	6.10	5.49	5.19	4.57
PR4B-2008	12	351	4A	.575	.225	7.50	6.75	6.38	5.63
PR5B-2008	12	419	5A	.675	.225	9.00	8.10	7.65	6.75
PRB-2516	24	5380	1A	.275	.187	3.50	3.15	2.97	2.63
PR2B-2014	24	3042	2A	.375	.225	5.00	4.50	4.25	3.75
PR3B-2013	24	2254	3A	.475	.225	6.45	5.80	5.48	4.84
PR4B-2012	24	1856	4A	.575	.225	7.90	7.11	6.72	5.93
PR5B-2011	24	1424	5A	.675	.225	9.35	8.41	7.95	7.01
PRB-2009H	6	535	1A	.400	.350	3.45	3.10	2.93	2.59
PR2B-2007H	6	297	2A	.500	.350	4.90	4.41	4.16	3.67
PR3B-2006H	6	228	3A	.600	.350	6.35	5.71	5.40	4.76
PR4B-2005H	6	155	4A	.700	.350	7.80	7.02	6.63	5.85
PR5B-2005H	6	180	5A	.800	.350	9.25	8.31	7.86	6.94
PRB-2013H	12	2870	1A	.400	.350	3.45	3.10	2.93	2.59
PR2B-2010H	12	1180	2A	.500	.350	4.90	4.41	4.16	3.67
PR3B-2009H	12	877	3A	.600	.350	6.35	5.71	5.40	4.76
PR4B-2008H	12	663	4A	.700	.350	7.80	7.02	6.63	5.85
PR5B-2008H	12	771	5A	.800	.350	9.25	8.32	7.86	6.94
PRB-2016H	24	11900	1A	.400	.350	3.95	3.55	3.36	2.96
PR2B-2013H	24	3780	2A	.500	.350	5.40	4.86	4.59	4.05
PR3B-2013H	24	4700	3A	.600	.350	6.80	6.12	5.78	5.10
PR4B-2012H	24	3620	4A	.700	.350	8.30	7.47	7.05	6.72
PR5B-2011H	24	3150	5A	.800	.350	9.70	8.73	8.25	7.28
PRB-3510	5	387	1A	.275	.187	3.50	3.15	2.97	2.63
PR2B-3007	5	136	2A	.375	.225	5.00	4.50	4.25	3.75
PR3B-3006	5	117	3A	.475	.225	6.45	5.80	5.48	4.84
PR4B-3005	5	88	4A	.575	.225	7.90	7.11	6.72	5.93
PR5B-3005	5	105	5A	.675	.225	9.35	8.41	7.95	7.01
PRB-3009H	5	535	1A	.400	.350	3.95	3.55	3.36	2.96
PR2B-3007H	5	297	2A	.500	.350	5.40	4.86	4.59	4.05
PR3B-3006H	5	228	3A	.600	.350	6.80	6.12	5.78	5.10
PR4B-3005H	5	155	4A	.700	.350	8.30	7.47	7.05	6.22
PR5B-3005H	5	180	5A	.800	.350	9.70	8.73	8.25	7.28

SERIES CRTN CLAREED RELAYS

Ultra-reliable reed relays for printed circuit board mounting. Reed contacts are sealed in an inert gas atmosphere, within a glass tube. Coils are wound on molded bobbins capable of accepting up to six Clareed switch capsules. Standard Clareed relays have 1, 2, 4 and 6 Form A contacts rated 15 VA maximum, non-inductive; 1 amp maximum, 250 volts maximum; with carry load of 5 amps maximum (not switched). Life expectancy, over 20 million operations at rated load. Insulation resistance, 500K megohms minimum. Breakdown voltage, 500 V rms, 60 Hz minimum. Available for 6, 12, 24 or 48 v lts.

C. P. Clare Number	V	Coil Resis., Ohms	Contact Form	Maximum Size	Net Each, Lots of			
					1-24	25-49	50-99	100-249
CRTN-1007	6	160	1A	5/8″ x 9/16″ x 2 21/32″	$ 3.90	$ 3.51	$ 3.31	$2.92
CR2TN-1004	6	88	2A	27/32″ x 9/16″ x 2 21/32″	4.95	4.45	4.21	3.71
CR4TN-1104	6	56	4A	1 9/32″ x 9/16″ x 2 21/32″	7.15	6.43	6.08	5.36
CR6TN-1003	6	31	6A	1 49/64″ x 9/16″ x 2 21/32″	9.35	8.41	7.95	7.01
CRTN-1010	12	600	1A	5/8″ x 9/16″ x 2 21/32″	3.90	3.51	3.31	2.92
CR2TN-1007	12	235	2A	27/32″ x 9/16″ x 2 21/32″	4.95	4.45	4.21	3.71
CR4TN-1107	12	136	4A	1 9/32″ x 9/16″ x 2 21/32″	7.15	6.43	6.08	5.36
CR6TN-1006	12	120	6A	1 49/64″ x 9/16″ x 2 21/32″	9.35	8.41	7.95	7.01
CRTN-1013	24	2500	1A	5/8″ x 9/16″ x 2 21/32″	4.95	4.45	4.21	3.71
CR2TN-1010	24	1400	2A	27/32″ x 9/16″ x 2 21/32″	6.10	5.49	5.19	4.57
CR4TN-1110	24	835	4A	1 9/32″ x 9/16″ x 2 21/32″	8.30	7.47	7.05	6.22
CR6TN-1009	24	510	6A	1 49/64″ x 9/16″ x 2 21/32″	10.50	9.45	8.93	7.88
CRTN-1016	48	9450	1A	5/8″ x 9/16″ x 2 21/32″	6.60	5.94	5.61	4.95
CR2TN-1013	48	5400	2A	27/32″ x 9/16″ x 2 21/32″	7.70	6.93	6.54	5.77
CR4TN-1113	48	2195	4A	1 9/32″ x 9/16″ x 2 21/32″	9.90	8.91	8.41	7.42
CR6TN-1012	48	1900	6A	1 49/64″ x 9/16″ x 2 21/32″	12.10	10.89	10.29	9.07

SERIES 241 HYBRID SOLID STATE RELAYS

Series 241 relays combine the input/output isolation of a reed relay with the in-rush switching capabilities and long life of a solid state switch. Designed for printed circuit board mounting and rated for 1/4 amp at 120 VAC. The 5/6 V input model is compatible with TTL logic. **Output Voltage Drop:** 1.3 V at full load. **One Cycle Surge Current:** 2.5 amps peak. **Turn On Time:** 1 msec. **Turn Off Time:** 9 msec. **Contact Form:** SPST—NO.

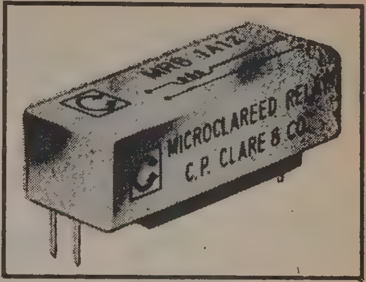
C. P. Clare Number	Input Volts	Pickup Volts	Dropout Volts	Coil Resistance Ohms ±10%	Net Each, Lots of			
					1-9	10-24	25-49	50-99
241A05A1A	5	3.5	0.16	300	$7.50	$6.75	$6.00	$5.25
241A06A1A	5/6	4.0	0.16	500	7.50	6.75	6.00	5.25
241A12A1A	12	8.5	0.8	1200	7.50	6.75	6.00	5.25
241A24A1A	24	17.1	1.5	4800	7.50	6.75	6.00	5.25

PRICES LISTED ARE FOR GUIDANCE ONLY

C. P. CLARE & COMPANY
GENERAL INSTRUMENT CORPORATION

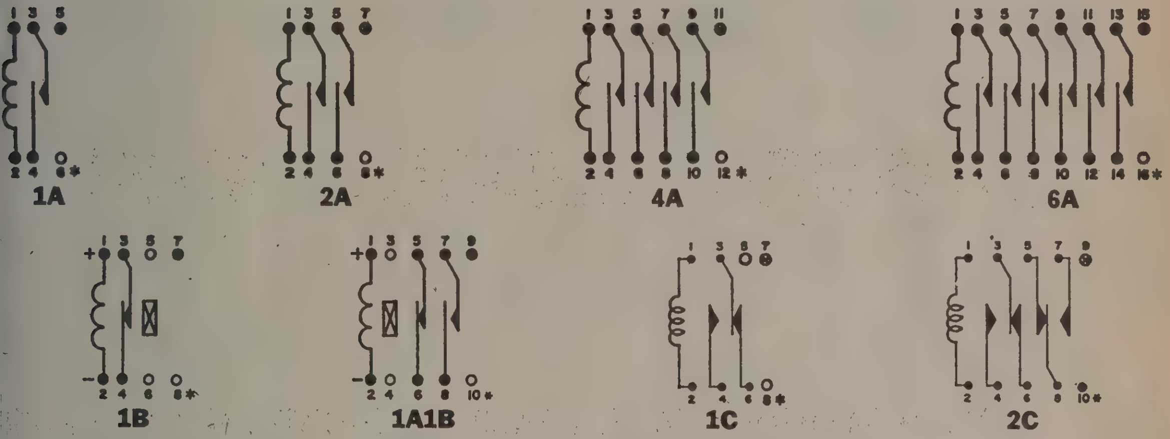
Dry Reed Relays

MRB SERIES MICROCLAREED® RELAYS



MRB microreed relays offer versatile signal level to 10 VA switching capabilities, total input/output isolation, 800 microsecond typical switching speeds in the miniature sized relay family. Operate with coil power requirements as low as 10 milliwatts. Ultra-reliable operation exceeds 100 million operations at signal level loads and 10 million operation at rated loads. Optional MRB relays are available in 3 or 5 Form A, 2 Form B, 3 or 4 Form C, 1A latching or 2A latching and 2A2B contact forms. UL versions in all but Form C are available as listed in UL File E43775. Relays have molded epoxy bases with stamped metal covers and convenient 1.000″ x 0.100″ grid mounting centers for printed circuit mounting. Low profile package mounts on 0.5″ PCB centers. Electrostatic shielding is available. **Contact Rating:** 10 VA max.; 200 VDC or peak AC max.; 0.75 amp max. switched (2.0 amps max. carry only). **Contact Resistance:** Initial 200 milliohms max., measured at 10 mA, 1000 Hz. **Life:** 100 million operations at signal level; 10 million operations at full rated load. **Operate Time:** Less than 800 μsec including bounce. **Breakdown Voltage:** 250 VAC rms, 60 Hz; 350 VDC max. **Insulation Resistance:** 10 G ohms min. at 100 VDC, +25° C, 40% RHD. **Size:** 1A, 1.135″ w. x .360″ d. x .350″ max. h; add to width .100″ for 2A, 1B, and 1C; .200″ for 1A1B and 2C; .300″ for 4A; .500″ for 6A. **Pins:** .023″ dia. x 1.25″ h. Pins are located .08″ from the ends and are on 1.00″ centers (.100″ apart).

CONTACT FORMS



1A 2A 4A 6A

1B 1A1B 1C 2C

C. P. Clare Number	Contact Form	Nom. VDC	Must Operate VDC	Must Release VDC	Max. VDC	Coil Resis., Ohms	Net Each, Lots of 1-24	25-49	50-99	100-249
MRB1A05	1A	5	3.75	0.15	15	225	$ 2.80	$ 2.52	$2.38	$2.10
MRB1A06	1A	6	4.5	0.15	18	340	2.80	2.52	2.38	2.10
MRB1A12	1A	12	9.0	0.7	36	1400	2.80	2.52	2.38	2.10
MRB1A24	1A	24	18.0	2.5	60	4340	3.15	2.83	2.68	2.36
MRB2A05	2A	5	3.75	0.15	11	105	3.90	3.51	3.31	2.92
MRB2A06	2A	6	4.5	0.15	14	180	3.90	3.51	3.31	2.92
MRB2A12	2A	12	9.0	0.7	26	730	3.90	3.51	3.31	2.92
MRB2A24	2A	24	18.0	2.5	48	2500	4.30	3.87	3.66	3.22
MRB4A05	4A	5	3.75	0.15	9	60	6.25	5.62	5.31	4.69
MRB4A06	4A	6	4.5	0.15	11	100	6.25	5.62	5.31	4.69
MRB4A12	4A	12	9.0	0.7	18	275	6.25	5.62	5.31	4.69
MRB4A24	4A	24	18.0	2.5	36	1090	6.60	5.94	5.61	4.95
MRB6A05	6A	5	3.75	0.15	7	32	8.55	7.69	7.27	6.41
MRB6A06	6A	6	4.5	0.15	9	50	8.55	7.69	7.27	6.41
MRB6A12	6A	12	9.0	0.7	18	210	8.55	7.69	7.27	6.41
MRB6A24	6A	24	18.0	2.5	36	900	8.90	8.01	7.56	6.67
MRB1B05	1B	5	3.75	0.4	7.5	300	3.90	3.51	3.31	2.92
MRB1B06	1B	6	4.5	0.5	9	450	3.90	3.51	3.31	2.92
MRB1B12	1B	12	9.0	1.0	18	1240	3.90	3.51	3.31	2.92
MRB1B24	1B	24	18.0	2.0	36	5800	4.30	3.87	3.66	3.22
MRB1N05	1A1B	5	3.75	0.4	7.5	50	5.10	4.59	4.33	3.82
MRB1N06	1A1B	6	4.5	0.5	9	82	5.10	4.59	4.33	3.82
MRB1N12	1A1B	12	9.0	1.0	18	230	5.10	4.59	4.33	3.82
MRB1N24	1A1B	24	18.0	2.0	36	900	5.45	4.90	4.63	4.09
922A05C1C	1C	5	3.75	0.4	20	350	6.25	5.62	5.31	4.69
922A06C1C	1C	6	4.5	0.5	25	560	6.25	5.62	5.31	4.69
922A12C1C	1C	12	9.0	1.0	45	1900	6.25	5.62	5.31	4.69
922A24C1C	1C	24	18.0	2.0	93	7800	6.60	5.94	5.61	4.95
922A05C2C	2C	5	3.75	0.4	16	220	10.85	9.76	9.22	8.14
922A06C2C	2C	6	4.5	0.5	21	365	10.85	9.76	9.22	8.14
922A12C2C	2C	12	9.0	1.0	32	880	10.85	9.76	9.22	8.14
922A24C2C	2C	24	18.0	2.0	75	4660	11.25	10.12	9.56	8.44

PICOREED RELAY
PRME

PRME

- IC COMPATIBLE TO-116 DIP PACKAGE
- .100′ GRID TERMINAL SPACING
- .180′ MAXIMUM HEIGHT
- FAST—125 μSEC OPERATE TIME WITH PROPER COIL DRIVE

PRME SERIES PICOREED® RELAYS

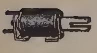
Dual-in-line pkg. is ideal for mounting on board centers compatible with IC components. The PRME package permits automatic insertion equipment techniques for direct PCB mounting or standard DIP socket mtg. Molded epoxy body with Tintillate tinned pins. Contact resistance 200 milliohms max. initially measured with 6 VDC across open contacts and with 100 mA load current. Insulation resistance 10,000 megs min. Relay reliability 100 x 10^6 operations at 28 VDC, 0.125 amp with appropriate contact protection. Dielectric standoff voltage 200 VAC rms 60 Hz min. between all mutually insulated terminals. For optional features as listed, add suffix to no.: PRME-1A005**A**. Size, 0.770″ w. x 0.250″ d. x 0.180″ h.

C. P. Clare Number	Coil Resis. Ohms ±10%	Must VDC Oper-ate	Re-lease	Max. VDC	Nom. Oper. VDC	Power mW	Net Each, Lots of 1-24	25-49	50-99	100-249
PRME1A005	380	3.75	0.9	15.0	5	66	$3.30	$2.97	$2.80	$2.47
PRME1A006	380	4.5	0.9	15.0	6	95	3.30	2.97	2.80	2.47
PRME1A012	530	9.0	2.0	18.0	12	272	3.30	2.97	2.80	2.47
PRME1A024	2000	18.0	4.0	32.0	24	288	3.30	2.97	2.80	2.47
Suffix **A**	Electrostatic shield between coil and capsule						Add to price....			$0.55
Suffix **B**	Diode between pins 6 and 9; cathode to pin 6						Add to price....			1.10
Suffix **C**	Both electrostatic shield and diode						Add to price....			1.65

GUARDIAN® ELECTRIC Solenoids

Solenoids for intermittent or continuous duty. Intermittent types should not be energized for over 5 consecutive minutes, or be permitted to rise more than 85° C above 24° C ambient without sufficient cooling time. Plunger has slotted end with 1/8" dia. hole for coupling. In charts, (I) indicates intermittent duty type, (C) indicates continuous duty. **To Order, Specify:** Solenoid number; voltage and AC or DC; continuous or intermittent (for intermittent give cycle of operation, length of time current will pass through coil, etc.); max. stroke and pull required.

PULL TYPE AC AND DC SOLENOIDS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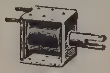
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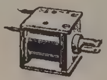
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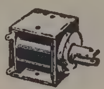
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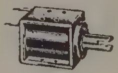
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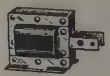
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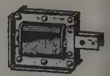
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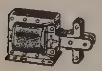
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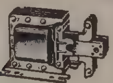
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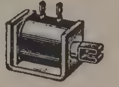
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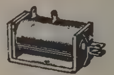
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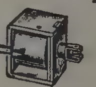
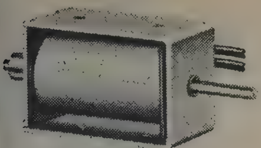
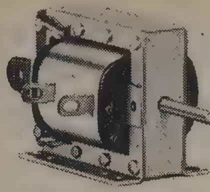

28

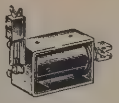
Guardian No.	Duty	Coil Voltage	Ohms	Lifts and Strokes		Body Size, Inches L. x W. x H.	Shpg. Wt., Oz.	Net Each, Lots of				
				Minimum	Maximum			1-24	25-49	50-99	100-249	250 Up
1A1	I	120 AC	300	8 oz. at 1/8"	2 oz. at 1/2"	1 5/32 x 15/16 x 1 1/16	4.5	$ 5.30	$5.04	$4.77	$3.98	$3.45
1A1	C	120 AC	675	3 oz. at 1/8"	0.5 oz. at 3/8"	1 5/32 x 15/16 x 1 1/16	4.5	5.30	5.04	4.77	3.98	3.45
2†	I	120 AC	60	45 oz. at 1/8"	11 oz. at 7/8"	1 5/8 x 1 7/16 x 1 5/8	10	6.25	5.94	5.63	4.69	4.06
2†	C	120 AC	166	14 oz. at 1/8"	3 oz. at 7/8"	1 5/8 x 1 7/16 x 1 5/8	10	6.25	5.94	5.63	4.69	4.06
2HD†	I	120 AC	36	70 oz. at 1/8"	16 oz. at 3/4"	1 13/16 x 1 7/16 x 1 11/16	13	8.70	8.27	7.83	6.53	5.66
2HD†	C	120 AC	113	25 oz. at 1/8"	6 oz. at 3/4"	1 13/16 x 1 7/16 x 1 11/16	13	8.70	8.27	7.83	6.53	5.66
2HD†	I	24 DC	20	96 oz. at 1/8"	10 oz. at 3/4"	1 13/16 x 1 7/16 x 1 11/16	13	9.00	8.55	8.10	6.75	5.85
2HD†	C	24 DC	64	48 oz. at 1/8"	6 oz. at 5/8"	1 13/16 x 1 7/16 x 1 11/16	13	9.00	8.55	8.10	6.75	5.85
3HD†	I	24 DC	21	160 oz. at 1/16"	8 oz. at 3/4"	1 25/32 x 1 7/16 x 1 5/8	14	6.75	6.41	6.08	5.06	4.39
3HD†	C	24 DC	52	100 oz. at 1/16"	3 oz. at 3/4"	1 25/32 x 1 7/16 x 1 5/8	14	6.75	6.41	6.08	5.06	4.39
4†	I	120 AC	37	24 oz. at 1/8"	22 oz. at 1"	2 1/16 x 1 7/16 x 1 5/8	14.5	7.50	7.13	6.75	5.63	4.88
4†	C	120 AC	133	8 oz. at 1/8"	6 oz. at 1"	2 1/16 x 1 7/16 x 1 5/8	14.5	7.50	7.13	6.75	5.63	4.88
4†	I	24 DC	15	110 oz. at 1/8"	4 oz. at 1"	2 1/16 x 1 7/16 x 1 5/8	14.5	7.40	7.03	6.66	5.55	4.81
4†	C	24 DC	54	55 oz. at 1/8"	2.5 oz. at 7/8"	2 1/16 x 1 7/16 x 1 5/8	14.5	7.40	7.03	6.66	5.55	4.81
4†	I	110 DC	346	90 oz. at 1/8"	4 oz. at 1"	2 1/16 x 1 7/16 x 1 5/8	14.5	7.60	7.22	6.84	5.70	4.94
4†	C	110 DC	1300	55 oz. at 1/8"	2.5 oz. at 7/8"	2 1/16 x 1 7/16 x 1 5/8	14.5	7.60	7.22	6.84	5.70	4.94
4HD†	I	120 AC	15	100 oz. at 1/16"	32 oz. at 1 1/4"	2 3/16 x 1 7/16 x 1 5/8	15	8.00	7.60	7.20	6.00	5.20
4HD†	C	120 AC	53	23 oz. at 1/8"	11 oz. at 1 1/4"	2 3/16 x 1 7/16 x 1 5/8	15	8.00	7.60	7.20	6.00	5.20
4HD†	I	24 DC	15	145 oz. at 1/8"	23 oz. at 3/4"	2 3/16 x 1 7/16 x 1 5/8	15	7.50	7.13	6.75	5.63	4.88
4HD†	C	24 DC	50	75 oz. at 1/8"	8 oz. at 3/4"	2 3/16 x 1 7/16 x 1 5/8	15	7.50	7.13	6.75	5.63	4.88
4HD†	I	110 DC	350	145 oz. at 1/8"	23 oz. at 3/4"	2 3/16 x 1 7/16 x 1 5/8	15	7.65	7.27	6.89	5.74	4.97
4HD†	C	110 DC	1200	75 oz. at 1/8"	8 oz. at 3/4"	2 3/16 x 1 7/16 x 1 5/8	15	7.65	7.27	6.89	5.74	4.97
9	I	120 AC	220	18 oz. at 1/8"	7 oz. at 1/2"	1 5/32 x 1 1/16 x 1	4	5.75	5.46	5.18	4.31	3.74
9	C	120 AC	350	11 oz. at 1/8"	2 oz. at 1/2"	1 5/32 x 1 1/16 x 1	4	5.75	5.46	5.18	4.31	3.74
9	I	24 DC	52	14 oz. at 1/8"	2 oz. at 1/2"	1 5/32 x 1 1/16 x 1	4	5.65	5.37	5.09	4.24	3.67
9	C	24 DC	90	9 oz. at 1/8"	1.5 oz. at 7/16"	1 5/32 x 1 1/16 x 1	4	5.65	5.37	5.09	4.24	3.67
10	I	120 AC	74	42 oz. at 1/8"	25 oz. at 1/2"	1 1/16 x 1 3/8 x 1 13/32	6.5	5.85	5.56	5.27	4.39	3.80
10	C	120 AC	172	15 oz. at 1/8"	7 oz. at 1/2"	1 1/16 x 1 3/8 x 1 13/32	6.5	5.85	5.56	5.27	4.39	3.80
10	I	24 DC	37	24 oz. at 1/8"	5 oz. at 1/2"	1 1/16 x 1 3/8 x 1 13/32	6.5	5.70	5.42	5.13	4.28	3.71
10	C	24 DC	69	15 oz. at 1/8"	3.5 oz. at 1/2"	1 1/16 x 1 3/8 x 1 13/32	6.5	5.70	5.42	5.13	4.28	3.71
11†	I	24 AC	3.5	21 oz. at 1/8"	11 oz. at 1"	1 7/8 x 15/16 x 1 3/16	7.5	4.60	4.37	4.14	3.45	2.99
11†	C	24 AC	8	12 oz. at 1/8"	6 oz. at 1"	1 7/8 x 15/16 x 1 3/16	7.5	4.60	4.37	4.14	3.45	2.99
11†	I	120 AC	85	21 oz. at 1/8"	11 oz. at 1"	1 7/8 x 15/16 x 1 3/16	7.5	4.60	4.37	4.14	3.45	2.99
11†	C	120 AC	200	12 oz. at 1/8"	6 oz. at 1"	1 7/8 x 15/16 x 1 3/16	7.5	4.60	4.37	4.14	3.45	2.99
11†	I	6 DC	2	40 oz. at 1/8"	6 oz. at 3/4"	1 7/8 x 15/16 x 1 3/16	7.5	4.55	4.32	4.10	3.41	2.96
11†	C	6 DC	4.5	24 oz. at 1/8"	3 oz. at 3/4"	1 7/8 x 15/16 x 1 3/16	7.5	4.55	4.32	4.10	3.41	2.96
11†	I	24 DC	31	40 oz. at 1/8"	6 oz. at 3/4"	1 7/8 x 15/16 x 1 3/16	7.5	4.55	4.32	4.10	3.41	2.96
11†	C	24 DC	72	24 oz. at 1/8"	3 oz. at 3/4"	1 7/8 x 15/16 x 1 3/16	7.5	4.55	4.32	4.10	3.41	2.96
12†	I	120 AC	100	48 oz. at 1/8"	9 oz. at 1"	1 5/8 x 1 1/4 x 1 7/16	6	7.40	7.03	6.66	5.55	4.81
12†	C	120 AC	150	28 oz. at 1/8"	6 oz. at 7/8"	1 5/8 x 1 1/4 x 1 7/16	6	7.40	7.03	6.66	5.55	4.81
14†	I	120 AC	11	108 oz. at 1/8"	56 oz. at 1 1/2"	2 7/16 x 1 15/16 x 2 1/16	9	12.00	11.40	10.80	9.00	7.80
14†	C	120 AC	18	75 oz. at 1/8"	40 oz. at 1 1/2"	2 7/16 x 1 15/16 x 2 1/16	9	12.00	11.40	10.80	9.00	7.80
16†	I	120 AC	41	110 oz. at 1/8"	28 oz. at 3/4"	1 5/8 x 1 1/4 x 1 1/2	7.5	6.80	6.46	6.12	5.10	4.42
16†	C	120 AC	85	63 oz. at 1/8"	15 oz. at 3/4"	1 5/8 x 1 1/4 x 1 1/2	7.5	6.80	6.46	6.12	5.10	4.42
16†	I	240 AC	200	110 oz. at 1/8"	28 oz. at 3/4"	1 5/8 x 1 1/4 x 1 1/2	7.5	6.85	6.51	6.17	5.14	4.45
16†	C	240 AC	350	63 oz. at 1/8"	15 oz. at 3/4"	1 5/8 x 1 1/4 x 1 1/2	7.5	6.85	6.51	6.17	5.14	4.45
18†	I	120 AC	8.8	350 oz. at 1/8"	208 oz. at 1"	2 1/2 x 1 13/16 x 2 3/32	16.5	10.20	9.69	9.18	7.65	6.63
18†	C	120 AC	19.7	152 oz. at 1/8"	100 oz. at 1"	2 1/2 x 1 13/16 x 2 3/32	16.5	10.20	9.69	9.18	7.65	6.63
18†	I	240 AC	45	350 oz. at 1/8"	208 oz. at 1"	2 1/2 x 1 13/16 x 2 3/32	16.5	10.25	9.74	9.23	7.69	6.66
18†	C	240 AC	78	152 oz. at 1/8"	100 oz. at 1"	2 1/2 x 1 13/16 x 2 3/32	16.5	10.25	9.74	9.23	7.69	6.66
22†	I	6 DC	4	20 oz. at 1/16"	2 oz. at 3/8"	1 5/32 x 3/4 x 3/4	2.5	3.00	2.85	2.70	2.25	1.95
22†	C	6 DC	9	12 oz. at 1/16"	1.7 oz. at 1/4"	1 5/32 x 3/4 x 3/4	2.5	3.00	2.85	2.70	2.25	1.95
22†	I	24 DC	60	20 oz. at 1/16"	2 oz. at 7/16"	1 5/32 x 3/4 x 3/4	2.5	3.05	2.90	2.75	2.29	1.98
22†	C	24 DC	144	12 oz. at 1/16"	1.7 oz. at 3/8"	1 5/32 x 3/4 x 3/4	2.5	3.05	2.90	2.75	2.29	1.98
24†	I	120 AC	310	17 oz. at 1/16"	4 oz. at 5/8"	1 1/4 x 27/32 x 1	3	4.00	3.80	3.60	3.00	2.60
24†	C	120 AC	500	10 oz. at 1/16"	2 oz. at 5/8"	1 1/4 x 27/32 x 1	3	4.00	3.80	3.60	3.00	2.60
24†	I	24 DC	52	27 oz. at 1/16"	4 oz. at 1/2"	1 1/4 x 27/32 x 1	3	3.75	3.56	3.38	2.81	2.44
24†	C	24 DC	114	13 oz. at 1/16"	1.5 oz. at 1/2"	1 1/4 x 27/32 x 1	3	3.75	3.56	3.38	2.81	2.44
26†	I	120 AC	140	32 oz. at 1/16"	4 oz. at 7/8"	1 3/4 x 27/32 x 1 3/16	4	4.70	4.47	4.23	3.53	3.06
26†	C	120 AC	250	17 oz. at 1/16"	6 oz. at 5/8"	1 3/4 x 27/32 x 1 3/16	4	4.70	4.47	4.23	3.53	3.06
26†	I	24 DC	33	46 oz. at 1/16"	4 oz. at 3/4"	1 3/4 x 27/32 x 1 3/16	4	4.50	4.28	4.05	3.38	2.93
26†	C	24 DC	85	26 oz. at 1/16"	1 oz. at 1/2"	1 3/4 x 27/32 x 1 3/16	4	4.50	4.28	4.05	3.38	2.93
28†	I	24 AC	7.5	40 oz. at 1/16"	7 oz. at 1/2"	1 1/8 x 1 7/32 x 1 3/16	3.5	4.30	4.09	3.87	3.23	2.80
28†	C	24 AC	17.4	24 oz. at 1/16"	5 oz. at 1/2"	1 1/8 x 1 7/32 x 1 3/16	3.5	4.30	4.09	3.87	3.23	2.80
28†	I	120 AC	220	40 oz. at 1/16"	7 oz. at 1/2"	1 1/8 x 1 7/32 x 1 3/16	3.5	4.35	4.13	3.92	3.26	2.83
28†	C	120 AC	400	24 oz. at 1/16"	5 oz. at 1/2"	1 1/8 x 1 7/32 x 1 3/16	3.5	4.35	4.13	3.92	3.26	2.83
28†	I	6 DC	3.3	40 oz. at 1/16"	3 oz. at 1/2"	1 1/8 x 1 7/32 x 1 3/16	3.5	4.25	4.04	3.83	3.19	2.76
28†	C	6 DC	7.7	25 oz. at 1/16"	2 oz. at 3/8"	1 1/8 x 1 7/32 x 1 3/16	3.5	4.25	4.04	3.83	3.19	2.76
28†	I	12 DC	13	40 oz. at 1/16"	3 oz. at 1/2"	1 1/8 x 1 7/32 x 1 3/16	3.5	4.25	4.04	3.83	3.19	2.76
28†	C	12 DC	27	25 oz. at 1/16"	2 oz. at 3/8"	1 1/8 x 1 7/32 x 1 3/16	3.5	4.25	4.04	3.83	3.19	2.76
28†	I	24 DC	50	40 oz. at 1/16"	3 oz. at 1/2"	1 1/8 x 1 7/32 x 1 3/16	3.5	4.25	4.04	3.83	3.19	2.76
28†	C	24 DC	104	25 oz. at 1/16"	2 oz. at 3/8"	1 1/8 x 1 7/32 x 1 3/16	3.5	4.25	4.04	3.83	3.19	2.76
34†	I	120 AC	400	18 oz. at 1/16"	4.5 oz. at 1/2"	1 1/8 x 3/4 x 1 5/64	3	3.75	3.56	3.38	2.81	2.44
34†	C	120 AC	865	9 oz. at 1/16"	1.5 oz. at 1/2"	1 1/8 x 3/4 x 1 5/64	3	3.75	3.56	3.38	2.81	2.44
34†	I	24 DC	66	14 oz. at 1/16"	2.5 oz. at 7/16"	1 1/8 x 3/4 x 1 5/64	3	3.55	3.37	3.20	2.66	2.31
34†	C	24 DC	145	6.5 oz. at 1/16"	1.8 oz. at 1/4"	1 1/8 x 3/4 x 1 5/64	3	3.55	3.37	3.20	2.66	2.31

†RECOGNIZED UNDER THE COMPONENT PROGRAM OF UNDERWRITERS LABORATORIES INC.

GUARDIAN® ELECTRIC Solenoids


11P, 28P


16P, 18P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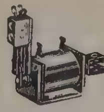
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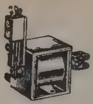
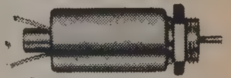

28S

Pull Type Tubular


Push Type Tubular

Intermittent types should not be energized for more than 5 consecutive minutes, or be permitted to rise more than 85° C above 24° C ambient without sufficient cooling time between operation cycles or periods of energization. Continuous type have high coil resistance and will not rise more than 85° C above 24° C ambient temperature when operated within maximum lift and stroke ratings. **To Order, Specify:** Solenoid number; voltage and AC or DC; continuous or intermittent.

PUSH TYPE AC AND DC SOLENOIDS

Push versions of popular solenoids. Types 11P and 28P are box frame design. 16P and 18P are laminated AC types. Push rods are equal to maximum stroke length. (I) indicates intermittent duty type, (C) indicates continuous duty.

Guardian No.†	Duty	Coil Voltage	Ohms	Lifts and Strokes		Body Size, Inches L. x W. x H.	Shpg. Wt., Oz.	Net Each, Lots of				
				Minimum	Maximum			1-24	25-49	50-99	100-249	250 Up
11P	I	24 AC	3.5	16.8 oz. at ⅛″	8.8 oz. at 1″	1⅞ x 15/16 x 1 3/16	7.5	$ 5.10	$4.85	$4.59	$3.83	$3.32
11P	C	24 AC	8	9.6 oz. at ⅛″	4.8 oz. at 1″	1⅞ x 15/16 x 1 3/16	7.5	5.10	4.85	4.59	3.83	3.32
11P	I	120 AC	85	16.8 oz, at ⅛″	8.8 oz. at 1″	1⅞ x 15/16 x 1 3/16	7.5	5.25	4.99	4.73	3.84	3.41
11P	C	120 AC	200	9.6 oz. at ⅛″	4.8 oz. at 1″	1⅞ x 15/16 x 1 3/16	7.5	5.25	4.99	4.73	3.94	3.41
11P	I	6 DC	2	32 oz. at ⅛″	4.8 oz. at ¾″	1⅞ x 15/16 x 1 3/16	7.5	5.00	4.75	4.50	3.75	3.25
11P	C	6 DC	4.5	19.2 oz. at ⅛″	2.4 oz. at ¾″	1⅞ x 15/16 x 1 3/16	7.5	5.00	4.75	4.50	3.75	3.25
11P	I	24 DC	31	32 oz. at ⅛″	4.8 oz. at ¾″	1⅞ x 15/16 x 1 3/16	7.5	5.00	4.75	4.50	3.75	3.25
11P	C	24 DC	72	19.2 oz. at ⅛″	2.4 oz. at ¾″	1⅞ x 15/16 x 1 3/16	7.5	5.00	4.75	4.50	3.75	3.25
16P	I	120 AC	41	88 oz. at ⅛″	22.5 oz. at ¾″	1⅝ x 1¼ x 1½	7.5	7.75	7.36	6.98	5.81	5.04
16P	C	120 AC	85	50.5 oz. at ⅛″	12 oz. at ¾″	1⅝ x 1¼ x 1½	7.5	7.75	7.36	6.98	5.81	5.04
18P	I	120 AC	8.8	280 oz. at ⅛″	80 oz. at 1″	2½ x 1 13/16 x 2 3/16	16.5	12.50	11.88	11.25	9.38	8.13
18P	C	120 AC	19.7	145 oz. at ⅛″	40 oz. at 1″	2½ x 1 13/16 x 2 3/16	16.5	12.50	11.88	11.25	9.38	8.13
28P	I	24 AC	7.5	32 oz. at 1/16″	5.6 oz. at ½″	1⅛ x 15/16 x 1 3/16	3.5	4.95	4.70	4.46	3.71	3.22
28P	C	24 AC	17.4	19.2 oz. at 1/16″	4 oz. at ½″	1⅛ x 15/16 x 1 3/16	3.5	4.95	4.70	4.46	3.71	3.22
28P	I	120 AC	220	32 oz. at 1/16″	5.6 oz. at ½″	1⅛ x 15/16 x 1 3/16	3.5	5.00	4.75	4.50	3.75	3.25
28P	C	120 AC	400	19.2 oz. at 1/16″	4 oz. at ½″	1⅛ x 15/16 x 1 3/16	3.5	5.00	4.75	4.50	3.75	3.25
28P	I	6 DC	3.3	32 oz. at 1/16″	2.4 oz. at ½″	1⅛ x 15/16 x 1 3/16	3.5	4.50	4.28	4.05	3.38	2.93
28P	C	6 DC	7.7	20 oz. at 1/16″	1.6 oz. at ⅜″	1⅛ x 15/16 x 1 3/16	3.5	4.50	4.28	4.05	3.38	2.93
28P	I	12 DC	13	32 oz. at 1/16″	2.4 oz. at ½″	1⅛ x 15/16 x 1 3/16	3.5	4.50	4.28	4.05	3.38	2.93
28P	C	12 DC	27	20 oz. at 1/16″	1.6 oz. at ⅜″	1⅛ x 15/16 x 1 3/16	3.5	4.50	4.28	4.05	3.38	2.93
28P	I	24 DC	50	32 oz. at 1/16″	2.4 oz. at ½″	1⅛ x 15/16 x 1 3/16	3.5	4.50	4.28	4.05	3.38	2.93
28P	C	24 DC	104	20 oz. at 1/16″	1.6 oz. at ⅜″	1⅛ x 15/16 x 1 3/16	3.5	4.50	4.28	4.05	3.38	2.93

AC AND DC SOLENOID SWITCHES

Guardian Box-Frame solenoids 11 and 28 as well as U-Frame 24 have been functionally enhanced by the addition of a SPDT switch actuated by a push rod affixed to the plunger. Respective solenoid switches are 11S, 28S and 24S. All switches are rated 10 amps at 120 VAC. **To Order, Specify:** Solenoid switch number; voltage and AC or DC; continuous or intermittent.

11S	I	120 AC	85	21 oz. at ⅛″	11 oz. at 1″	1⅞ x 15/16 x 2	7.5	$7.35	$6.98	$6.62	$5.51	$4.78
11S	C	120 AC	200	12 oz. at ⅛″	6 oz. at 1″	1⅞ x 15/16 x 2	7.5	7.35	6.98	6.62	5.51	4.78
11S	I	24 DC	31	40 oz. at ⅛″	6 oz. at ¾″	1⅞ x 15/16 x 2	7.5	7.25	6.89	6.53	5.44	4.71
11S	C	24 DC	72	24 oz. at ⅛″	3 oz. at ¾″	1⅞ x 15/16 x 2	7.5	7.25	6.89	6.53	5.44	4.71
24S	I	24 DC	52	27 oz. at 1/16″	4 oz. at ⅝″	1¼ x 27/32 x 1 29/32	3	6.50	6.18	5.85	4.88	4.23
24S	C	24 DC	114	13 oz. at 1/16″	1.5 oz. at ⅝″	1¼ x 27/32 x 1 29/32	3	6.50	6.18	5.85	4.88	4.23
28S	I	24 DC	50	40 oz. at 1/16″	3 oz. at ½″	1⅛ x 1 3/16 x 2	3.5	7.25	6.89	6.53	5.44	4.71
28S	C	24 DC	104	25 oz. at 1/16″	2 oz. at ⅜″	1⅛ x 1 3/16 x 2	3.5	7.25	6.89	6.53	5.44	4.71

TUBULAR SOLENOIDS

Choice of either pull or push types with Class "A" (105° C) insulation material and 6″ leads. Mounting bracket supplied,

24 VDC PULL TYPE

Life, 10 million operations min. at rated load.

Guardian Number†	Ohms	W	Lift, Oz.§	Net Ea. 1-24*
T3.5X9*	57	10	8.5	$ 5.40
T3.5X9	260	2	5.5	5.40
T4X7*	80	7	12	5.55
T4X7	240	2.4	6	5.55
T4X12*	38	15	14	5.75
T4X12	160	3.5	7	5.75
T4X16*	24	20	7	6.20
T4X16	145	4	6.5	6.20
T6X12*	25	22	30	6.00
T6X12	165	3.5	12	6.00
T8X9*	30	19	52	6.70
T8X9	145	4	23	6.70
T8X16*	15	38	80	7.25
T8X16	105	5.5	35	7.25
T12X13*	14	40	150	9.80
T12X13	85	7	50	9.80
T12X19*	9.5	60	150	10.50
T12X19	59	10	80	10.50

24 VDC PUSH TYPE

Non-magnetic metal push rod length equals max. stroke length.

Guardian Number†	Ohms	W	Lift, Oz.‡	Net Ea. 1-24*
TP3.5X9*	57	10	6.8	$ 6.65
TP3.5X9	260	2	4.4	6.65
TP4X7*	80	7	9.6	6.80
TP4X7	240	2.4	4.8	6.80
TP4X12*	38	15	11.2	6.85
TP4X12	160	3.5	5.6	6.85
TP4X16*	24	20	5.6	7.50
TP4X16	145	4	5.2	7.50
TP6X12*	25	22	24	6.80
TP6X12	165	3.5	9.6	6.80
TP8X9*	30	19	41.6	8.40
TP8X9	145	4	18.4	8.40
TP8X16*	15	38	64	8.55
TP8X16	105	5.5	28	8.55
TP12X13*	14	40	120	10.65
TP12X13	85	7	40	10.65
TP12X19*	9.5	60	120	12.00
TP12X19	59	10	64	12.00

12 VDC PULL TYPE

Guardian Number†	Ohms	W	Lift, Oz.§	Net Ea. 1-24*
T3.5X9*	14	10	8.5	$ 5.40
T3.5X9	80	2	5.5	5.40
T4X7*	20	7	12	5.55
T4X7	60	2.4	6	5.55
T4X12*	10	15	14	5.75
T4X12	41	3.5	7	5.75
T4X16*	6	20	7	6.20
T4X16	36	4	6.5	6.20
T6X12*	6.5	22	30	6.00
T6X12	41	3.5	12	6.00
T8X9*	7.5	19	52	6.70
T8X9	36	4	23	6.70
T8X16*	2.7	38	80	7.25
T8X16	26	5.5	35	7.25
T12X13*	3.6	40	150	9.80
T12X13	20	7	50	9.80
T12X19*	2.4	60	150	10.50
T12X19	14	10	80	10.50

12 VDC PUSH TYPE

Guardian Number†	Ohms	W	Lift, Oz.‡	Net Each, Lots of				
				1-24	25-49	50-99	100-249	250 Up
TP3.5X9*	14	10	6.8	$6.65	$6.32	$5.99	$4.99	$4.32
TP3.5X9	80	2	4.4	6.65	6.32	5.99	4.99	4.32
TP4X16*	6	20	5.6	7.50	7.13	6.75	5.63	4.88
TP4X16	36	4	5.2	7.50	7.13	6.75	5.63	4.88
TP6X12*	6.5	22	24	6.80	6.46	6.12	5.10	4.42
TP6X12	41	3.5	9.6	6.80	6.46	6.12	5.10	4.42
TP8X16*	2.7	38	64	8.55	8.12	7.70	6.41	5.56
TP8X16	26	5.5	28	8.55	8.12	7.70	6.41	5.56

*Intermittent duty; all others continuous duty type. §At min. stroke; 1/32″, T3 and T4; 1/16″, T6 and T8; ⅛″, T12 types. Maximum life and stroke ratings on request.

‡STROKE LENGTH

Lift given is for min. stroke; lift for max. stroke on request.

Type TP-	Min.	Max.	Type TP-	Min.	Max.	Type TP-	Min.	Max.
3.5X9*	1/32″	½″	4X16*	1/16″	1″	8X16*	1/16″	⅞″
3.5X9	1/32″	5/16″	4X16	1/16″	⅞″	8X16	1/16″	⅞″
4X7*	1/32″	⅜″	6X12*	1/16″	¾″	12X13*	⅛″	¾″
4X7	1/32″	3/16″	6X12	1/16″	¾″	12X13	⅛″	¾″
4X12*	1/32″	⅞″	8X9*	1/16″	7/16″	12X19*	⅛″	1½″
4X12	1/32″	¼″	8X9	1/16″	7/16″	12X19	⅛″	1½″

★QUANTITY DISCOUNTS

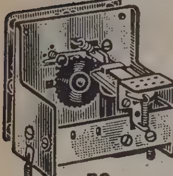
1–24, Net; 25–49, −10%; 50–99, −15%; 100–249, −30%; 250 Up, −35%.

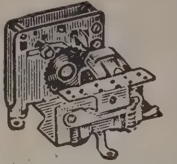
†SOLENOIDS SHOWN ON THIS PAGE ARE RECOGNIZED UNDER THE COMPONENT PROGRAM OF UNDERWRITERS LABORATORIES INC.

GUARDIAN® ELECTRIC Relays

STEPPING RELAYS

CONTINUOUS ROTATION

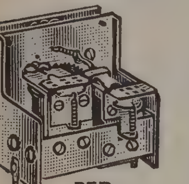

PC


MC

Type PC—Micro-finished shaft and Oilite shaft bearing. Beryllium copper pawl control shutter. Selection contacts terminated on phenolic board; solder beaded. Mechanical life expectancy estimated 4,000,000 steps. Has 40-point ratchet with 40 active contacts, including zero position. Size, 3 5/32″ lg. x 3 7/32″ w. x 3 1/32″ h. Shipping Weight, 17 oz.

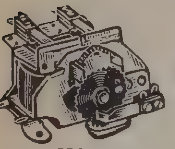
Type MC—A smaller, continuous operation stepper similar to above; has life expectancy of 2,000,000 steps. Has 24-point ratchet with 24 active contacts, including zero. Size, 2 15/16″ lg. x 3 5/16″ w. x 2 3/16″ h. Shipping Weight, 9½ oz.

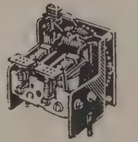
ELECTRICAL RESET


PER

Type PER—Micro-finished shaft and Oilite shaft bearing. Positive mechanical stops limit total number of steps in any single unit. Returns automatically to start position when reset coil is energized. Has 40-point ratchet with 36 active contacts including zero position. Size, 3 5/32″ lg. x 3 7/32″ w. x 3 1/32″ h. Shipping Wt., 22 oz.

ADD AND SUBTRACT


MAS


PAS

Type MAS—Midget stepper with non-ferrous shutters controlling pawl motion. Steps one step at a time in either direction, depending on which of the two coils is energized. Has 30-point ratchet, with zero position switch opened at home position. Size, 3¼″ lg. x 3⅛″ w. x 1 15/16″ h. Shpg. Wt., 11 oz.

Type PAS—Similar in operation to MAS, but larger. Has 40 points and 40 active contacts. Supplied with 45-amp, quick-connect terminals and Form "C" cam switch. Size, 3 5/32″ lg. x 3 7/32″ w. x 3 9/16″ h. Shipping Weight, 22 oz.

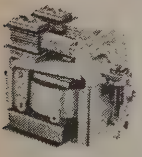
STEPPING RELAY DATA CHART

All units rated 120 VAC coil voltage; will operate satisfactorily at 15% below or 10% above. Auxiliary switches may be connected in series with the commutator of the selecting finger and added to the step and/or reset magnet to increase the normal contact rating of 1.5 A, 120 VAC 60 Hz resistive. Contact fingers insulated from shaft. All units are intermittent duty rated at 10% duty cycle (out of each hour); single period maximum energization, 5 minutes.

Guardian Number	VA	W	‡	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
PC-120AC	35	20	40	$30.22	$28.71	$27.20	$22.67	$19.64
MC-120AC	30	17	24	22.37	21.25	20.13	16.78	14.54
PER/40-120AC	60*	35†	40	39.78	37.79	35.80	29.84	25.86
PER/52-120AC	115*	65†	52	43.55	41.37	39.20	32.66	28.31
MAS-120AC	12	9	30	30.12	28.61	27.11	22.59	19.58
PAS-120AC	60	35	40	41.80	39.71	37.62	31.35	21.17

*Stepping coil; 10 VA, reset coil. †Stepping coil; 7 W reset coil. ‡Number of points.

SERIES 840L-845L ON/OFF STEPPER



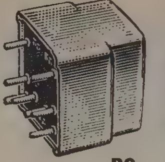
Improved, compact design is impulse operated for positive on/off control of positioning devices, remote controls, lighting, etc. Impulses as short as 20 msec energizes coil to reverse position of switches. Holds last position of switch with coil de-energized. Contacts rated 10 amps, 120 VAC, 60 Hz non-inductive; requires 8.2 VA. Solder lug terminals for coils and contacts. Single hole mounting tapped 8-32NC-2B. Shpg. Wt., 5.2 oz.

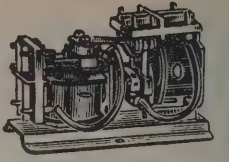
Guardian Number*		Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
840L-C-24A	845L-C-12D	$7.11	$6.75	$6.40	$5.33	$4.62
840L-2C-24A	....	8.57	8.14	7.71	6.43	5.57
840L-4C-24A	845L-4C-12D	12.25	11.64	11.03	9.19	7.96
840L-C-120A	845L-C-24D	7.11	6.75	6.40	5.33	4.62
840L-2C-120A	....	8.57	8.14	7.71	6.43	5.57
840L-4C-120A	845L-4C-24D	12.25	11.64	11.03	9.19	7.96

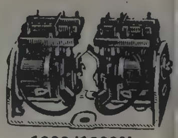
*Suffix indicates voltage (i.e., **-24A**, 24 VAC; **-12D**, 12 VDC).

INTERLOCKING AC/AC RELAYS

Two interlocking AC relays on sturdy metal frame bracket. For continuous circuit maintenance without coil power consumption. Electrically pulse operated, 4PDT switching; mechanical hold, electrical release. Contacts rated 10 amps, 120 VAC, 60 Hz non-inductive. Coil resis., 1100 ohms. Shipping Weight, 5.5 oz. **Guardian Type 1200/1200-4C-120A** (On metal frame, 1⅞″ x 1¾″ x 2⅞″) or **1200/1200UB-4C-120A** (U-bracket, 1 5/16″ x 2 31/32″ x 1⅞″) Net Each, Lots of 1-24 ...... **$14.66**; 25-49 ...... **$13.93** 50-99 .... **$13.19**; 100-249 ... **$11.00**; 250 Up **9.53**


PC


1200/1200

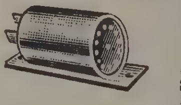

1200/1200U

PLUG-IN PC RELAYS

For low power, solid state circuitry; DPDT switching. Contacts rated 5 amps at 120 VAC, 60 Hz resistive. Normal power, 1 watt. Terminals on 0.1″ grid for soldering onto standard PC board. Coil resistance, 3500 ohms, 120 VAC, 60 Hz. Life, over 10 million operations. Size, 1 3/32″ w. x 1 1/16″ d. x 1″ h.

Guardian Number	Input	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
1360PC-2C-24A	24 VAC	$5.80	$5.51	$5.22	$4.35	$3.77
1360PC-2C-120A	120 VAC	6.30	5.99	5.67	4.73	4.10
1365PC-2C-6D	6 VDC	5.37	5.10	4.83	4.03	3.49
1365PC-2C-12D	12 VDC	5.37	5.10	4.83	4.03	3.49
1365PC-2C-24D	24 VDC	5.47	5.20	4.92	4.10	3.56

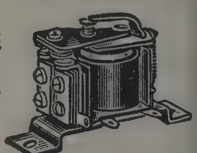
ROTOMITE STEPPER—DC



Compact, completely metal cased. Continuous rotation on 12 positions up to 20 steps per second. Contact rating 3 amps resistive, 1 amp inductive (50% PF). DC coils are continuous duty. Over 1,000,000 operations. Size, 1 5/32″ dia., 3″ lg. base, 1 3/16″ h., overall. Shipping Weight, 5 oz.

Guardian Number	Pos.	VDC	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
705-12P-6D	12	6	$9.75	$9.26	$8.78	$7.31	$6.34
705-12P-12D	12	12	9.75	9.26	8.78	7.31	6.34
705-12P-24D	12	24	9.75	9.26	8.78	7.31	6.34

HEAVY DUTY AC RELAYS

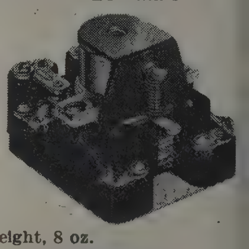


Rugged unit breaks up to 20 amps at 240 V. Armature equipped with phenolic contact mounting block carrying 5/16″ dual contacts. Phenolic tested at 1500 V breakdown to ground. Contacts are silver alloy. Contact rating 20 amps at 60 Hz 240 V non-inductive load. Relay is available in SPST-NO only. Two 8-32 mtg. holes on 2 19/32″ centers. Size, 3″ x 1⅞″ x 1¾″ Shpg. Wt., 5.5 oz.

Guardian Number	Volts AC	Coil Ohms	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
220-A-24A	24	25	$9.45	$8.98	$8.51	$7.09	$6.14
220-A-120A	120	600	9.55	9.07	8.60	7.16	6.21
220-A-240A	240	2500	9.70	9.22	8.73	7.28	6.31

POWER RELAYS

SERIES 2600U AND 2605U DPDT—25 AMPS



Compact power relays with DPDT contacts rated 25 amps. Inverted coil construction protects armature and contacts from inadvertent mechanical damage or electrical shorting. Series 2600U relays are rated for continuous duty at 240 VAC with 75% power factor; requires 9.5 VA, 60 Hz. Screw terminals are easily accessible. (Quick-Connect Terminal Kit permits easy conversion to ¼″ AMP terminals). "Press-to-Test" armature lever for convenient manual circuit testing. Two .196″ dia. holes on 1⅞″ centers. Size, 3 5/16″ x 2½″ x 2 1/16″. Shipping Weight, 8 oz.

Guardian Number	Volts	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
2600U-DPDT-24A	24 AC	$11.69	11.11	10.52	$8.77	$7.60
2600U-DPDT-120A	120 AC	11.69	11.11	10.52	8.77	7.60
2600U-DPDT-240A	240 AC	12.04	11.44	10.84	9.03	7.83
2605U-DPDT-12D	12 DC	11.69	11.11	10.52	8.77	7.60
2605U-DPDT-24D	24 DC	11.69	11.11	10.52	8.77	7.60
2605U-DPDT-110D	110 DC	12.04	11.44	10.84	9.03	7.83
2600U-SPDT-Aux. Switch*	....	2.15	2.04	1.94	1.61	1.40
2600U-Quick Connect Term. Kit	....	1.00	.95	.90	.75	.65

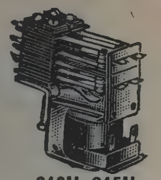
*Recessed SPDT auxiliary switch (illustrated with relay) has solder lug blade tails, rated for 10 amp operation.

SERIES 2620U AND 2625U DPST-NO—25 AMPS

Identical to Series 2600U above, but with DPST-NO contacts. Supplied with screw terminals; quick-connect terminal kit permits easy conversion to ¼″ AMP terminals (see listing in table, above).

2620U-DPST-24A	24 AC	$11.09	10.54	$9.98	$8.32	$7.21
2620U-DPST-120A	120 AC	11.09	10.54	9.98	8.32	7.21
2620U-DPST-240A	240 AC	11.42	10.85	10.28	8.57	7.42
2625U-DPST-12D	12 DC	11.09	10.54	9.98	8.32	7.21
2625U-DPST-24D	24 DC	11.09	10.54	9.98	8.32	7.21
2625U-DPST-110D	110 DC	11.42	10.85	10.28	8.57	7.42

GUARDIAN® *ELECTRIC* Relays, Steppers



240U, 245U

6100, 6300

SERIES 240U AC AND 245U DC RELAYS

For contact ratings up to 15 amps. Compact, reliable and inexpensive AC and DC units are factory pretested and adjusted. Single-screw, center-hole mounting for quick assembly. Easily serviced, though servicing is seldom required. Silver contacts rated 15 amps; points 1/4" x 1/16"; 5-amp and 10-amp points available to 6PDT; other contact materials available to specifications. Phenolic insulation is tested at 1500 volts, 60 Hz. Solder lug terminals. AC coils rated 6 VA, 60 Hz; operate satisfactorily at −15% of rated voltage and will not overheat at +10% of rated voltage on continuous duty. DC coils operate at 1.5 watts min. or 3 watts max.; operate on values up to 10% above, or 20% below rated voltage. Size, 2 29/32" x 1 3/32" x 2 9/16", 4PDT. Shipping Weight, 4.5 oz.

Guardian Number*†	Coil Res.	Cont. Comb.	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
240U-2C-24A	24	DPDT	$8.50	$8.08	$7.65	$6.38	$5.53
240U-4C-24A	24	4PDT	12.90	12.26	11.61	9.68	8.39
240U-2C-120A	550	DPDT	8.60	8.17	7.74	6.45	5.59
240U-4C-120A	550	4PDT	13.10	12.45	11.79	9.83	8.52
245U-2C-12D	50	DPDT	8.45	8.03	7.61	6.34	5.49
245U-4C-12D	50	4PDT	13.00	12.35	11.70	9.75	8.45
245U-2C-24D	200	DPDT	8.65	8.22	7.79	6.49	5.62
245U-4C-24D	200	4PDT	13.15	12.49	11.84	9.86	8.55

*Suffix indicates voltage (e.g., **-6D** for 6 VDC, etc).

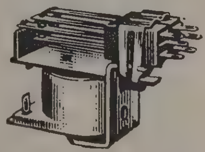
SERIES SLS SOLID STATE STEPPERS

The only power solid state steppers for industrial applications to accept either high level or logic level inputs with high noise immunity. The output of each step is a 120 VAC, 2½ amp switch. Modular construction permits many configurations. Standard models have 10 or 20 steps. Units available with pulsers to make them self stepping. They can be cascaded or paralleled to perform complex switching and control functions. Built for operation on input power of 24 VDC or 120 VAC, 50, 60 or 400 Hz. All solid state construction offers the advantages of mechanical noise-free operation and, under proper operating conditions, practically unlimited life. All units come with Molex connector terminations (3 sets required for 10-step unit).

Guardian Number	Volts	Steps	Net Each, Lots of 1-4	5-9	10-24
SLS-110-2A111*	120 VAC	10	$143.62	$136.44	$129.25
SLS-110-1A211*	24 VDC	10	123.97	117.77	111.57
SLS-120-2A111*	120 VAC	20	249.04	236.59	224.14
SLS-120-1A211*	24 VDC	20	208.43	198.01	187.59
SLS-110-25111†	120 VAC	10	151.80	144.21	136.62
SLS-110-15211†	24 VDC	10	132.15	125.54	118.94
SLS-120-25111†	120 VAC	20	257.30	244.44	231.57
SLS-120-15211	24 VDC	20	218.37	207.45	196.53
SLS Connector Kit			1.10	1.05	.99

*Step advance by either mechanical switch closure or DC pulse.
†Self-stepping.

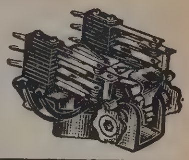
SERIES 900 AND 910 10-AMP RELAYS



Series 900—Low cost DPDT relay features a trouble-free design incorporating a minimum of parts. UL Recog. Contacts rated 10 amps, 120 VAC, resistive load. Molded switches; one-piece mounting clip and return spring; molded bobbin and coil cover. Keyed and locked lifters. Shpg. Wt., 6 oz. **Series 910**—Same, but with 3/16" quick-disconnect terminals instead of solder terminals. Size, 2 11/16" x 1 5/64" x 1 25/32".

Guardian Number†	Coil Volts	Net Each, Lots of 1-24	25 Up
900-2C-24A	24 AC	$2.70	$2.45
900-2C-120A	120 AC	2.70	2.45
900-2C-240A	240 AC	2.70	2.45
905-2C-6D	6 DC	2.70	2.45
905-2C-12D	12 DC	2.70	2.45
905-2C-24D	24 DC	2.70	2.45
910-2C-24A	24 AC	2.70	2.45
910-2C-120A	120 AC	2.70	2.45
910-2C-240A	240 AC	2.70	2.45
915-2C-6D	6 DC	2.70	2.45
915-2C-12D	12 DC	2.70	2.45
915-2C-24D	24 DC	2.70	2.45

SEQUENCE RELAYS—AC-DC

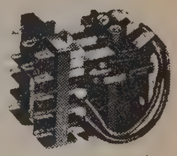


Types 660, 665—For switching operations in a desired repetitive sequence such as signs, motors, etc. Each electrical impulse moves relay contacts to opposite position in sequence. Contacts rated up to 12½ amps, 120 V, 60 Hz, non-inductive load. Mounting, 4 holes 8-32 (NC-2B). Shipping Weight, 8 oz.

Guardian Number*	Cont. Comb.	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
660-C-24A	SPDT	$ 9.50	$ 9.03	$ 8.55	$ 7.13	$6.18
660-2C-24A	DPDT	10.26	9.75	9.23	7.70	6.67
660-4C-24A	4PDT	14.24	14.20	13.46	11.21	9.72
660-C-120A	SPDT	9.50	9.03	8.55	7.13	6.18
660-2C-120A	DPDT	10.26	9.75	9.23	7.70	6.67
660-4C-120A	4PDT	14.94	14.20	13.46	11.21	9.72
665-C-24D	SPDT	9.50	9.03	8.55	7.13	6.18
665-2C-24D	DPDT	10.26	9.75	9.23	7.70	6.67
665-4C-24D	4PDT	14.94	14.20	13.46	11.21	9.72

*Suffix indicates coil voltage.

SERIES 1240 AC AND 1245 DC 10-AMP RELAYS



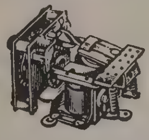
High efficiency, compact relays for communications, automation, remote control switching circuits and laboratory applications. Solder lug terminals are molded in phenolic panel block for coils as well as contacts. Barriers in panel block are raised to meet UL over-surface spacing; UL insulation throughout. Contacts rated 10 amps at 120 VAC, 60 Hz, non-inductive. Single 6-32 tapped mounting hole. Size, 1 45/64" x 1 1/32" x 1 1/4". Shpg. Wt., 2.5 oz.

Guardian Number*†	Coil Res.	Cont. Comb.	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
1240-2C-6A	2.8	DPDT	$5.05	$4.80	$4.55	$3.79	$3.28
1240-3C-6A	4	3PDT	5.72	5.43	5.15	4.29	3.72
1240-2C-24A	59	DPDT	5.05	4.80	4.55	3.79	3.28
1240-3C-24A	50	3PDT	5.72	5.43	5.15	4.29	3.72
1240-2C-120A	1190	DPDT	5.05	4.80	4.55	3.79	3.28
1240-3C-120A	1000	3PDT	5.72	5.43	5.15	4.29	3.72
1240-2C-240A	5340	DPDT	5.27	5.01	4.74	3.95	3.43
1240-3C-240A	4750	3PDT	5.97	5.67	5.37	4.48	3.88
1245-2C-6D	18	DPDT	5.01	4.76	4.51	3.76	3.26
1245-3C-6D	18	3PDT	5.65	5.37	5.09	4.24	3.67
1245-2C-12D	75	DPDT	5.01	4.76	4.51	3.76	3.26
1245-3C-12D	75	3PDT	5.65	5.37	5.09	4.24	3.67
1245-2C-24D	300	DPDT	5.01	4.76	4.51	3.76	3.26
1245-3C-24D	300	3PDT	5.65	5.37	5.09	4.24	3.67
1245-2C-110D	6500	DPDT	5.68	5.40	5.11	4.26	3.69
1245-3C-110D	6500	3PDT	5.97	5.67	5.37	4.48	3.88

*Suffix indicates volts (i.e., **-6A** for 6 VAC, **-12D** for 12 VDC, etc.).

TYPE MER ELECTRICAL RESET STEPPERS

MER



Type MER—Direct drive (steps on energization) electrical reset stepper with positive mechanical reset interlock actuated by the reset magnet; unlocks on first energization of the step magnet. Assures positive reset on as short a pulse as 1/100 sec; or, even from its own selection contacts. Capable of counting in groups up to 21, then resetting automatically. By interconnecting two or more, count can be increased to any desired total counting by tens or any other convenient multiple. Can be used to control a sequence of operation and then automatically reset to initial or starting position. Maximum of 20 steps per second; 24 points; 22 active contacts. Coil operates satisfactorily at 15% below or 10% above voltage indicated. Size, 3 5/16" w. x 3 5/16" d. x 2 3/16" h. max. Shpg. Wt., 11½ oz.

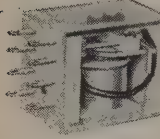
Guardian Number	VA *	VA ‡	Watt *	Watt ‡	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
MER-120AC	40	10	20	7	$25.74	$24.45	$23.17	$19.31	$16.73
MER-24DC	35	9	20	8	25.74	24.45	23.17	19.31	16.73

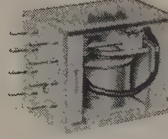
*Stepping coil. ‡Reset coil.

†RECOGNIZED UNDER THE COMPONENT PROGRAM OF UNDERWRITERS LABORATORIES INC.

GUARDIAN® ELECTRIC Relays

LOW-COST AC-DC MINIATURE ENCLOSED DPDT PLUG-IN RELAYS


Type 1330, 1335

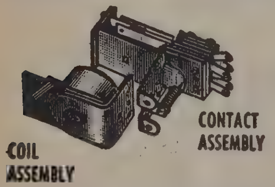

Type 1330P, 1335P

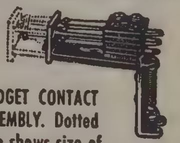
Compact DPDT relays ideal for circuitry in business machines, photocopiers, computers, etc. Save space and cost. Plug-in convenience. Lexan* cover; plug-in convenience with optional socket. Choice of solder (no suffix) or PC (suffix P) termination. Contacts rated 5 amps, 30 VDC or 120 VAC resistive. Socket fits panels .031″-.062″ thick with cutout .759″ x .830″ with .025″ radii at all four corners. Relay Wt., ¾ oz. *Reg. GE TM.

Guardian Number*			Net Each, Lots of				
Solder Terminal Type	Printed Circuit Type	Coil Res.	1-24	25-49	50-99	100-249	250 Up
1330-2C-6A	1330P-2C-6A	15	$4.16	$3.96	$3.74	$3.12	$2.70
1330-2C-12A	1330P-2C-12A	50	4.16	3.96	3.74	3.12	2.70
1330-2C-24A	1330P-2C-24A	245	4.16	3.96	3.74	3.12	2.70
1330-2C-120A	1330P-2C-120A	5400	4.16	3.96	3.74	3.12	2.70
1335-2C-6D	1335P-2C-6D	30	4.06	3.86	3.65	3.05	2.64
1335-2C-12D	1335P-2C-12D	125	4.06	3.86	3.65	3.05	2.64
1335-2C-24D	1335P-2C-24D	500	4.06	3.86	3.65	3.05	2.64
1330-1ST†	1330-2PC†	....	.63	.63	.63	.53	.53

*Suffix indicates volts (i.e., **-120A** for 120 VAC; **-6D**, 6 VDC, etc.).
†Sockets for above relays.

SERIES 200 RELAY WITH COMPLETELY INTERCHANGEABLE COIL AND CONTACT ASSEMBLIES




MIDGET CONTACT ASSEMBLY. Dotted line shows size of standard unit.

Two basic parts—a coil assembly and a contact switch assembly—comprise this simple, yet versatile Guardian relay. The coil assembly consists of the coil and field piece; the contact assembly consists of switch blades, armature, return spring and mounting bracket. The Guardian Midget Contact Assembly is **interchangeable** with the standard Series 200 contact assembly. Available with SPDT, DPDT or 4PDT contact switch assemblies, each **interchangeable** with all AC or DC coils.

SERIES 200 RELAY

Guardian Number	Volts	Coil	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250Up
200-6A	6	AC	$2.87	$2.73	$2.58	$2.15	$1.87
200-12A	12	AC	2.87	2.73	2.58	2.15	1.87
200-24A	24	AC	2.87	2.73	2.58	2.15	1.87
200-120A	120	AC	3.36	3.19	3.02	2.52	2.18
200-240A	240	AC	4.44	4.22	4.00	3.33	2.89
200-6D	6	DC	3.12	2.96	2.81	2.34	2.03
200-12D	12	DC	3.12	2.96	2.81	2.34	2.03
200-24D	24	DC	3.12	2.96	2.81	2.34	2.03
200-32D	32	DC	3.12	2.96	2.81	2.34	2.03
200-110D	110	DC	4.13	2.92	3.72	3.10	2.68
200-5,000D	Plate	DC	3.56	3.38	3.20	2.67	2.31
200-10,000D	Plate	DC	4.13	3.92	3.72	3.10	2.68

CONTACT SWITCH ASSEMBLIES

Guardian Number	Type	*	Cont. Comb.	Net Each, Lots of				
				1-24	25-49	50-99	100-249	250Up
200-1	Standard	8	SPDT	$2.64	$2.51	$2.38	$1.98	$1.72
200-2	Standard	8	DPDT	3.45	3.28	3.11	2.59	2.24
200-4	Standard	12.5	DPDT	3.88	3.69	3.49	2.91	2.52
200-5	Standard	8	4PDT	6.08	5.78	5.47	4.56	3.95
200-M1	Midget	10	SPDT	2.49	2.37	2.24	1.87	1.62
200-M2	Midget	10	DPDT	3.04	2.89	2.74	2.28	1.98
200-M5	Midget	8	4PDT	4.93	4.68	4.44	3.70	3.20

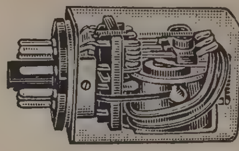
*Contact amps.

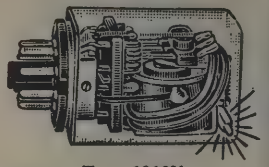
CONTACT SWITCH PARTS

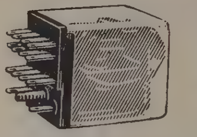
Use contact switch parts 200-3 for adding poles to contact switch assemblies 200-1 and 200-2. Use midget contact switch parts 200-M3 to add poles to midget contact switch assemblies 200-M1 and 200-M2.

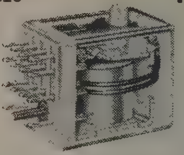
Guardian Number	Net Each, Lots of				
	1-24	25-49	50-99	100-249	250 Up
200-3	$2.63	$2.50	$2.37	$1.97	$1.71
200-M3	2.63	2.50	2.37	1.97	1.71

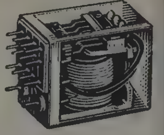
ENCLOSED PLUG-IN AC-DC RELAYS


Type 1210 and 1215


Type 1210N


Type 1310, 1315


Type 1310B, 1315B


Type 1310P, 1315P

In high-impact, transparent Lexan case for light weight and resistance to weather and temperatures up to 200° F. **Types 1210, -N, 1215**—With 8-pin octal plug for DPDT and 11-pin for 3PDT. Contacts rated 10 amps at 120 VAC, 60 Hz, non-inductive. Type 1210-N has miniature neon lamp connected across terminals. Lamp lights when coil is energized, goes out in case of circuit fault. Ideal substitute for circuit tester in relay banks, mass relay arrangements, or where relays are visibly located at intermediate switching points of the circuitry. Size, 2 3/16″ x 1⅜″ x 1⅜″. Shipping Weight, 3.5 oz. UL and CSA Recognized (5 amp only). **Types 1310 and 1315**—Miniature plug-in relays with solder terminals (no suffix); PC terminals (suffix P); with miniature neon lamp connected across coil terminals to glow on coil energization or show circuit fault on failure to glow (suffix N); and, with insulated button for push-to-test without applying voltage to coil (suffix B). Long life (100 million operations) 4PDT contacts rated 5 amps, 30 VDC or 120 VAC. Size, 1 1/32″ x 55/64″ x 1 7/64″. Shpg. Wt., 1⅛ oz.

ENCLOSED PLUG-IN RELAYS—AC-DC

Guardian Number*	Coil Res.	Cont. Comb.	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250 Up
1210N-2C-120A	1100	DPDT	$ 9.54	$ 9.06	$ 8.59	$7.16	$6.20
1210N-3C-120A	1100	3PDT	11.31	10.74	10.18	8.48	7.35
1210-2C-6A	33	DPDT	8.22	7.81	7.40	6.17	5.34
1210-3C-6A	33	3PDT	9.92	9.42	8.93	7.44	6.45
1210-2C-24A	54	DPDT	8.22	7.81	7.40	6.17	5.34
1210-3C-24A	54	3PDT	9.92	9.42	8.93	7.44	6.45
1210-2C-120A	1100	DPDT	8.22	7.81	7.40	6.17	5.34
1210-3C-120A	1100	3PDT	9.92	9.42	8.93	7.44	6.45
1210-2C-240A	5000	DPDT	8.66	8.23	7.79	6.50	5.63
1210-3C-240A	5000	3PDT	10.26	9.75	9.23	7.70	6.67
1215-2C-6D	18	DPDT	8.22	7.81	7.40	6.17	5.34
1215-3C-6D	18	3PDT	9.92	9.42	8.93	7.44	6.45
1215-2C-12D	75	DPDT	8.22	7.81	7.40	6.17	5.34
1215-3C-12D	75	3PDT	9.92	9.42	8.93	7.44	6.45
1215-2C-24D	300	DPDT	8.22	7.81	7.40	6.17	5.34
1215-3C-24D	300	3PDT	9.92	9.42	8.93	7.44	6.45
1215-2C-110D	6500	DPDT	8.74	8.30	7.87	6.56	5.68
1215-3C-110D	6500	3PDT	10.58	10.05	9.52	7.94	6.88

*Suffix indicates volts (i.e., **-120A** for 120 VAC; **-6D**, 6 VDC, etc.).

ENCLOSED PLATE CIRCUIT PLUG-IN RELAYS—DC

Guardian Number*	Oper. mA	Cont. Comb.	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250 Up
1215-2C-2.5	10	DPDT	$ 8.82	$ 8.38	$ 7.94	$6.62	$5.73
1215-3C-2.5	12	3PDT	10.32	9.80	9.29	7.74	6.71
1215-2C-5	7.2	DPDT	8.97	8.52	8.07	6.73	5.83
1215-3C-5	8.5	3PDT	10.67	10.14	9.60	8.00	6.94
1215-2C-10	5	DPDT	9.24	8.78	8.32	6.93	6.00
1215-3C-10	6	3PDT	11.03	10.48	9.93	8.27	7.17

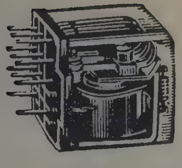
*Suffix indicates coil resistance in kilohms (e.g., **-2.5** for 2500 ohms, **-10** for 10,000 ohms, etc.): Not UL Recognized.

MINIATURE ENCLOSED PLUG-IN RELAYS

Guardian Number*		Net Each, Lots of				
Solder Terminal Type†	Printed Circuit Type†	1-24	25-49	50-99	100-249	250 Up
1310-4C-6A	1310P-4C-6A	$5.46	$5.19	$4.91	$4.10	$3.55
1310-4C-12A	1310P-4C-12A	5.46	5.19	4.91	4.10	3.55
1310-4C-24A	1310P-4C-24A	5.46	5.19	4.91	4.10	3.55
1310-4C-120A	1310P-4C-120A	5.68	5.40	5.11	4.26	3.69
1315-4C-6D	1315P-4C-6D	4.91	4.66	4.42	3.68	3.19
1315-4C-12D	1315P-4C-12D	4.91	4.66	4.42	3.68	3.19
1315-4C-24D	1315P-4C-24D	4.91	4.66	4.42	3.68	3.19
1315-4C-110D	1315P-4C-110D	5.30	5.04	4.77	3.98	3.45
Solder Term.	**Description**					
1310N-4C-120A	With neon lamp	6.97	6.62	6.27	5.23	4.53
1315N-4C-24D	With neon lamp	5.89	5.60	5.30	4.42	3.83
1315N-4C-110D	With neon lamp	6.55	6.22	5.90	4.91	4.26
1310B-4C-120A	Push-to-test	6.34	6.02	5.71	4.76	4.12
1315B-4C-24D	Push-to-test	5.36	5.09	4.82	4.02	3.48
1315B-4C-110D	Push-to-test	5.95	5.65	5.36	4.46	3.87
1310-1ST‡, 1310-2PC§, 1310-3SN#		.77	.77	.77	.64	.64

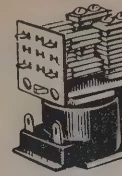
*Suffix indicates volts (i.e., **-6A**, 6 VAC; **-6D**, 6 VDC etc.). †UL Recognized. ‡Socket for all solder terminal type relays. §Socket for printed circuit type relays. #Socket for solder terminal snap-in type relays.

GUARDIAN® ELECTRIC Relays and Switches



1220, 1225

SOC-1



640, 645

SERIES 1220 AC AND 1225 DC RELAYS

Versatile enclosed relay for plug-in or solder connection or use with quick-connect terminals. Reduced height and cost by elimination of radio type plug, extra wiring and sub-assembly between relay and plug. Features "Uni-Guard" continuous loop moving blades; snap-lock cover; and multipurpose terminals usable as solder lug, .110″ quick-connect, or socket plug-in use. With mounting bracket. Size, 1³⁷⁄₆₄″ x 1⁴⁵⁄₆₄″ x 1¾″. UL Recognized. **Type 1220/1220:** Electrical reset version, 3³⁄₆₄″ h. **Type 1225/1225:** Latching relay. **Type 1220M and 1225M:** Manual reset version.

Guardian Number†	Coil Res.	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
1220-2C-24A	54	$ 6.35	$ 6.03	$ 5.72	$ 4.76	$ 4.13
1220-2C-120A	1110	6.70	6.37	6.03	5.03	4.36
1220-2C-240A	5000	7.10	6.75	6.39	5.33	4.62
1220-3C-24A	54	7.30	6.94	6.57	5.48	4.75
1220-3C-120A	1110	7.65	7.27	6.89	5.74	4.97
1220-3C-240A	5000	8.05	7.65	7.25	6.04	5.23
1225-2C-6D	18	6.10	5.80	5.49	4.58	3.97
1225-2C-12D	75	6.15	5.84	5.54	4.61	4.00
1225-2C-24D	300	6.25	5.94	5.63	4.69	4.06
1225-2C-110D	6500	6.90	6.56	6.21	5.18	4.49
1225-3C-6D	18	7.00	6.65	6.30	5.25	4.55
1225-3C-12D	75	7.05	6.70	6.35	5.29	4.58
1225-3C-24D	300	7.20	6.84	6.48	5.40	4.68
1225-3C-110D	6500	7.85	7.46	7.07	5.89	5.10
1220/1220-2C-24A	54	17.75	16.86	15.98	13.31	11.54
1220/1220-2C-120A	1110	17.85	16.96	16.07	13.39	11.60
1225/1225-2C-24D	300	17.60	16.72	15.84	13.20	11.44
1220M-2C-24A	54	9.75	9.26	8.78	7.31	6.34
1220M-2C-120A	1110	9.80	9.31	8.82	7.35	6.37
1225M-2C-24D	300	9.60	9.12	8.64	7.20	6.24

†Suffix indicates coil voltage (i.e., **-24A** for 24 VAC, etc.).

Guardian No. 1220-SOC1 or 1220-SOC2 Socket—Socket for 1220 and 1225 relays. Net Ea., Lots of 1–24 . . **$0.70**; 25 Up . . **$0.65**

ALL-PURPOSE ECONOMY AC-DC RELAYS

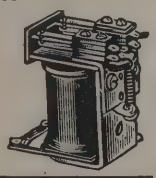
Compact, lightweight relay capable of unusually heavy power control for its size. Variety of AC-DC voltages and contact combinations. Contacts rated 10 amps at 60 Hz, 120-volt non-inductive load. Center mounting with single hole. Size, 1³⁄₃₂″ x 1⅞″ x 2⁵⁄₃₂″. Shipping Weight, 3.5 oz. UL Recognized.

Guardian Number†	Coil Res.	Cont. Comb.	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
640U-A-24A	24	SPST*	$3.70	$3.52	$3.33	$2.78	$2.41
640U-C-24A	24	SPDT	4.60	4.37	4.14	3.45	2.99
640U-2C-24A	24	DPDT	6.15	5.84	5.54	4.61	4.00
640U-4C-24A	24	4PDT	8.70	8.27	7.83	6.53	5.66
640U-A-120A	550	SPST*	3.80	3.61	3.42	2.85	2.47
640U-C-120A	550	SPDT	4.70	4.47	4.23	3.53	3.06
640U-2C-120A	550	DPDT	6.30	5.99	5.67	4.73	4.10
640U-4C-120A	550	4PDT	8.80	8.36	7.92	6.60	5.72
640U-2C-240A	2950	DPDT	6.70	6.37	6.03	5.03	4.36
645U-A-12D	50	SPST*	3.90	3.71	3.51	2.93	2.54
645U-C-12D	50	SPDT	4.60	4.37	4.14	3.45	2.99
645U-2C-12D	50	DPDT	6.50	6.18	5.85	4.88	4.23
645U-4C-12D	50	4PDT	9.00	8.55	8.10	6.75	5.85
645U-A-24D	200	SPST*	3.95	3.75	3.56	2.96	2.57
645U-C-24D	200	SPDT	4.70	4.47	4.23	3.53	3.06
645U-2C-24D	200	DPDT	6.50	6.18	5.85	4.88	4.23
645U-4C-24D	200	4PDT	9.00	8.55	8.10	6.75	5.85
645U-A-110D	4000	SPST*	4.71	4.47	4.24	3.53	3.06
645U-C-110D	4000	SPDT	5.40	5.13	4.86	4.05	3.51
645U-2C-110D	4000	DPDT	7.15	6.79	6.44	5.36	4.65
645U-4C-110D	4000	4PDT	9.70	9.22	8.73	7.28	6.31

*Normally open. †Suffix indicates coil voltage (i.e., **-6D** for 6 VDC, etc.).

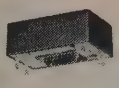
DC PLATE CIRCUIT RELAY

DPDT; constructed with extra long coil for greater sensitivity. Adaptable to voltage operation as well as sensitive plate circuit control installations. Coil impregnated for reliability and longer life. Average power requirement, 0.2 watt. Contacts, fine silver, rated 10 amps. Single 8-32 center mtg. hole. Size, 2⅛″ x 2″ x 1⅛″. Shipping Weight, 5.5 oz.



Guardian Number	Oper. mA	Coil Res.	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
625-2.5	9	2500	$8.25	$7.84	$7.43	$6.19	$5.36
625-5	6.3	5000	8.75	8.31	7.88	6.56	5.69
625-10	4.5	10,000	9.25	8.79	8.33	6.94	6.01

6405
6415



1435

6505

SERIES 1345 10-AMP RELAYS

Choice of SPST-NO, SPST-NC or SPDT. Compact, rugged, built to take hard knocks. Measures just over 1 cu. in., yet specifically designed for up to 50,000 miles of maintenance-free operations in automotive controls; also ideal for any application where you need small size and long life, at a low price. **Contact Ratings:** 10 amps resistive at 12 VDC; 7 amps resistive at 30 VDC; 6 amps inductive at 30 VDC; 3.5 amps resistive at 120 VAC; 2.5 amps inductive at 120 VAC. Heat resistant nylon cover. **Weight:** 1 oz. **Recognized under Component Program of UL.**

Guardian Number	Contact Config.	Coil Volts V	Coil Res. Ohms	Net Each, Lots of 1-24	25-49	50-99
1345-1A-6D	SPST-NO	6 DC	350	$2.26	$2.15	$2.03
1345-1A-12D	SPST-NO	12 DC	1400	2.38	2.26	2.14
1345-1A-24D	SPST-NO	24 DC	5600	2.72	2.58	2.49
1345-1B-6D	SPST-NC	6 DC	350	2.26	2.15	2.03
1345-1B-12D	SPST-NC	12 DC	1400	2.38	2.26	2.14
1345-1B-24D	SPST-NC	24 DC	5600	2.72	2.58	2.49
1345-1C-6D	SPDT	6 DC	350	2.64	2.51	2.38
1345-1C-12D	SPDT	12 DC	1400	2.72	2.58	2.45
1345-1C-24D	SPDT	24 DC	5600	3.10	2.95	2.79

SERIES 1390/1395—DPDT, 13 AMP RELAYS

Compact, space saving relays. Large control capacity in a small low-cost package. Rugged mechanical construction; mechanical life of up to 100 million operations (100,000 min.) at rated loads. Available with plug-in socket. **Contact Ratings:** 13 amps resistive at 28 VDC or 130 VAC; 7.5 amps inductive at 120 VAC; ⅓ hp at 120 VAC. Heat resistant Lexan cover. **Weight:** 1.25 oz. Designed to meet UL requirements.

Guardian Number	Coil Volts V	Coil Res. Ohms	Net Each, Lots of 1-24	25-49	50-99	100-249
1390-2C-12A	12 AC	45	$4.99	$4.74	$4.49	$3.74
1390-2C-24A	24 AC	160	4.99	4.74	4.49	3.74
1390-2C-120A	120 AC	3900	5.09	4.84	4.58	3.82
1395-2C-6D	6 DC	40	4.25	4.04	3.83	3.19
1395-2C-12D	12 DC	160	4.25	4.04	3.83	3.19
1395-2C-24D	24 DC	650	4.25	4.04	3.83	3.19
1395-2C-110D	110 DC	11K	5.20	4.94	4.68	3.90

SERIES 1390 SOCKET

Guardian No. 1390-1 ST Series Relay Socket—Solder/QC terminal lugs; accept AMP Series .187 QC connectors. Net Each, 1–99 . . . . **$0.77**; 100 & up **$0.64**

Guardian No. 1390-2 PC Series Relay Socket—Printed circuit terminals. Net Each, 1–99 . . . . . **$0.77**; 100 & up **$0.64**

SERIES 1475 LOW PROFILE RELAYS

Electromechanical relay with choice of SPDT or DPDT contacts. Specially designed for high density packaging and demanding operating requirements. "Flat Pack" design features unique multiple convoluted contacting surfaces, rated up to 3 amps resistive. Outperforms similar relays under heavier load conditions. PC terminals on .1″ grid spacing. Sealed thermoset housing and cover. **Contact Ratings:** 5 amps at 6 and 12 VDC; 3 amps at 24 and 28 VDC; 5 amps at 6, 12 and 24 VAC, resistive; 1.5 amps at 120 VAC, inductive. Mechanical life in excess of 100 million operations. **Weight:** SPDT, 10 grams; DPDT, 14 grams.

Guardian Number	Contact Config.	Coil Volts V	Coil Res. Ohms	Net Each, Lots of 1-24	25-49	50-99
1475-1C-5D	SPDT	5 DC	44	$3.45	$3.28	$3.11
1475-1C-6D	SPDT	6 DC	70	3.45	3.28	3.11
1475-1C-12D	SPDT	12 DC	288	3.45	3.28	3.11
1475-1C-24D	SPDT	24 DC	1152	3.60	3.42	3.24
1475-2C-5D	DPDT	5 DC	41.6	4.10	3.90	3.69
1475-2C-6D	DPDT	6 DC	60	4.10	3.90	3.69
1475-2C-12D	DPDT	12 DC	240	4.10	3.90	3.69
1475-2C-24D	DPDT	24 DC	960	4.20	3.99	3.78

SERIES TMP AND TMT TIME DELAY MODULES

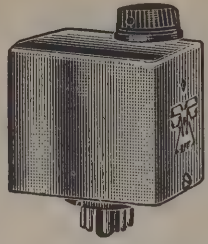
Solid state time delay modules available in "on operate" and "on release" configurations. Externally adjustable within two ranges from ½ to 100 seconds and 100 to 300 seconds. TMP module terminates in an octal plug for quick mounting and remote control of relay and other switching devices. TMT module is designed to accept relays mounted to it, or to allow stacking, or installation into a PC board. **Repeatability:** ±1%. **Life:** One million cycles. **Size:** TMP, 1″ h. x 1½″ square; TMT, .63″ h. x 2″ square. UL Recognized.

Guardian Number*	Net 1-49*	Guardian Number*	Net 1-49*	Volts
TMT-O-100-24D†	$12.78	**TMP-O-100-24D†**	$14.24	24 VDC
TMT-O-300-24D	16.28	**TMP-O-300-24D**	16.81	24 VDC
TMT-O-100-24A†	13.64	**TMP-O-100-24A†**	14.78	24 VAC
TMT-O-300-24A	17.15	**TMP-O-300-24A**	17.37	24 VAC
TMT-O-100-120A†	12.78	**TMP-O-100-120A†**	14.24	120 VAC
TMT-O-300-120A	16.28	**TMP-O-300-120A**	16.81	120 VAC
TMT-R-100-24D†	17.20	**TMP-R-100-24D†**	19.27	24 VDC
TMT-R-300-24D	20.64	**TMP-R-300-24D**	21.89	24 VDC
TMT-R-100-24A†	17.71	**TMP-R-100-24A†**	19.79	24 VAC
TMT-R-300-24A	21.16	**TMP-R-300-24A**	22.23	24 VAC
TMT-R-100-120A†	17.20	**TMP-R-100-120A†**	19.27	120 VAC
TMT-R-300-120A	20.64	**TMP-R-300-120A**	21.89	120 VAC

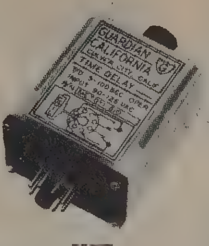
*__O__ in Guardian Number indicates delay on operate; **R**, delay on release. †Time Range: .5–100 secs; all others, 100–300 secs.
***Larger Quantity Prices Available on Request.**

GUARDIAN® ELECTRIC Solid State Controls

TD, AV2, CS1, FS, PR1 and VS1 thru VS3

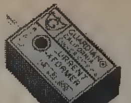


TDO



MET

BDT



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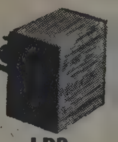
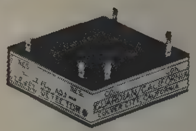


LDP



LDT

SOLID STATE AC-DC TIME DELAY RELAYS

Series TD: Most accurate and compact. High adjustment resolution with 15-turn potentiometer. Adjustable delays, 1–180 secs; 24 VDC or 120 VAC inputs. Accurate to 5% of nom. setting over full temp. and voltage range. Repeatability, 2% after 50 msec line interruption. Delays on attract with 3PDT contacts rated 10 amps resistive. Size, 2.06″ x 2.62″ x 3.00″.

Type TDO: Many more expensive unit features. Contacts rated 5 amps DPDT, 120 VAC; adjustable delay 0.5–30 secs on attract; 10-turn potentiometer. Repeatability within 5% after 100 msec. line interruption. Size, 2.06″ x 2.63″ x 2.38″.

Series MET: Replace many more expensive units with close tolerance repeatability. On-operate, on-release; adjustable 0.5–300 sec. Output, 10 amps resistive, 120 VAC, 50/60 Hz. Inputs of 120 or 24 VAC, 50/60 Hz, or 24 VDC polarity protected. Accuracy, ±10% of nom. setting over voltage and temperature range. Repeatability to 1% within fixed conditions. Single-turn potentiometer. Time delays 0.5–100 and 100–300 secs. Temp. range, 0° C to +55° C. Prefix MET-**O** indicates delay on operate; MET-**R**, delay on release. Size, 1.90″ x 2.40″ x 2.90″.

Series BDT: Unusual commercial design: Operation on high or low line; replaceable electromechanical relay; repeatability, temperature stability and small size. All-silicon circuitry operates over 75–125 VAC, 50/60 Hz input; draws only 5 mA before time out; 24 VDC also available. Standard relay housing with octal plug. Operates in most severe industrial uses, immune to most transient noise from power lines. Takes up to 2500 volts peak without damage or malfunction. Life, 5 x 10^7 operations under normal conditions. Size, 1.39″ x 1.70″ x 2.15″.

Guardian Number*	Adjust Range, Secs	Net Each, Lots of			
		1-9	10-24	25-49	50-99
TD33C15-24D	1–15	$26.68	$25.35	$24.01	$22.68
TD33C60-24D	10–60	27.77	26.38	24.99	23.60
TD33C180-24D	50–180	35.37	33.60	31.83	30.06
TD63C15-120A	1–15	32.74	31.10	29.47	27.83
TD63C60-120A	10–60	33.14	31.48	29.83	28.17
TD63C180-120A	50–180	40.62	38.59	36.56	34.53
TDO62C30-120A	.5–30	19.43	18.46	17.49	16.52
MET-O-100-24A	.5–100	20.62	19.59	18.56	17.53
MET-O-300-24A	100–300	21.88	20.79	19.69	18.60
MET-O-015-120A	.5–15	19.62	18.64	17.66	16.68
MET-O-100-120A	.5–100	20.15	19.14	18.14	17.13
MET-O-300-120A	100–300	21.88	20.79	19.69	18.60
MET-O-015-24D	.5–15	20.10	19.10	18.09	17.09
MET-O-100-24D	.5–100	20.62	19.59	18.56	17.53
MET-O-300-24D	100–300	21.88	20.79	19.69	18.60
MET-R-100-24A	.5–100	30.04	28.54	27.04	25.53
MET-R-300-24A	100–300	30.02	28.52	27.02	25.52
MET-R-015-120A	.5–15	28.69	27.26	25.82	24.39
MET-R-100-120A	.5–100	29.21	27.75	26.29	24.83
MET-R-300-120A	100–300	30.02	28.52	27.02	25.52
MET-R-015-24D	.5–15	29.53	28.05	26.58	25.10
MET-R-100-24D	.5–100	30.05	28.55	27.05	25.54
MET-R-300-24D	100–300	30.82	29.28	27.74	26.20
BDT-0-10-120A	1–10	24.62	23.39	22.16	20.93
BDT-0-60-120A	10–60	26.21	24.90	23.60	22.29
BDT-0-10-24D	1–10	24.62	23.39	22.16	20.93
BDT-0-60-24D	10–60	26.21	24.90	23.60	22.29

*Suffix indicates voltage: **24D** = 24 VDC; **24A** = 24 VAC; **120A** = 120 VAC.

PROTECTIVE SENSOR DEVICES

Solid state network designs, these sensors are bi-products of designs for military uses. Relay is 3PDT rated 10 amps resistive with either 24 VAC/DC or 120 VAC available. Mount by socket, chassis mount, or directly into a .110″ printed circuit. Temperature range, 0° C to +50° C. Life, 100,000 operations min. Transient voltage protection to 600 V for 3-phase model; 2500 V, all others. Dust cover provided on all but CT1 Series (a transfer molded part). Size: CT1 Series, 1.25″ x 1.87″ x 1.00″; all others, 1.70″ x 1.58″ x 3.00″.

Series CT1 and No. CS1—AC Current Sensors.

Series AV2—3-Phase, 4-Wire Voltage Sensors. Detects from 3-phase, 95 VAC source when sufficient voltage is available or loss of any line or drop in average to 50 VAC. Use as warning or lockout device protecting motors, etc. For pull-in or drop-out; will repeat close values, allowing for unevenly loaded lines that can cause drastic rise and fall in other lines.

Series FS1 and FS2—Adjustable Frequency Sensor. Use as under- or over-frequency detector, AC generator speed detector, destructive frequency trip-out or AC power loss detector. FS1 output relay energizes as frequency rises to adjusted sense-point; de-energizes when frequency drops to approx. 1.5% of sense-point. FS2 output relay energizes at its low-voltage pull-in point, independent of the control circuit; remains energized until frequency rises to the adjusted sense point. Sense point adjusts thru cover: 45–66 Hz for units with 60 Hz input; 360–440 Hz for units with 400 Hz input.

Series PR1—4-Wire Phase Rotation Sensor. With ABC phase rotation, output relay is energized by 75 VAC balanced phase inputs. Non-latching. Designed to monitor power input to 3-phase motors or systems.

Series VS1—Over-Voltage Sensor. Output relay energizes as input voltage rises to adjusted sense-point. De-energizes as input voltage drops approx. 2.5% below sense-point. Acts as under- or over-voltage detector. Adjusts thru cover: 90–130 VAC range for 120 VAC units; 18–32 volts for 24-volt units.

Series VS2—Under-Voltage Sensor. Output relay energizes at low voltage pull-in point independent of control circuit; remains set until voltages rise to sense-point. Adjusts thru cover: 90–130 VAC for 120 VAC units; 18–32 volts for 24-volt units.

Series VS3—Close Differential Voltage-Sensor. Output relay ernegizes as input voltage rises to desired sense-point; de-energizes as input drops to adjusted differential release point. Non-latching output; energizes when voltage returns to normal. Sense-point adjusts thru cover top: 105-130 VAC for 120 VAC input units; 23–32 volts for 24-volt units. Differential also sets thru top: 2.5–15 VAC for 120-volt input units; 1–5 volts for 24-volt input units.

Guardian Number	Sensing Range, 50/60 Hz	Net Each, Lots of			
		1-9	10-24	25-49	50-99
CT1-201	.1–1.5 amps	$17.76	$16.87	$15.98	$15.10
CT1-202	1–10 amps	16.32	15.50	14.69	13.87
CT1-203	5–50 amps	16.32	15.50	14.69	13.87
CT1-204	10–100 amps	16.32	15.50	14.69	13.87
CS1-220	90–125 VAC input	35.50	33.73	31.95	30.18

Guardian Number	Nominal Input	Net Each, Lots of			
		1-9	10-24	25-49	50-99
AV2-611	120 VAC, 60 Hz	$37.85	$35.96	$34.07	$32.17
AV2-621	120 VAC, 400 Hz	37.85	35.96	34.07	32.17
FS1-610	120 VAC, 60 Hz	60.86	57.82	54.77	51.73
FS1-620	120 VAC, 400 Hz	60.86	57.82	54.77	51.73
FS2-610	120 VAC, 60 Hz	60.86	57.82	54.77	51.73
FS2-620	120 VAC, 400 Hz	60.86	57.82	54.77	51.73
PR1-610	120 VAC, 60 Hz	44.12	41.91	39.71	37.50
PR1-620	120 VAC, 400 Hz	44.12	41.91	39.71	37.50
VS1-610	120 VAC, 60 Hz	47.32	44.95	42.59	40.22
VS1-620	120 VAC, 400 Hz	47.32	44.95	42.59	40.22
VS1-300	24 VDC	47.76	45.37	42.98	40.60
VS1-410	24 VAC, 60 Hz	46.53	44.20	41.88	39.55
VS1-420	24 VAC, 400 Hz	46.53	44.20	41.88	39.55
VS2-610	120 VAC, 60 Hz	47.29	44.93	42.56	40.20
VS2-620	120 VAC, 400 Hz	47.29	44.93	42.56	40.20
VS2-300	24 VDC	46.03	43.73	41.43	39.13
VS2-410	24 VAC, 60 Hz	46.53	44.20	41.88	39.55
VS2-420	24 VAC, 400 Hz	46.53	44.20	41.88	39.55
VS3-610	120 VAC, 60 Hz	60.42	57.40	54.38	51.36
VS3-620	120 VAC, 400 Hz	60.42	57.40	54.38	51.36
VS3-300	24 VDC	60.53	57.50	54.48	51.45
VS3-410	24 VAC, 60 Hz	59.63	56.65	53.67	50.69
VS3-420	24 VAC, 400 Hz	59.63	56.65	53.67	50.69

VOLTAGE LEVEL DETECTORS

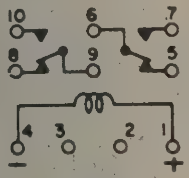
Inexpensive voltage level detectors with unusual operating characteristics. Molded module design. Circuits are silicon semiconductor devices forming a peak detecting voltage differential amplifier, signal amplifier, and a solid state output switch to drive various Guardian relays. Sense level is adjustable (fixed or variable) 85–135 VAC, 20–30 or 180–250 VAC (all 50/60 Hz) plus 20–30 VDC by external resistance. This broad adjustment permits use as an under or over level detector. Two units can form bandpass or pedestal level sensing. Used with Guardian TMT or TMP timing modules, they can provide inexpensive time delayed voltage detection systems that can ignore normal line fluctuation. Transient suppressed, they will withstand 2500 V peak (short duration) without damage or malfunction; 600 V on DC units. Size: LDT, 2.00″ sq. x 6.3″; LDP, 1.50″ sq. x 1.00″.

Guardian Number	Volts	Net Each, Lots of			
		1-9	10-24	25-49	50-99
LDT-100-24A	24 VAC	$16.32	$15.50	$14.69	$13.87
LDT-100-120A	120 VAC	16.32	15.50	14.69	13.87
LDT-100-230A	240 VAC	21.17	20.11	19.05	17.99
LDT-100-24D	24 VDC	16.64	15.81	14.98	14.14
LDP-100-24A	24 VAC	19.73	18.74	17.76	16.77
LDP-100-120A	120 VAC	19.73	18.74	17.76	16.77
LDP-100-230A	240 VAC	24.68	23.45	22.21	20.98
LDP-100-24D	24 VDC	19.35	18.38	17.42	16.45

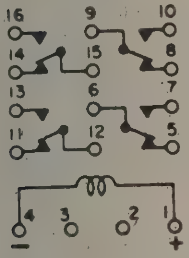
GENERAL PURPOSE RELAYS

R10-E1

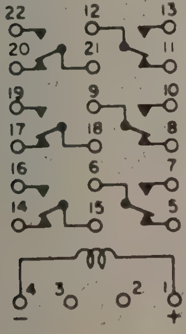
R10 Series: All models are UL recognized and models up to 6PDT have CSA recognition. Contact ratings shown are for 28 VDC or 115 VAC, resistive; maximum current is shown in parentheses. **E1** relays have solder/plug-in terminals and 3-48 stud; **E2** relays have PC board terminals; **E6** relays have solder/plug-in terminals and mounting bracket with 6-32 stud and locating tab on .437″ ctrs. **J** relays are DC current actuated; **SS** relays are sensitive DC voltage actuated; **V** relays are DC voltage actuated. All have clear polycarbonate cover. **Size:** .735″ x 1.187″ x .95″ to 1.380″ depending on contact arrangement. **Weight:** 0.8 to 1.4 ozs.



2 POLE



4 POLE

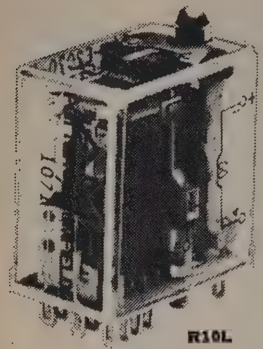


6 POLE

P & B Number	Coil Input	Contacts		Net Each, Lots of★		
		Arrange-ment	Amps, Typ. (Max.)	1-9	10-49	50-99
R10-E1-W4-V700	24 VDC	4PDT	7.5(10)	$ 6.00	$ 5.40	$ 4.80
R10-E1-Y1-SS1.0K	6 VDC	SPDT	2(3)	5.05	4.55	4.04
R10-E1-Y1-SS220	3 VDC	SPDT	2(3)	5.05	4.55	4.04
R10-E1-Y2-V28	5 VDC	DPDT	2(3)	4.15	3.74	3.32
R10-E1-Y2-V52	6 VDC	DPDT	2(3)	4.15	3.74	3.32
R10-E1-Y2-V185	12 VDC	DPDT	2(3)	4.15	3.74	3.32
R10-E1-Y2-V700	24 VDC	DPDT	2(3)	4.15	3.74	3.32
R10-E1-Y2-V2.5K	48 VDC	DPDT	2(3)	4.15	3.74	3.32
R10-E1-Y2-V15.0K	115 VDC	DPDT	2(3)	6.55	5.90	5.24
R10-E1-Y4-V52	6 VDC	4PDT	2(3)	4.55	4.10	3.64
R10-E1-Y4-V185	12 VDC	4PDT	2(3)	4.55	4.10	3.64
R10-E1-Y4-V700	24 VDC	4PDT	2(3)	4.55	4.10	3.64
R10-E1-Y4-V2.5K	48 VDC	4PDT	2(3)	4.55	4.10	3.64
R10-E1-Y4-V15.0K	115 VDC	4PDT	2(3)	6.95	6.26	5.56
R10-E1-Y6-V25	6 VDC	6PDT	2(3)	5.95	5.36	4.76
R10-E1-Y6-V90	12 VDC	6PDT	2(3)	5.95	5.36	4.76
R10-E1-Y6-V430	24 VDC	6PDT	2(3)	5.95	5.36	4.76
R10-E1-Y6-V1.5K	48 VDC	6PDT	2(3)	5.95	5.36	4.76
R10-E1-Y6-9,0K	115 VDC	6PDT	2(3)	7.00	6.30	5.60
R10-E1-X2-V28	5 VDC	DPDT	5(7.5)	4.30	3.87	3.44
R10-E1-X2-V52	6 VDC	DPDT	5(7.5)	4.30	3.87	3.44
R10-E1-X2-V185	12 VDC	DPDT	5(7.5)	4.30	3.87	3.44
R10-E1-X2-V700	24 VDC	DPDT	5(7.5)	4.30	3.87	3.44
R10-E1-X2-V2.5K	48 VDC	DPDT	5(7.5)	4.30	3.87	3.44
R10-E1-X2-V15.0K	115 VDC	DPDT	5(7.5)	6.70	6.03	5.36
R10-E1-X4-V52	6 VDC	4PDT	5(7.5)	4.85	4.37	3.88
R10-E1-X4-V185	12 VDC	4PDT	5(7.5)	4.85	4.37	3.88
R10-E1-X4-V700	24 VDC	4PDT	5(7.5)	4.85	4.37	3.88
R10-E1-X4-V2.5K	48 VDC	4PDT	5(7.5)	4.85	4.37	3.88
R10-E1-X4-V15.0K	115 VDC	4PDT	5(7.5)	7.25	6.53	5.80
R10-E1-X6-V25	6 VDC	6PDT	5(7.5)	6.40	5.76	5.12
R10-E1-X6-V90	12 VDC	6PDT	5(7.5)	6.40	5.76	5.12
R10-E1-X6-V430	24 VDC	6PDT	5(7.5)	6.40	5.76	5.12
R10-E1-X6-V1.5K	48 VDC	6PDT	5(7.5)	6.40	5.76	5.12
R10-E1-X6-V9.0K	115 VDC	6PDT	5(7.5)	7.40	6.66	5.92
R10-E1-W2-V185	12 VDC	DPDT	7.5(10)	4.95	4.46	3.96
R10-E1-W2-V700	24 VDC	DPDT	7.5(10)	4.95	4.46	3.96
R10-E1-Z2-V52	6 VDC	DPDT	0.1(2)	4.60	4.14	3.68
R10-E1-Z2-V185	12 VDC	DPDT	0.1(2)	4.60	4.14	3.68
R10-E1-Z2-V700	24 VDC	DPDT	0.1(2)	4.60	4.14	3.68
R10-E1-Z2-V2.5K	48 VDC	DPDT	0.1(2)	4.60	4.14	3.68
R10-E1-Z2-V15.0K	115 VDC	DPDT	0.1(2)	7.00	6.30	5.60
R10-E1-Z4-V52	6 VDC	4PDT	0.1(2)	5.20	4.68	4.16
R10-E1-Z4-V185	12 VDC	4PDT	0.1(2)	5.20	4.68	4.16
R10-E1-Z4-V700	24 VDC	4PDT	0.1(2)	5.20	4.68	4.16
R10-E1-Z4-V2.5K	48 VDC	4PDT	0.1(2)	5.20	4.68	4.16
R10-E1-Z4-V15.0K	115 VDC	4PDT	0.1(2)	7.60	6.84	6.08
R10-E1-Z6-V25	6 VDC	6PDT	0.1(2)	6.75	6.08	5.40
R10-E1-Z6-V90	12 VDC	6PDT	0.1(2)	6.75	6.08	5.40
R10-E1-Z6-V430	24 VDC	6PDT	0.1(2)	6.75	6.08	5.40
R10-E1-Z6-V1.5K	48 VDC	6PDT	0.1(2)	6.75	6.08	5.40
R10-E1-Z6-V9.0K	115 VDC	6PDT	0.1(2)	7.80	7.02	6.24
R10-E1-Y2-J2.5K	5.8 mA	DPDT	2(3)	4.50	4.05	3.60
R10-E1-Y2-J5.0K	4.1 mA	DPDT	2(3)	5.10	4.59	4.08
R10-E1-Y2-J10.0K	3.1 mA	DPDT	2(3)	5.50	4.95	4.40
R10-E1-Y4-J2.5K	8.4 mA	4PDT	2(3)	4.95	4.46	3.96
R10-E1-Y4-J5.0K	6.2 mA	4PDT	2(3)	5.55	5.00	4.44
R10-E1-Y4-J10.0K	4.5 mA	4PDT	2(3)	6.00	5.40	4.80
R10-E1-Z4-J1.0K	13.0 mA	4PDT	0.1(2)	5.60	5.04	4.48
R10-E1-Z4-J2.5K	8.4 mA	4PDT	0.1(2)	5.60	5.04	4.48
R10-E1-Z4-J5.0K	6.2 mA	4PDT	0.1(2)	6.20	5.58	4.96
R10-E1-X2-115V	115 VAC	DPDT	5(7.5)	7.10	6.39	5.68
R10-E1-X4-115V	115 VAC	4PDT	5(7.5)	8.60	7.74	6.88
R10-E1-X6-115V	115 VAC	6PDT	5(7.5)	11.95	10.76	9.56
R10-E1-X8-115V	115 VAC	8PDT	5(7.5)	14.40	12.96	11.52
R10-E2-W2-V700	24 VDC	DPDT	7.5(10)	4.95	4.46	3.96
R10-E2-X2-V28	5 VDC	DPDT	5(7.5)	4.30	3.87	3.44
R10-E2-X2-V700	24 VDC	DPDT	5(7.5)	4.30	3.87	3.44
R10-E2-Y2-V28	5 VDC	DPDT	2(3)	4.15	3.74	3.32
R10-E2-Y2-V185	12 VDC	DPDT	2(3)	4.15	3.74	3.32
R10-E2-Y2-V700	24 VDC	DPDT	2(3)	4.15	3.74	3.32
R10-E2-Y4-V185	12 VDC	4PDT	2(3)	4.55	4.10	3.64
R10-E2-Y4-V700	24 VDC	4PDT	2(3)	4.55	4.10	3.64
R10-E2-Y6-V90	12 VDC	6PDT	2(3)	5.95	5.36	4.76
R10-E2-Y6-V430	24 VDC	6PDT	2(3)	5.95	5.36	4.76
R10-E2-Y6-V1.5K	48 VDC	6PDT	2(3)	5.95	5.36	4.76
R10-E2-Z4-V185	12 VDC	4PDT	0.1(2)	5.20	4.68	4.16
R10-E2-Z4-V700	24 VDC	4PDT	0.1(2)	5.20	4.68	4.16
R10-E2-Z4-J2.5K	8.4 mA	4PDT	0.1(2)	5.60	5.04	4.48
R10-E2-Z4-J5.0K	6.2 mA	4PDT	0.1(2)	6.20	5.58	4.96
R10-E2-Z6-V90	12 VDC	6PDT	0.1(2)	6.75	6.08	5.40
R10-E2-Z6-V430	24 VDC	6PDT	0.1(2)	6.75	6.08	5.40
R10-E2-Z6-V1.5K	48 VDC	6PDT	0.1(2)	6.75	6.08	5.40
R10-E6-X2-V52	6 VDC	DPDT	5(7.5)	4.65	4.19	3.72
R10-E6-X2-V185	12 VDC	DPDT	5(7.5)	4.65	4.19	3.72
R10-E6-X2-V700	24 VDC	DPDT	5(7.5)	4.65	4.19	3.72
R10-E6-X2-115V	115 VAC	DPDT	5(7.5)	7.45	6.71	5.96
R10-E6-X4-V185	12 VDC	4PDT	5(7.5)	5.25	4.73	4.20
R10-E6-X4-V700	24 VDC	4PDT	5(7.5)	5.25	4.73	4.20
R10-E6-X4-115V	115 VAC	4PDT	5(7.5)	8.95	8.06	7.16
R10-E6-Y2-V185	12 VDC	DPDT	2(3)	4.50	4.05	3.60
R10-E6-Y2-V700	24 VDC	DPDT	2(3)	4.50	4.05	3.60
R10-E6-Y4-V185	12 VDC	4PDT	2(3)	4.95	4.46	3.96
R10-E6-Y4-V700	24 VDC	4PDT	2(3)	4.95	4.46	3.96

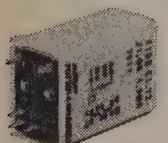
★ **LARGER QUANTITY PRICES ON REQUEST (SEE ANOTHER P & B PAGE FOR ACCESSORIES)**

GENERAL PURPOSE RELAYS


R10L

R10L Series: With light-emitting diode in parallel with coil. Available in solder, **E1**, and PC board, **E2**, terminals.

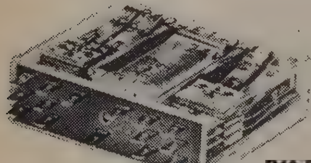
R10S Series: Very sensitive, current actuated DC relays for direct drive from TTL, CMOS, ECL, and HTL. Available in solder, **E1**, and PC board, **E2**, terminals.


R10S

P & B Number	Coil Input	Contacts Arrangement	Contacts Amps,* Typ. (Max.)	Net Each, Lots of★ 1-9	Net Each, Lots of★ 10-49	Net Each, Lots of★ 50-99
R10L-E1-X2-V185	12 VDC	DPDT	5(7.5)	$ 8.20	$ 7.38	$ 6.56
R10L-E1-X2-V700	24 VDC	DPDT	5(7.5)	8.20	7.38	6.56
R10L-E1-X4-V185	12 VDC	4PDT	5(7.5)	8.75	7.88	7.00
R10L-E1-X4-V700	24 VDC	4PDT	5(7.5)	8.75	7.88	7.00
R10L-E1-X4-V2.5K	48 VDC	4PDT	5(7.5)	8.75	7.88	7.00
R10L-E1-X6-V430	24 VDC	6PDT	5(7.5)	10.30	9.27	8.24
R10L-E1-Y2-V52	6 VDC	DPDT	2(3)	8.05	7.25	6.44
R10L-E1-Y2-V185	12 VDC	DPDT	2(3)	8.05	7.25	6.44
R10L-E1-Y2-V700	24 VDC	DPDT	2(3)	8.05	7.25	6.44
R10L-E1-Y2-V2.5K	48 VDC	DPDT	2(3)	8.05	7.25	6.44
R10L-E1-Y4-V52	6 VDC	4PDT	2(3)	8.45	7.61	6.76
R10L-E1-Y4-V185	12 VDC	4PDT	2(3)	8.45	7.61	6.76
R10L-E1-Y4-V700	24 VDC	4PDT	2(3)	8.45	7.61	6.76
R10L-E1-Y6-V430	24 VDC	6PDT	2(3)	9.85	8.87	7.88
R10L-E1-Z4-V700	24 VDC	4PDT	0.1(2)	9.10	8.19	7.28
R10L-E2-Y2-V185	12 VDC	DPDT	2(3)	8.05	7.25	6.44
R10L-E2-Y4-V700	24 VDC	4PDT	2(3)	8.45	7.61	6.76

P & B Number	Coil Input	Contacts Arrangement	Contacts Amps,* Typ. (Max.)	Net Each, Lots of★ 1-9	Net Each, Lots of★ 10-49	Net Each, Lots of★ 50-99
R10S-E1-Y1-J1.0K	3.2 mA	SPDT	2(3)	$ 4.50	$ 4.05	$ 3.60
R10S-E1-Y1-J2.5K	2.0 mA	SPDT	2(3)	4.50	4.05	3.50
R10S-E1-Y1-J5.0K	1.4 mA	SPDT	2(3)	5.55	5.00	4.44
R10S-E1-Y2-J1.0K	4.5 mA	DPDT	2(3)	4.50	4.05	3.60
R10S-E1-Y2-J2.5K	2.9 mA	DPDT	2(3)	4.50	4.05	3.60
R10S-E1-Y2-J5.0K	2.0 mA	DPDT	2(3)	5.55	5.00	4.44
R10S-E1-Y4-J1.0K	6.5 mA	4PDT	2(3)	5.20	4.68	4.16
R10S-E2-Y1-J1.0K	3.2 mA	SPDT	2(3)	4.50	4.05	3.60
R10S-E2-Y1-J2.5K	2.0 mA	SPDT	2(3)	4.50	4.05	3.60
R10S-E2-Y1-J5.0K	1.4 mA	SPDT	2(3)	5.55	5.00	4.44
R10S-E2-Y2-J2.5K	2.9 mA	DPDT	2(3)	4.50	4.05	3.60
R10S-E2-Y4-J1.0K	6.5 mA	4PDT	2(3)	5.20	4.68	4.16

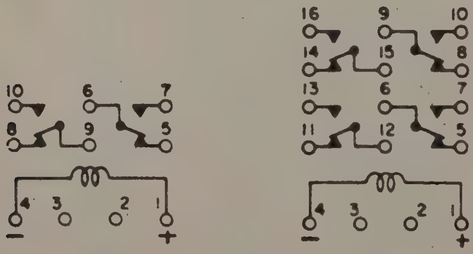
R40-E3


R40-E1

R40 Series: Slimline relays designed for flat PC board mounting have UL and CSA recognition. Available with solder/plug-in, PC board, or right-angle PC board terminals. A variety of contact styles provide switching from dry circuit to 7.5 amps at 28 VDC or 115 VAC, resistive. Bifurcated contacts for low level applications or cross bar contacts for dry circuit use are available. Clear polycarbonate cover. **E1** relays have solder/plug-in terminals; **E2** relays have PC board terminals; **E3** relays have right-angle PC board terminals. **Size:** 1.4" x 1.2" x .430". **Weight:** 0.8 to 1.05 ozs.

P & B Number	Coil Input	Contacts Arrangement	Contacts Amps,* Typ. (Max.)	Net Each, Lots of★ 1-9	Net Each, Lots of★ 10-49	Net Each, Lots of★ 50-99
R40-E1-X4-V200	12 VDC	4PDT	5(7.5)	$ 7.40	$ 6.66	$ 5.92
R40-E1-X4-V800	24 VDC	4PDT	5(7.5)	7.40	6.66	5.92
R40-E1-Y4-V50	6 VDC	4PDT	2(3)	7.10	6.39	5.68
R40-E1-Y4-V200	12 VDC	4PDT	2(3)	7.10	6.39	5.68
R40-E1-Y4-V800	24 VDC	4PDT	2(3)	7.10	6.39	5.68
R40-E1-Y4-V3.2K	48 VDC	4PDT	2(3)	7.10	6.39	5.68
R40-E1-Z4-V200	12 VDC	4PDT	0.1(2)	7.75	6.98	6.20
R40-E1-Z4-V800	24 VDC	4PDT	0.1(2)	7.75	6.98	6.20
R40-E1-L4-V200	12 VDC	4PDT	0.0005(.25)	8.85	7.97	7.08
R40-E1-L4-V800	24 VDC	4PDT	0.0005(.25)	8.85	7.97	7.08
R40-E2-X4-V50	6 VDC	4PDT	5(7.5)	7.40	6.66	5.92
R40-E2-X4-V200	12 VDC	4PDT	5(7.5)	7.40	6.66	5.92
R40-E2-X4-V800	24 VDC	4PDT	5(7.5)	7.40	6.66	5.92
R40-E2-Y4-V200	12 VDC	4PDT	2(3)	7.10	6.39	5.68
R40-E2-Y4-V800	24 VDC	4PDT	2(3)	7.10	6.39	5.68
R40-E2-Z4-V200	12 VDC	4PDT	0.1(2)	7.75	6.98	6.20
R40-E3-X4-V200	12 VDC	4PDT	5(7.5)	7.90	7.11	6.32
R40-E3-X4-V800	24 VDC	4PDT	5(7.5)	7.90	7.11	6.32
R40-E3-Y4-V200	12 VDC	4PDT	2(3)	7.60	6.84	6.08
R40-E3-Y4-V800	24 VDC	4PDT	2(3)	7.60	6.84	6.08
R40-E3-Y4-V3.2K	48 VDC	4PDT	2(3)	7.60	6.84	6.08
R40-E3-Z4-V200	12 VDC	4PDT	0.1(2)	8.25	7.43	6.60
R40-E3-Z4-V800	24 VDC	4PDT	0.1(2)	8.25	7.43	6.60
R40-E3-L4-V200	12 VDC	4PDT	0.0005(.25)	9.35	8.42	7.48
R40-E3-L4-V800	24 VDC	4PDT	0.0005(.25)	9.35	8.42	7.48

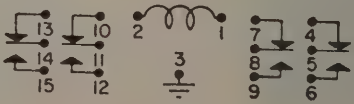
*For 28 VDC or 115 VAC, resistive.



2 POLE

4 POLE

R10L/R10S

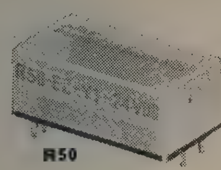


R40

★ LARGER QUANTITY PRICES ON REQUEST (SEE ANOTHER P & B PAGE FOR ACCESSORIES)

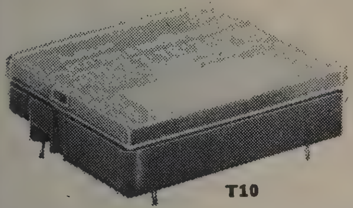
AMF | POTTER & BRUMFIELD Relays

GENERAL PURPOSE RELAYS



R50 Series: Small, low profile printed-circuit relays have UL recognition and seat only .425″ high. Have molded polyester case and gold-plated PC terminals spaced on 0.1″ grid. **Contact Rating:** R50, 2 amps at 28 VDC or 1 amp at 120 VAC, resistive; R50S, 1 amp at 28 VDC or 0.5 amp at 120 VAC, resistive; R50-X1, 5 amps at 28 VDC or 2.5 amps at 120 VAC, resistive. **Weight:** R50-Y1, 0.3 oz; R50-Y2 and R50-X1, 0.5 oz. **Size:** R50-X, 1.285″ x .79″ x .445″; R50-Y, 1.09″ x .59″ x .425″.

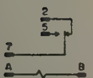
P & B Number	Coil Input	Contacts		Net Each, Lots of★		
		Arrangement	Amps, Typ. (Max.)	1-9	10-49	50-99
R50-E2-Y1-5V	5 VDC	SPDT	2(3)	$2.95	$2.66	$2.36
R50-E2-Y1-6V	6 VDC	SPDT	2(3)	2.95	2.66	2.36
R50-E2-Y1-12V	12 VDC	SPDT	2(3)	2.95	2.66	2.36
R50-E2-Y1-24V	24 VDC	SPDT	2(3)	3.10	2.79	2.48
R50-E2-Y1-48V	48 VDC	SPDT	2(3)	3.60	3.24	2.88
R50-E2-Y2-5V	5 VDC	DPDT	2(3)	3.90	3.51	3.12
R50-E2-Y2-6V	6 VDC	DPDT	2(3)	3.90	3.51	3.12
R50-E2-Y2-12V	12 VDC	DPDT	2(3)	3.90	3.51	3.12
R50-E2-Y2-24V	24 VDC	DPDT	2(3)	4.00	3.60	3.20
R50-E2-Y2-48V	48 VDC	DPDT	2(3)	4.65	4.19	3.72
R50-E2-X1-5V	5 VDC	SPDT	5(6)	3.50	3.15	2.80
R50-E2-X1-6V	6 VDC	SPDT	5(6)	3.50	3.15	2.80
R50-E2-X1-12V	12 VDC	SPDT	5(6)	3.50	3.15	2.80
R50-E2-X1-24V	24 VDC	SPDT	5(6)	3.65	3.29	2.92
R50S-E2-Y1-5V	5 VDC	SPDT	1(2)	2.85	2.57	2.28
R50S-E2-Y1-6V	6 VDC	SPDT	1(2)	2.85	2.57	2.28
R50S-E2-Y1-12V	12 VDC	SPDT	1(2)	2.85	2.57	2.28
R50S-E2-Y1-24V	24 VDC	SPDT	1(2)	3.00	2.70	2.40
R50S-E2-Y2-5V	5 VDC	DPDT	1(2)	3.70	3.33	2.96
R50S-E2-Y2-6V	6 VDC	DPDT	1(2)	3.70	3.33	2.96
R50S-E2-Y2-12V	12 VDC	DPDT	1(2)	3.70	3.33	2.96
R50S-E2-Y2-24V	24 VDC	DPDT	1(2)	3.80	3.42	3.04



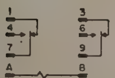
T10 Series: DPDT and 4PDT models have UL recognition. Polycarbonate cover snaps into place. Seats only .425″ high for close spacing of PC boards. **Contacts:** Suffix **Y**, gold-clad silver rated 3 amps at 28 VDC or 120 VAC, resistive; suffix **Z**, gold-clad silver, bifurcated, rated 1 amp at 60 VDC or 120 VAC, resistive. **Size:** 1.46″ x .425″ x 1.22″ to 1.82″ depending on contact arrangement. **Weight:** Approx. 1.06 oz.

P & B Number	Coil Input	Contacts		Net Each, Lots of★		
		Arrangement	Amps, Typ. (Max.)	1-9	10-49	50-99
T10-E2-Y2-5V	5 VDC	DPDT	3(4)	$4.20	$3.78	$3.36
T10-E2-Y2-6V	6 VDC	DPDT	3(4)	4.20	3.78	3.36
T10-E2-Y2-12V	12 VDC	DPDT	3(4)	4.20	3.78	3.36
T10-E2-Y2-24V	24 VDC	DPDT	3(4)	4.20	3.78	3.36
T10-E2-Y2-48V	48 VDC	DPDT	3(4)	4.85	4.37	3.88
T10-E2-Z2-5V	5 VDC	DPDT	1(2)	4.65	4.19	3.72
T10-E2-Z2-6V	6 VDC	DPDT	1(2)	4.65	4.19	3.72
T10-E2-Z2-12V	12 VDC	DPDT	1(2)	4.65	4.19	3.72
T10-E2-Z2-24V	24 VDC	DPDT	1(2)	4.65	4.19	3.72
T10-E2-Z2-48V	48 VDC	DPDT	1(2)	5.30	4.77	4.24
T10-E2-Y4-6V	6 VDC	4PDT	3(4)	4.75	4.28	3.80
T10-E2-Y4-12V	12 VDC	4PDT	3(4)	4.75	4.28	3.80
T10-E2-Y4-24V	24 VDC	4PDT	3(4)	4.75	4.28	3.80
T10-E2-Y4-48V	48 VDC	4PDT	3(4)	5.35	4.82	4.28
T10-E2-Z4-6V	6 VDC	4PDT	1(2)	5.40	4.86	4.32
T10-E2-Z4-12V	12 VDC	4PDT	1(2)	5.40	4.86	4.32
T10-E2-Z4-24V	24 VDC	4PDT	1(2)	5.40	4.86	4.32
T10-E2-Z4-48V	48 VDC	4PDT	1(2)	6.00	5.40	4.80
T10-E2-Y6-6V	6 VDC	6PDT	3(4)	6.40	5.76	5.12
T10-E2-Y6-12V	12 VDC	6PDT	3(4)	6.40	5.76	5.12
T10-E2-Y6-24V	24 VDC	6PDT	3(4)	6.40	5.76	5.12
T10-E2-Y6-48V	48 VDC	6PDT	3(4)	7.90	7.11	6.32
T10-E2-Z6-6V	6 VDC	6PDT	1(2)	7.20	6.48	5.76
T10-E2-Z6-12V	12 VDC	6PDT	1(2)	7.20	6.48	5.76
T10-E2-Z6-24V	24 VDC	6PDT	1(2)	7.20	6.48	5.76
T10-E2-Z6-48V	48 VDC	6PDT	1(2)	8.70	7.83	6.96

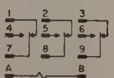
KUP and KUMP Series: Relays have polycarbonate covers. UL recognized and CSA listed. Models with suffix **25** have push-to-test button to manually actuate contacts; models with suffix **35** have neon lamp to indicate coil power; models with suffix **45** have both button and lamp. **Contact Rating:** KUP with suffix **11**, 5 amps at 28 VDC or 240 VAC; all other KUP models, 10 amps at 28 VDC or 240 VAC. KUMP models, 15 amps at 277 VAC. **Terminals:** .187″ quick-connect/solder. **Mounting:** KUP with suffix **55**, bracket mounted; all others use sockets and hold-down springs. **Weight:** 3 ozs.



1 FORM C



2 FORM C



3 FORM C

P & B Number*	Coil Input	Contacts		Net Each, Lots of★		
		Arrangement	Amps. Typ.	1-24	25-50	51-99
KUMP11A18	6, 12, 24, 120 VAC	DPDT	15	$6.90	$6.56	$6.21
KUMP11A18	240 VAC	DPDT	15	7.55	7.17	6.80
KUMP11D18	5, 6, 12, 24 VDC	DPDT	15	6.30	5.99	5.67
KUMP11D18	110 VDC	DPDT	15	7.05	6.70	6.35
KUP5A15	6, 12, 24, 120 VAC	SPDT	10	5.30	5.04	4.77
KUP5A15	240 VAC	SPDT	10	5.95	5.65	5.36
KUP5D15	5, 6, 12, 24 VDC	SPDT	10	5.10	4.85	4.59
KUP5D15	110 VDC	SPDT	10	5.85	5.56	5.27
KUP11A11	120 VAC	DPDT	5	6.20	5.89	5.58
KUP11D11	24 VDC	DPDT	5	5.60	5.32	5.04
KUP11A15	6, 12, 24, 120 VAC	DPDT	10	6.30	5.99	5.67
KUP11A15	240 VAC	DPDT	10	6.95	6.60	6.26
KUP11D15	5, 6, 12, 24 VDC	DPDT	10	5.70	5.42	5.13
KUP11D15	110 VDC	DPDT	10	6.45	6.13	5.81
KUP11A35	6, 12, 24, 120 VAC	DPDT	10	7.40	7.03	6.66
KUP11D35	12, 24 VDC	DPDT	10	7.50	7.13	6.75
KUP11D35	110 VDC	DPDT	10	8.25	7.84	7.43
KUP14A11	120 VAC	3PDT	5	6.90	6.56	6.21
KUP14A15	6, 12, 24, 120 VAC	3PDT	10	7.00	6.65	6.30
KUP14A15	240 VAC	3PDT	10	7.65	7.27	6.89
KUP14D15	6, 12, 24 VDC	3PDT	10	6.50	6.18	5.85
KUP14D15	110 VDC	3PDT	10	7.25	6.89	6.53
KUP14A25	120 VAC	3PDT	10	7.60	7.22	6.84
KUP14A35	120 VAC	3PDT	10	8.10	7.70	7.29
KUP14A45	120 VAC	3PDT	10	9.25	8.79	8.33
KUP5A55	120 VAC	SPDT	10	5.40	5.13	4.86
KUP5D55	24 VDC	SPDT	10	5.20	4.94	4.68
KUP11A55	24, 120 VAC	DPDT	10	6.40	6.08	5.76
KUP11D55	6, 12, 24 VDC	DPDT	10	5.80	5.51	5.22
KUP11D55	110 VDC	DPDT	10	6.55	6.22	5.90
KUP14A55	6, 12, 24, 120 VAC	3PDT	10	7.10	6.75	6.39
KUP14A55	240 VAC	3PDT	10	7.75	7.36	6.98
KUP14D55	6, 12, 24 VDC	3PDT	10	6.60	6.27	5.94
KUP14D55	110 VDC	3PDT	10	7.35	6.98	6.62

*Specify coil voltage when ordering.

★ **LARGER QUANTITY PRICES ON REQUEST (SEE ANOTHER P & B PAGE FOR ACCESSORIES)**

AMF | POTTER & BRUMFIELD Relays

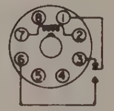
KA

KAP

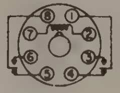
KA and KAP Series: Small, efficient relays for light power loads. The series has CSA listing and carries UL component recognition. **Contacts:** Suffix **Y**, 5 amps at 120 VAC or 3 amps at 240 VAC; suffix **G**, silver cadmium rated at 10 amps at 120 VAC or 6 amps at 240 VAC. **Mounting:** KA, 6-32 stud and locating tab on .438″ ctrs.; KAP11, 8-pin plug; KAP14, 11-pin plug. **Size:** KA, 1.844″ x 1.468″ x 1.687″; KAP, clear polycarbonate cover, 1.531″ x 1.437″ x 2.281″. **Weight:** 3 ozs.

GENERAL PURPOSE RELAYS

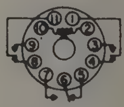
P & B Number■	Coil Input	Contacts		Net Each, Lots of★		
		Arrangement	Amps, Typ.	1-24	25-50	51-99
KA5AY	6, 12, 24, 120 VAC	SPDT	5	$4.85	$4.61	$4.37
KA5AY	240 VAC	SPDT	5	5.45	5.18	4.91
KA5AG	6, 12, 24, 120 VAC	SPDT	10	4.90	4.66	4.41
KA5AG	240 VAC	SPDT	10	5.50	5.23	4.95
KA5DY	6, 12, 24 VDC	SPDT	5	4.70	4.47	4.23
KA5DY	110 VDC	SPDT	5	5.50	5.23	4.95
KA5DG	6, 12, 24 VDC	SPDT	10	4.75	4.51	4.28
KA5DG	110 VDC	SPDT	10	5.55	5.27	5.00
KA11AY	6, 12, 24, 120 VAC	DPDT	5	5.85	5.56	5.27
KA11AY	240 VAC	DPDT	5	6.35	6.03	5.72
KA11AG	6, 12, 24, 120 VAC	DPDT	10	5.95	5.65	5.36
KA11AG	240 VDC	DPDT	10	6.45	6.13	5.81
KA11DY	6, 12, 24 VDC	DPDT	5	5.10	4.85	4.59
KA11DY	48 VDC	DPDT	5	5.50	5.23	4.95
KA11DY	110 VDC	DPDT	5	6.00	5.70	5.40
KA11DG	6, 12, 24 VDC	DPDT	10	5.30	5.04	4.77
KA11DG	110 VDC	DPDT	10	6.20	5.89	5.58
KA14AY	6, 12, 24, 120 VAC	3PDT	5	6.50	6.18	5.85
KA14AY	240 VAC	3PDT	5	7.10	6.75	6.39
KA14AG	6, 12, 24, 120 VAC	3PDT	10	6.60	6.27	5.94
KA14AG	240 VAC	3PDT	10	7.25	6.89	6.53
KA14DY	6, 12, 24 VDC	3PDT	5	6.65	6.32	5.99
KA14DY	110 VDC	3PDT	5	7.00	6.65	6.30
KA14DG	6, 12, 24 VDC	3PDT	10	6.45	6.13	5.81
KA14DG	110 VDC	3PDT	10	7.15	6.79	6.44
KAP5AG	24, 120 VAC	SPDT	10	8.30	7.89	7.47
KAP5DG	24 VDC	SPDT	10	8.05	7.65	7.25
KAP5DG	110 VDC	SPDT	10	9.10	8.65	8.19
KAP11AY	24, 120 VAC	DPDT	5	9.10	8.65	8.19
KAP11AY	240 VAC	DPDT	5	9.60	9.12	8.64
KAP11AG	6, 24, 120 VAC	DPDT	10	9.25	8.97	8.33
KAP11DG	24 VDC	DPDT	10	9.20	8.74	8.28
KAP11DG	110 VDC	DPDT	10	10.10	9.60	9.09
KAP11DY	12, 24 VDC	DPDT	5	9.05	8.60	8.15
KAP11DY	110 VDC	DPDT	5	9.95	9.45	8.96
KAP14AY	24, 120 VAC	3PDT	5	11.25	10.69	10.13
KAP14AY	240 VAC	3PDT	5	11.70	11.12	10.53
KAP14AG	24, 120 VAC	3PDT	10	11.40	10.83	10.26
KAP14DG	24 VDC	3PDT	10	11.35	10.78	10.22
KAP14DG	110 VDC	3PDT	10	12.25	11.64	11.03
KAP14DY	12, 24 VDC	3PDT	5	11.15	10.59	10.04
KAP14DY	110 VDC	3PDT	5	11.95	11.35	10.76



KAP5



KAP11



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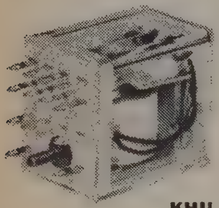

KHU

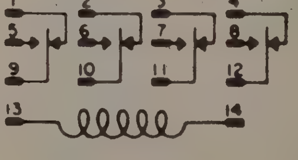
KH5

KHS and KHU Series: KHU style is recognized under component program of UL and CSA, and has clear polycarbonate cover; KHS has hermetically sealed metal cover. Designed for data processing, computers and process control. **Contacts Available:** Suffix **1**, gold-flashed silver rated 3 amps at 30 VDC or 120 VAC; suffix **2**, silver cadmium oxide rated 3 amps; suffix **3**, gold alloy rated low level to 1 amp; suffix **6**, gold overlay on silver, bifurcated, rated 1 amp at 30 VDC, resistive, or 120 VAC. Suffix **N** denotes neon lamp in parallel with coil for visual indication. Solder terminals. Mount with 3-48 stud or socket.

Weight: KHU, 1.12 ozs.; KHS, 1.63 ozs. **Size:** KHU, 1.109″ x .859″ x 1.281″; KHS, 1.156″ x .91″ x 1.281″.

P & B Number■	Coil Input	Contacts		Net Each, Lots of★		
		Arrangement	Amps, Typ.	1-24	25-50	51-99
KHU17A11	6, 12, 24 VAC	4PDT	3	$ 7.60	$ 7.22	$ 6.84
KHU17A11	120 VAC	4PDT	3	7.80	7.41	7.02
KHU17A11N	120 VAC	4PDT	3	10.05	9.55	9.05
KHU17D11	5, 6, 12, 24 VDC	4PDT	3	6.60	6.27	5.94
KHU17D11	48 VDC	4PDT	3	6.80	6.46	6.12
KHU17D11	90, 110 VDC	4PDT	3	7.55	7.17	6.80
KHU17D11N	120 VDC	4PDT	3	9.80	9.31	8.82
KHU17A12	120 VAC	4PDT	3	7.85	7.46	7.07
KHU17D12	12, 24 VDC	4PDT	3	6.55	6.22	5.90
KHU17D12	48 VDC	4PDT	3	6.75	6.41	6.08
KHU17D12	110 VDC	4PDT	3	7.50	7.13	6.75
KHU17A13	120 VAC	4PDT	1	20.30	19.29	18.27
KHU17D13	24 VDC	4PDT	1	19.10	18.15	17.19
KHU17D13	48 VDC	4PDT	1	19.30	18.34	17.37
KHU17D16	12, 24 VDC	4PDT	1	9.25	8.79	8.33
KHS17A11	6, 12, 24 VAC	4PDT	3	13.30	12.64	11.97
KHS17A11	120 VAC	4PDT	3	13.50	12.83	12.15
KHS17A12	120 VAC	4PDT	3	13.25	12.59	11.93
KHS17A13	120 VAC	4PDT	3	23.00	21.85	20.70
KHS17D11	6, 12, 24 VDC	4PDT	3	12.30	11.69	11.07
KHS17D11	110 VDC	4PDT	3	13.25	12.59	11.93
KHS17D12	24 VDC	4PDT	3	11.30	10.74	10.17
KHS17D12	110 VDC	4PDT	3	13.20	12.54	11.88
KHS17D13	24 VDC	4PDT	2	21.80	20.71	19.62

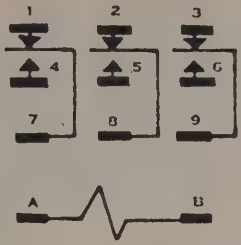
■Specify coil voltage when ordering.



★LARGER QUANTITY PRICES ON REQUEST (SEE ANOTHER P & B PAGE FOR ACCESSORIES)

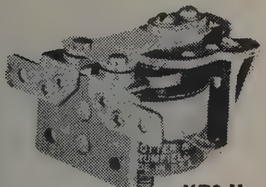
GENERAL PURPOSE RELAYS

KNP



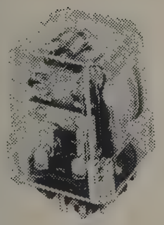
KNP Series: Small relay designed for economical chassis space. Recognized under UL component program and CSA listing for ratings of 1/10 hp at 120 VAC, 3 amps at 32 VDC, resistive, or 3 amps at 240 VAC. Fine silver cross bar contacts. Terminals are .110" quick-connect/solder. **Mounting:** Suffix **11**, 6-32 tapped hole with locating tab; suffix **21**, 3-48 stud. Clear, polycarbonate cover. **Size:** 1.00" x .98" x .45". **Weight:** 1.4 ozs.

P & B Number■	Coil Input	Contacts		Net Each, Lots of★		
		Arrangement	Amps, Typ.	1-24	25-50	51-99
KNP5A21	12, 24, 120 VAC	SPDT	3	$ 6.35	$ 6.03	$ 5.72
KNP5D21	6, 12, 24 VDC	SPDT	3	5.35	5.08	4.82
KNP5D21	110 VDC	SPDT	3	6.35	6.03	5.72
KNP11A11	120 VAC	DPDT	3	7.65	7.27	6.89
KNP11A21	12, 24, 120 VAC	DPDT	3	7.55	7.17	6.80
KNP11D11	12, 24 VDC	DPDT	3	6.55	6.22	5.90
KNP11D21	6, 12, 24 VDC	DPDT	3	6.40	6.08	5.76
KNP11D21	48 VDC	DPDT	3	6.55	6.22	5.90
KNP14A21	12, 24, 120 VAC	3PDT	3	8.65	8.22	7.79
KNP14D21	12, 24 VDC	3PDT	3	7.55	7.17	6.80



KR3-H

KRP



KR11

KR3_H and KRP3_H Series: Small, heavy-duty relay. Silver cadmium oxide contacts rated 20 amps at 120 VAC, resistive, or 28 VDC; 1 hp at 120/240 VAC, 60 Hz. **Terminals:** KR3_H, .250" quick-connect/solder for the contacts, solder only for the coil; KRP3_H, octal plug. **Mounting:** KR3_H, 6-32 stud and locating tab on .437" ctrs. **Size:** KR3_H, 1.67" x 1.6" x 1.52"; KRP3_H, 1.406" x 1.531" x 2.281". **Weight:** KR3_H, 2 ozs; KRP3_H, 3 ozs.

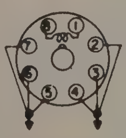
KR11_E and KR14_E Series: Hermetically sealed in metal can with octal plug. **Contacts:** Gold-flashed silver rated 5 amps at 120 VAC or 28 VDC, resistive; except suffix **G** denotes silver cadmium oxide rated 10 amps at 120 VAC or 28 VDC, resistive. **Size:** 1.406" x 1.406" x 2.00".

KRP Series: Clear, polycarbonate cover. Octal plug on KRP5 and KRP11; 11-pin plug on KRP14. **Contacts:** Gold-flashed silver rated 5 amps except suffix **G** denotes silver cadmium oxide rated 10 amps. **Size:** 1.406" x 1.406" x 2.00". **Weight:** 3 oz.

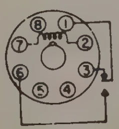
KRP_N Series: A general purpose relay incorporating a lamp in parallel with the coil. **Contacts:** Silver cadmium oxide rated 10 amps. Clear polycarbonate cover and octal plug. **Size:** 1.406" x 1.406" x 2.00". **Weight:** 3 ozs.

P & B Number■	Coil Input	Contacts		Net Each, Lots of★		
		Arrangement	Amps, Typ.	1-24	25-50	51-99
KR3AH	12, 24, 120 VAC	SPST*	20	$ 6.00	$ 5.70	$ 5.40
KR3DH	12, 24 VDC	SPST*	20	5.85	5.56	5.27
KR3DH	110 VDC	SPST*	20	6.60	6.27	5.94
KR11AE•	120 VAC	DPDT	5	20.05	19.05	18.05
KR11AGE•	120 VAC	DPDT	10	20.05	19.24	18.23
KR11DE•	24 VDC	DPDT	5	18.45	17.53	16.61
KR11DGE•	24 VDC	DPDT	10	19.05	18.10	17.15
KR14AGE•	120 VAC	3PDT	10	27.10	25.75	24.39
KRP3AH▲	12, 24, 120 VAC	SPST*	20	9.45	8.98	8.51
KRP3DH▲	12, 24 VDC	SPST*	20	9.20	8.74	8.28
KRP3DH▲	110 VDC	SPST*	20	10.10	9.60	9.09
KRP5A▲	6, 12, 24, 120 VAC	SPDT	5	8.05	7.65	7.25
KRP5AG▲	6, 12, 24, 120 VAC	SPDT	10	8.40	7.98	7.56
KRP5D▲	6, 12, 24 VDC	SPDT	5	8.00	7.60	7.20
KRP5D▲	110 VDC	SPDT	5	9.00	8.55	8.10
KRP5DG▲	6, 12, 24 VDC	SPDT	10	8.30	7.89	7.47
KRP5DG▲	110 VDC	SPDT	10	9.20	8.74	8.28
KRP11A▲	6, 12, 24, 120 VAC	DPDT	5	9.05	8.60	8.15
KRP11A▲	240 VAC	DPDT	5	9.60	9.12	8.64
KRP11AG▲	6, 12, 24, 120 VAC	DPDT	10	9.35	8.88	8.42
KRP11AG▲	240 VAC	DPDT	10	9.95	9.45	8.96
KRP11D▲	6, 12, 24 VDC	DPDT	5	9.00	8.55	8.10
KRP11D▲	48 VDC	DPDT	5	9.45	8.98	8.51
KRP11D▲	110 VDC	DPDT	5	9.90	9.41	8.91
KRP11DG▲	6, 12, 24 VDC	DPDT	10	9.30	8.84	8.37
KRP11DG▲	48 VDC	DPDT	10	9.85	9.36	8.87
KRP11DG▲	110 VDC	DPDT	10	10.20	9.69	9.18
KRP14A▲	6, 12, 24, 120 VAC	3PDT	5	11.25	10.69	10.13
KRP14A▲	240 VAC	3PDT	5	11.75	11.16	10.58
KRP14AG▲	6, 12, 24, 120 VAC	3PDT	10	11.60	11.02	10.44
KRP14AG▲	240 VAC	3PDT	10	12.25	11.64	11.03
KRP14D▲	6, 12, 24 VDC	3PDT	5	11.15	10.59	10.04
KRP14D▲	48 VDC	3PDT	5	11.55	10.97	10.40
KRP14D▲	110 VDC	3PDT	5	11.95	11.35	10.76
KRP14DG▲	6, 12, 24 VDC	3PDT	10	11.50	10.93	10.35
KRP14DG▲	48 VDC	3PDT	10	12.05	11.45	10.85
KRP14DG▲	110 VDC	3PDT	10	12.40	11.78	11.16
KRP11AN▲	6, 12, 24, 120 VAC	DPDT	10	10.70	10.17	9.63
KRP11AN▲	240 VAC	DPDT	10	11.30	10.74	10.17
KRP11DN▲	6, 12, 24 VDC	DPDT	10	10.55	10.02	9.50
KRP11DN▲	110 VDC	DPDT	10	11.50	10.93	10.35
KRP14AN▲	6, 12, 24, 120 VAC	3PDT	10	13.00	12.35	11.70
KRP14AN▲	240 VAC	3PDT	10	13.60	12.92	12.24
KRP14DN▲	24 VDC	3PDT	10	12.85	12.21	11.57

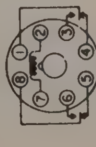
*Normally open—double make. •Sealed relay. ▲Enclosed relay. ■Specify coil voltage when ordering.



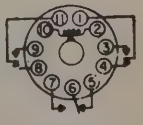
KRP3AH



KRP5



KRP11



KRP14

★LARGER QUANTITY PRICES ON REQUEST (SEE ANOTHER P & B PAGE FOR ACCESSORIES)

SPECIAL PURPOSE RELAYS

AP Series: A ratchet impulse relay for applications requiring on-off or reversing action on alternate operations. Positive ratchet operation at all speeds on impulses as short as 60 msec. Intermittent operation only. **Contacts:** Silver, rated 5 amps at 120 VAC, resistive. **Mounting:** Three .156″ holes on 3.375″ x .875″ triangular ctrs. **Size:** 3.75″ x 2.25″ x 2.313″. **Weight:** 7 ozs.

BU Series: AC operated buzzer has spring steel armature which buzzes when coil is energized. UL recognized. **Mounting:** 6-32 tapped core. **Size:** 1.032″ x 1.375″ x 1.032″. **Weight:** 1⅝ ozs.

GM Series: An impulse sequencing relay especially suitable for applications requiring single-coil latching. The 2 Form C contact arrangement is switched alternately by cam action during drop-out of the armature. Can also be furnished with additional 2 Form C auxiliary contacts (**L** suffix). Contacts rated 3 amps at 120 VAC. **Mounting:** 8-32 tapped core with locating tab. **Weight:** 4 ozs.; with auxiliary contacts, 4.75 ozs. **Size:** 2.07″ x 1.437″ x 2.031″.

GM1N Series: The basic structure of the GM relay with added printed circuit board with 10 or 12 steps. The board is attached to an extension of the ratchet shaft. The movable contact arm advances one position each time the armature drops out. **Contacts:** Rated .25 amp; SP 10 pos. and SP 12 pos. **Size:** 2.312″ x 1.875″ x 2″.

KB Series: Latching relay ideal for memory work and overload applications. One coil operates relay to set latch and other coil releases it. Operates on momentary impulse to either coil. **Contacts:** Suffix **Y**, silver rated 5 amps at 120 VAC; suffix **G**, silver cadmium oxide rated 10 amps at 120 VAC. AC relays with 5 amp contacts recognized by UL and CSA. **Mounting:** Two .156″ dia. holes on 1.375″ ctrs. **Size:** 1.812″ x 2.13″ x 3.22″. **Weight:** 6 ozs.

KBP Series: A KB relay enclosed in polypropylene cover and furnished with 20-pin plug. Not UL recognized. **Size:** 1.781″ x 2.406″ x 3.56″. **Weight:** 8 ozs.

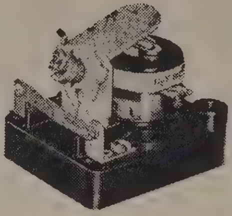
KM Series: Subminiature relay for applications requiring unusually small relays with solder terminals. **Contacts:** Silver, rated 2 amps at 28 VDC or 120 VAC, resistive. **Mounting:** 2-56 tapped core and locater on .187″ ctrs. **Size:** .688″ x 1.125″ x .828″. **Weight:** .58 oz.

KT Series: Antenna switching relay with glass base insulation for minimum RF loss while switching 300-ohm line. **Contacts:** Gold-flashed silver, rated 5 amps at 120 VAC or 500 watts RF. **Mounting:** 6-32 stud and locating tab on .438″ ctrs. **Size:** 1.312″ x 1.625″ x 1.687″. **Weight:** 1.5 ozs.

KUL Series: Small, magnetic latching relay. Designed for continuous duty in applications requiring good memory stability. UL recognized and CSA listed. All DPDT AC models include diodes inside the clear polycarbonate case. **Contacts:** Silver cadmium oxide, rated 10 amps at 28 VDC, resistive, or 120 VAC. **Mounting:** Socket. **Size:** 1.531″ x 1.406″ x 2.156″. **Weight:** 3.4 ozs.

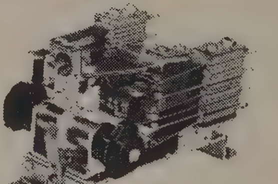
MS Series: Relay operates from back emf of motor starting winding to disconnect the starting capacitor. UL recognized. **Contacts:** MS2, fine silver, rated ¾ hp; MS4, silver cadmium, rated 3 hp. **Mounting:** Two .156″ dia. holes on 1.563″ ctrs. **Size:** 3.063″ x 2.063″ x 2.125″. **Weight:** 5 ozs.

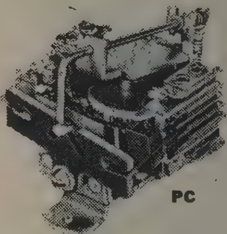
PC Series: Single coil impulse latching relay for on-off and current reversing switching on alternate pulses. Intermittent duty only. **Contacts:** Gold-flashed silver cadmium oxide, rated 5 amps at 120 VAC. **Mounting:** Two .156″ dia. holes on 2.625″ ctrs. **Size:** 2.063″ x 2.969″ x 2.078″. **Weight:** 5 ozs.


MS

KM

KT


AP


PC

P & B Number■	Coil Input	Contacts		Net Each, Lots of ★		
		Arrangement	Amps, Typ.	1-24	25-50	51-9
AP11A	6, 12, 24, 120 VAC	DPDT	5	$19.80	$18.81	$17.8
AP11A	240 VAC	DPDT	5	19.90	18.91	17.9
AP11D	6, 12, 24 VDC	DPDT	5	19.80	18.81	17.8
AP11D	110 VDC	DPDT	5	20.10	19.10	18.0
AP17A	24, 120 VAC	4PDT	5	26.85	25.51	24.1
AP17D	12, 24 VDC	4PDT	5	25.85	24.56	23.2
AP17D	110 VDC	4PDT	5	26.15	24.84	23.5
BU	6, 12, 24, 120 VAC	....	....	2.55	2.42	2.3
BU	240 VAC	....	....	3.20	3.04	2.8
GM11A	24, 120 VAC	DPDT	3	19.35	18.38	17.4
GM11AL11	120 VAC	DPDT•	3	24.30	23.09	21.8
GM11D	12, 24 VDC	DPDT	3	18.15	17.24	16.3
GM11D	110 VDC	DPDT	3	18.35	17.43	16.5
GM1N10A	120 VAC	10SP	.25	17.35	16.48	15.6
GM1N12A	120 VAC	12SP	.25	16.85	16.01	15.1
GM1N10D	24 VDC	10SP	.25	17.30	16.44	15.5
GM1N12D	24 VDC	12SP	.25	16.55	15.72	14.9
KB17AY	6, 12, 24, 120 VAC	4PDT	5	15.00	14.25	13.5
KB17AY	240 VAC	4PDT	5	16.75	15.91	15.0
KB17AG	6, 12, 24, 120 VAC	4PDT	10	15.60	14.82	14.0
KB17AG	240 VAC	4PDT	10	16.75	15.91	15.0
KB17D	6, 12, 24 VDC	4PDT	5	15.55	14.77	14.0
KB17D	110 VDC	4PDT	5	15.65	14.87	14.0
KB17DG	6, 12, 24 VDC	4PDT	10	15.40	14.63	13.8
KB17DG	110 VDC	4PDT	10	15.55	14.77	14.0
KB23AY	24, 120 VAC	6PDT	5	20.20	19.19	18.1
KB23AG	24, 120 VAC	6PDT	10	20.00	19.00	18.0
KB23D	24 VDC	6PDT	5	19.75	18.76	17.7
KB23DG	24 VDC	6PDT	10	19.50	18.53	17.5
KB23DG	110 VDC	6PDT	10	19.65	18.67	17.6
KBP11A▲	120 VAC	DPDT	5	20.80	19.76	18.72
KBP11AG▲	120 VAC	DPDT	10	20.95	19.90	18.86
KBP17A▲	120 VAC	4PDT	5	25.80	24.51	23.22
KBP17AG▲	120 VAC	4PDT	10	26.10	24.80	23.49
KBP17D▲	24 VDC	4PDT	5	26.00	24.70	23.40
KBP17DG▲	12, 24 VDC	4PDT	10	26.40	25.08	23.76
KBP20A▲	120 VAC	5PDT	5	31.15	29.59	28.04
KBP20AG▲	120 VAC	5PDT	10	31.50	29.93	28.35
KBP20DG▲	12, 24 VDC	5PDT	10	31.50	29.93	28.35
KM5D	6, 12, 24 VDC	SPDT	2	8.65	8.22	7.79
KM11D	6, 12, 24 VDC	DPDT	2	10.10	9.60	9.09
KM14D	6, 12, 24 VDC	3PDT	2	12.35	11.73	11.12
KT11A	6, 120 VAC	DPDT	5	6.40	6.08	5.76
KT11D	6, 12 VDC	DPDT	5	6.15	5.84	5.54
KUL5A15S	120 VAC	SPDT	10	8.80	8.36	7.92
KUL5D15S	24 VDC	SPDT	10	6.90	6.56	6.21
KUL11A15S	12, 24, 120 VAC	DPDT	10	9.80	9.31	8.82
KUL11D15D	24 VDC	DPDT	10	11.60	11.02	10.44
KUL11D15S	12, 24 VDC	DPDT	10	7.65	7.27	6.89
MS2AY	120 VAC	SPST†	¾ hp	8.25	7.84	7.43
MS2AY	240 VAC	SPST†	¾ hp	8.35	7.93	7.52
MS4AY	120 VAC	SPST§	3 hp	9.10	8.65	8.19
MS4AY	240 VAC	SPST§	3 hp	9.20	8.74	8.28
PC11A	6, 12, 24, 120 VAC	DPDT	5	13.25	12.59	11.93
PC11A	240 VAC	DPDT	5	13.50	12.83	12.15
PC11D	6, 12, 24 VDC	DPDT	5	12.80	12.16	11.52
PC17A	24, 120 VAC	4PDT	5	23.75	22.56	21.38
PC17D	24 VDC	4PDT	5	22.40	21.28	20.16

†Normally closed. §Normally closed—double break. ▲Enclosed relay. •Has auxiliary 2 Form C contacts. ■Specify coil voltage when ordering.

★LARGER QUANTITY PRICES ON REQUEST (SEE ANOTHER P & B PAGE FOR ACCESSORIES)

AMF | POTTER & BRUMFIELD Relays

SENSITIVE RELAYS

KCP Series: Low cost, DC sensitive relay enclosed in clear polycarbonate cover. **Contacts:** Gold-flashed silver, rated 2 amps at 30 VDC or 120 VAC, resistive. **Mounting:** KCP5 and KCP11, 8-pin plug; KCP14, 11-pin plug. **Size:** 1.406″ x 1.406″ x 2.0″. **Weight:** 3 ozs.

LB Series: Each relay coil is wound to a specific resistance and the relay is adjusted to operate on minimum current requirements. **Contacts:** Silver, rated 5 amps at 28 VDC or 120 VAC, resistive. **Mounting:** Two .188″ dia. holes on 2.219″ ctrs. **Size:** 2.656″ x 1.25″ x 1.375″. **Weight:** 2 ozs.

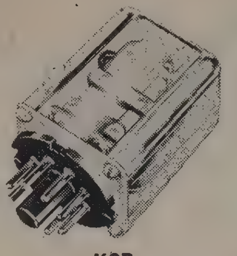
LM Series: Medium cost, high quality relay. Pick-up adjustable by tail spring adjusting screw. **Contacts:** Gold-flashed silver, rated 5 amps at 120 VAC. **Mounting:** Two 6-32 tapped holes on 1.813″ ctrs. **Size:** 2.25″ x 2.188″ x 2.563″. **Weight:** 5 ozs.

ML Series: A small telephone-type relay with excellent sensitivity. Pierced solder terminals. **Contacts:** Gold-flashed silver, rated 3 amps at 120 VAC. **Mounting:** Four 3-48 holes on .375″ ctrs. **Size:** 1.969″ x .75″ x 1.594″. **Weight:** 2.5 ozs.

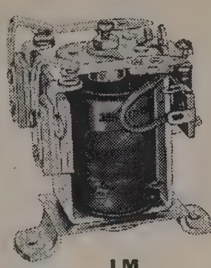
PW Series: For applications requiring a precision, lightweight, hermetically sealed relay. **Contacts:** Rated 2 amps at 28 VDC or 120 VAC, resistive. **Mounting:** Standard 7-pin miniature tube base. **Size:** .765″ dia. x 1.688″. **Weight:** 1 oz.

RS Series: Low cost, small, sensitive relay for radiosonde, light dimmer, and model applications. **Contacts:** Bar palladium, rated 2 amps at 28 VDC or 120 VAC, resistive. **Mounting:** Two 4-40 tapped holes on diagonal .75″ x .625″ ctrs. **Size:** 1.0″ x 1.172″ x .938″. **Weight:** 1.5 oz.

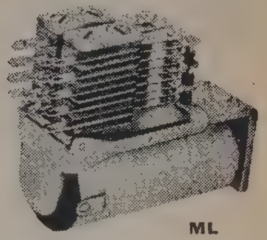
SS Series: Ultra sensitive precision relay. Dual, series-connected coils with balanced armature on needle-point bearings for all low energy circuits such as instruments and bridge balancing. May also be used as a differential relay by connecting the two coils in separate circuits. **Contacts:** Silver, rated 2 amps at 28 VDC or 120 VAC, resistive. **Mounting:** Two 6-32 tapped holes on .719″ ctrs. **Size:** 1.75″ x 1.375″ x 1.688″. **Weight:** 3.5 ozs.



KCP



LM



ML

P & B Number■	Coil Input	Contacts: Arrangement	Contacts: Amps, Typ.	Net Each, Lots of ★ 1-24	25-50	51-99
KCP5-2500▲	7.2 mA	SPDT	2	$ 8.70	$ 8.27	$ 7.83
KCP5-5000▲	5.0 mA	SPDT	2	8.80	8.36	7.92
KCP5-10000▲	3.6 mA	SPDT	2	9.40	8.93	8.46
KCP11-2500▲	10 mA	DPDT	2	9.25	8.79	8.33
KCP11-5000▲	7.2 mA	DPDT	2	9.40	8.93	8.46
KCP11-10000▲	5.0 mA	DPDT	2	10.05	9.55	9.05
KCP14-2500▲	12.3 mA	3PDT	2	11.40	10.83	10.26
KCP14-5000▲	8.7 mA	3PDT	2	11.55	10.97	10.40
KCP14-10000▲	6.1 mA	3PDT	2	12.20	11.59	10.98
LB5-2500	9.0 mA	SPDT	5	5.60	5.32	5.04
LB5-5000	6.3 mA	SPDT	5	6.05	5.75	5.45
LB5-10000	4.5 mA	SPDT	5	6.50	6.18	5.85
LM5-2500	6.3 mA	SPDT	5	8.10	7.70	7.29
LM5-5000	4.5 mA	SPDT	5	8.20	7.79	7.38
LM5-10000	3.2 mA	SPDT	5	8.95	8.50	8.06
LM11-2500	9.0 mA	DPDT	5	11.75	11.16	10.58
LM11-5000	6.3 mA	DPDT	5	11.90	11.31	10.71
LM11-10000	4.5 mA	DPDT	5	12.60	11.97	11.34
ML11D-2500	4.0 mA	DPDT	3	15.30	14.54	13.77
ML11D-5000	2.8 mA	DPDT	3	15.35	14.58	13.82
ML11D-10000	3.0 mA	DPDT	3	16.90	16.06	15.21
ML17D-2500	5.65 mA	4PDT	3	17.55	16.67	15.80
ML17D-5000	4.0 mA	4PDT	3	18.75	17.81	16.88
ML17D-10000	2.8 mA	4PDT	3	20.25	19.24	18.23
ML23D-2500	6.93 mA	6PDT	3	20.80	19.76	18.72
PW5DS•	6, 12, 24 VDC	SPDT	2	20.90	19.86	18.81
PW5LS-5000•	2.8 mA	SPDT	2	21.35	20.28	19.22
PW5LS-10000•	2.0 mA	SPDT	2	22.40	21.28	20.16
RS5D	6, 12 VDC	SPDT	2	6.95	6.60	6.26
RS5D-2500	5.0 mA	SPDT	2	7.05	6.70	6.35
RS5D-5000	3.5 mA	SPDT	2	7.35	6.98	6.62
RS5D-10000	2.5 mA	SPDT	2	8.00	7.60	7.20
SS5D-10000	1.0 mA	SPDT	2	30.95	29.40	27.86

▲Enclosed relay. •Sealed relay. ■Specify coil voltage when ordering.

HIGH RELIABILITY RELAYS

FC Series: Relay meets applicable specifications of MIL-R-5757 and MSFC-SPEC-339. **Contacts:** Bifurcated, rated dry circuit to 3 amps at 28 VDC, resistive. Terminal pins arranged on a .2″ grid. **Size:** 1.10″ x .925″ x .485″. **Weight:** 0.75 oz.

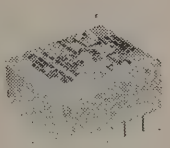
FL Series: Same specifications as FC series. Dual-coil latching relay operates by pulsing each coil alternately, or by connecting the coils in series across a reversible power source. Remains latched without coil power.

HC Series: Miniature, non-polarized, non-latching, half-size crystal case relay meeting or exceeding all applicable specifications of MIL-R-5757 and complying with MSFC-SPEC-339. Hermetically welded case. **Contacts:** Gold-plated silver, rated dry circuit to 2 amps at 28 VDC, resistive. **Mounting:** HC11D, plain case and plug-in terminals; HC11DA, shoulder brackets and hook solder terminals; HC11DB, flat mounting plate and hook solder terminals. **Size:** .81″ x .41″ x .41″. **Weight:** 0.5 oz.

HCM Series: Military version of HC series; has same construction and mounting styles. Meets or exceeds appropriate sections of MIL-R-5757.

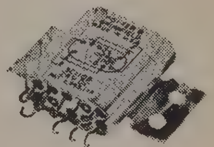
SC Series: Miniature, permanent magnet relay for low power, high shock and vibration applications. **Contacts:** Rated 2 amps at 28 VDC or 1 amp at 120 VAC. **Mounting:** SC11D, socket terminals on 0.2″ grid; SC11DA, shoulder flanges with two .104″ x .136″ holes on 1.062″ ctrs; SC11DB, welded bracket with four .125″ holes on 1.062″ x .281″ ctrs; SC11DC, two 4-40 studs on .488″ x .220″ ctrs; SC11DD, plain case with hook solder terminals. **Weight:** 2 ozs.

SL Series: Dual coil, magnetic latching version of SC series. Coils may be connected in series for polar operation.



FC, FL

HC, HCM



SC

P & B Number■	Coil Input	Contacts: Arrangement	Contacts: Amps, Typ.	Net Each, Lots of ★ 1-24	25-50	51-99
FC11D	6, 12, 24 VDC	DPDT	3	$35.60	$33.82	$32.04
FL11D	6, 12, 24 VDC	DPDT	3	36.15	34.34	32.54
HC11D	24 VDC	DPDT	2	35.05	33.30	31.55
HC11DA	24 VDC	DPDT	2	36.30	34.49	32.67
HC11DB	24 VDC	DPDT	2	36.30	34.49	32.67
HCM11D	24 VDC	DPDT	2	26.80	25.46	24.12
HCM11DA	24 VDC	DPDT	2	28.00	26.60	25.20
HCM11DB	24 VDC	DPDT	2	27.85	26.46	25.07
SC11D	12, 24 VDC	DPDT	2	36.10	34.30	32.49
SC11DA	12, 24 VDC	DPDT	2	37.35	35.48	33.62
SC11DB	6, 12, 24 VDC	DPDT	2	36.95	35.10	33.26
SC11DC	24 VDC	DPDT	2	37.25	35.39	33.53
SC11DD	24 VDC	DPDT	2	36.35	34.53	32.72
SCG11D	24 VDC	DPDT	2	41.55	39.47	37.40
SC7141	26.5 VDC	DPDT	....	42.85	40.71	38.57
SL11D	6, 12, 24 VDC	DPDT	2	37.80	35.91	34.02
SL11DA	24 VDC	DPDT	2	38.90	36.96	35.01
SL11DB	6, 12, 24 VDC	DPDT	2	38.50	36.58	34.65
SL11DC	24 VDC	DPDT	2	38.80	36.86	34.92
SLG11D	24 VDC	DPDT	2	39.25	37.29	35.33

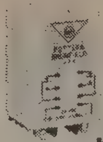
■Specify coil voltage when ordering.

★LARGER QUANTITY PRICES ON REQUEST (SEE ANOTHER P & B PAGE FOR ACCESSORIES)

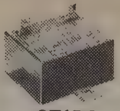
AMF | POTTER & BRUMFIELD Relays

EBT

KUA



KUR



ECT1DC

EBT SERIES SOLID STATE HYBRID RELAYS

Combines the input/output isolation of a reed relay with the inrush switching capabilities and long life of a solid state switch. EBT relays switch 7 A, 60 Hz at 25° ambient temperature with nominal load voltage of 120 V. Rated 5 A rms, 60 Hz at 55° C ambient. Min. operating current, 200 mA, 60 Hz, Expected life, greater than 10 million bounce-free .operations. Operate time, 2 msec max.; release time, 10 msec max. Typical "closed contact" voltage drop, 1.1 V. Octal terminals for standard 8-pin socket. Weight, approximately 5.5 oz. UL recognized.

P & B. No.■	Con-tacts	Nominal Voltage†	Net Each, Lots of 1-9	10-24	25-49	50-99
EBT1DA52	SPST	12, 24	$18.40	$17.48	$16.56	$14.72

■Specify coil voltage when ordering. †VDC.

KUA SOLID STATE AMPLIFIER-DRIVEN RELAY

Amplifier driven KUP relay operates from low power signals associated with IC circuits. Input sensitivity of 60 μW. Control signal of 24 VDC at 25 μA approx. operates relay at specified voltage. Control signal 30 VDC or 1 mA max. Must release control voltage 0.5 VDC at specified supply voltage. Polarity protection. Gold-flashed fine silver contacts switch 5 A at 28 VDC resis. or 120 V, 60 Hz, 80% PF. Clear polycarbonate case; .187" quick-connect/solder terminals fit KU sockets. Weight, 3.5 oz. approx.

KUA5G11	SPDT	24 VDC	$15.15	$14.39	$13.64	$12.12
KUA11G11	DPDT	24 VDC	15.65	14.87	14.09	12.52

KUR SERIES SOLID STATE HYBRID RELAYS

KUR direct action impulse relays for applications requiring on-off operation or alternate energizing of two loads. Solid state flip-flop circuit precedes permanent magnet latching relay; allows relay to remain latched during complete power loss. Requires 25 msec min. pulse width; up to 1200 pulses per minute repetition rate. Gold-flashed fine silver contacts rated 5 amps at 28 VDC or 120 VAC, 80% PF. Terminals are .187" quick-connect/solder type and fit standard KU sockets. Yellow plastic cover. Weight, 3½ oz. approx.

KUR11D11	DPDT	24 VDC	$23.45	$22.28	$21.11	$18.76

ECT SOLID STATE HYBRID RELAYS

ECT series is a medium power triac controlled and isolated by a reed relay. Input power is 290 mW for a 120 VAC, 50/60 Hz line or 450 mW for a 240 VAC line. Expected life is in excess of 10 million operations. Operate time is 2 msec max.; release time, 10 msec max. at 25° C. Contacts SPST-N.O. **Size:** 2.64" x 1.50" x 1.52". UL recognized.

P & B No.	Input Volts	mA	Contact Amps*	Net Each, Lots of 1-9	10-24	25-49	50-99
ECT1DB44	24	12	4(8)	$15.55	$14.77	$14.00	$12.44
ECT1DC22	5	57	2	11.85	11.26	10.67	9.48
ECT1DC22	12	24	2	11.85	11.26	10.67	9.48
ECT1DC22	24	12	2	11.85	11.26	10.67	9.48
ECT1DC42	5	57	4	14.90	14.16	13.41	11.92
ECT1DC42	12	24	4	14.90	14.16	13.41	11.92
ECT1DC42	24	12	4	14.90	14.16	13.41	11.92
ECT1DC52	5	57	5(12)	15.70	14.92	14.13	12.56
ECT1DC52	12	24	5(12)	15.70	14.92	14.13	12.56
ECT1DC52	24	12	5(12)	15.70	14.92	14.13	12.56
ECT1DC72	5	57	7(20)	16.80	15.96	15.12	13.44
ECT1DC72	12	24	7(20)	16.80	15.96	15.12	13.44
ECT1DC72	24	12	7(20)	16.80	15.96	15.12	13.44
ECT1DC24	5	89	2	12.70	12.07	11.43	10.16
ECT1DC24	12	37.5	2	12.70	12.07	11.43	10.16
ECT1DC24	24	18.8	2	12.70	12.07	11.43	10.16
ECT1DC44	5	89	4	15.60	14.82	14.04	12.48
ECT1DC44	12	37.5	4	15.60	14.82	14.04	12.48
ECT1DC44	24	18.8	4	15.60	14.82	14.04	12.48
ECT1DC54	5	37.5	5(12)	17.40	16.53	15.66	13.92
ECT1DC54	12	37.5	5(12)	17.40	16.53	15.66	13.92
ECT1DC54	24	18.8	5(12)	17.40	16.53	15.66	13.92
ECT1DC74	5	89	7(20)	21.30	20.24	19.17	17.04
ECT1DC74	12	37.5	7(20)	21.30	20.24	19.17	17.04
ECT1DC74	24	18.8	7(20)	21.30	20.24	19.17	17.04

*At 25° C; values in ( ) are ratings with factory recommended heatsink of 10" x 10" x .062" alum. w/silicon grease (approx. 2.2°C/W).

MOUNTING STRIP FOR SERIES R10-R15

Strip contains twenty pre-punched, break-away mounting plates stamped from .064" aluminum. Designed to simplify mounting of one to twenty R10, R12, R13, R14 or R15 relays or sockets on chassis or racks.

Model 37D556—Net Each **$2.73**

ACCESSORIES

Model 35013—Metal dust cover for PRD Series only. Net Each **$5.25**

Model 35D070—Clear polycarbonate case for mounting components. Octal plug termination. Net Each **$0.84**

Model 35D072—Same as 35D070, except 11-pin plug termination. Net Each **$1.01**

Model 35D130—Metal dust cover for MS/MR Series only. Net Each **$3.50**

Model 35D203—Plastic dust cover for PM Series only. Net Each **$1.11**

Model 35D227—Metal dust cover for PM Series only. Net Each **$6.36**

ACCESSORIES (CONT'D.)

RELAY SOCKETS

P & B Number	For Relay	Con-tacts	Terminals	Net Each
27E006	KHS, KHU, CD-31	4PDT	Solder	$0.7
27E007			Printed circuit	.7
27E166			Screw—5A	7.2
27E043	KUP, KUMP in plain case KUA, KUL, KUR, CU, CL	SPDT, DPDT, 3PDT	Solder—10A	.9
27E046			Printed circuit	1.1
27E067			.187" Q.C.—10A	1.4
27E121			Screw—10A	4.7
27E062	HP, HPS, HCM	DPDT	Solder	1.0
27E118	KNP	SPDT, DPDT, 3PDT	Solder	.8
27E119			Printed Circuit	.8
27E122	EBA, EBT†	8-pin	Screw—10A	2.97
27E123		11-pin	Screw—10A	4.45
27E125	R10, R10S	DPDT	Solder*	.62
27E126		4PDT	Solder*	.79
27E127		6PDT	Solder*	1.01
27E211		8PDT	Solder*	1.55
27E162		DPDT	Solder	.62
27E163		4PDT	Solder	.79
27E164		6PDT	Solder	.96
27E128		DPDT	Printed circuit*	.62
27E129		4PDT	Printed circuit*	.79
27E130		6PDT	Printed circuit*	1.22
27E254		8PDT	Printed circuit*	1.55
27E193		DPDT	Printed circuit§	.62
27E194		4PDT	Printed circuit§	.79
27E195		6PDT	Printed circuit§	1.22
27E152		4PDT	Solder*	1.11
27E131	R12, R13	DPDT	Solder*	1.01
27E132			Printed circuit*	1.01
27E238	R13	4PDT	Solder*	1.55
27E328	R14, R15	DPDT, 4PDT	Solder*	1.55
27E323	R40	4PDT	Printed circuit#	1,64
27E134			Printed circuit	1.17
27E135			Solder•	1.22

†And KAP, KBP, KCP, KRP, KRP3_H, CD21, CD38, CH, CK CR, and CS38. *Has grounding strip for 5 amps or less AC. §Has grounding terminals for 5 amps or less AC. #Right-angle mounting •Chassis mount. ^Has mounting bracket.

SOCKET RETAINERS

P & B Number	Used With Socket No.	Net Each ★
24A032	27E006	$0.05
24A051	27E062	.16
24A060	27E135	.07

HOLD-DOWN SPRINGS

P & B Number	Use With Relays	Net Each ★
20C176	KCP, KRP	$0.21
20C206	KAP, KRP3_H	.19
20C217	CD-31, KHS, KHU	.14
20C228	CL, CU, KUA, KUL, KUMP*, KUP*, KUR	.21
20C246	KNP	.12
20C247	CL-51, CU, KUL	.29
20C249	R10/2P	.07
20C250	R10/4P	.07
20C251	R10/6P	.07
20C252	R40	.07
20C259	R10S-E2	.07
20C266	R10/8P, R13/4P, R14, R15	.07
20C300	R10S/2P	.09
20C301	R10S/4P	.09

*Plain case.

TRACK MOUNT SYSTEM FOR SCREW TYPE SOCKETS

For mounting several industrial screw type sockets. **No. 24A064:** Three ft. aluminum track with slotted holes on 6" centers for #8 screws. **No. 24A072:** Plastic clip for mounting 27E122, 27E123, and 27E166 sockets; two required per socket. **No. 24A071:** Aluminum retaining clip and 6-40 screw for mounting 27E121, 27E122, 27E123, and 27E166 sockets; two required per socket. **No. 24A067:** Plastic twist-clip for mounting 27E121 socket; two required per socket. **No. 20C253:** Stainless steel hold-down clip to restrict movement of relay in socket 27E121; two required per socket.

P & B Number	Description	No. Required per Socket	Net Each ★
24A064	Aluminum track	....	$2.33
24A072	Plastic clip	2	.12
24A071	Aluminum retainer	2	.08
24A067	Plastic twist clip	2	.11
20C253	Hold-down clip	2	.10

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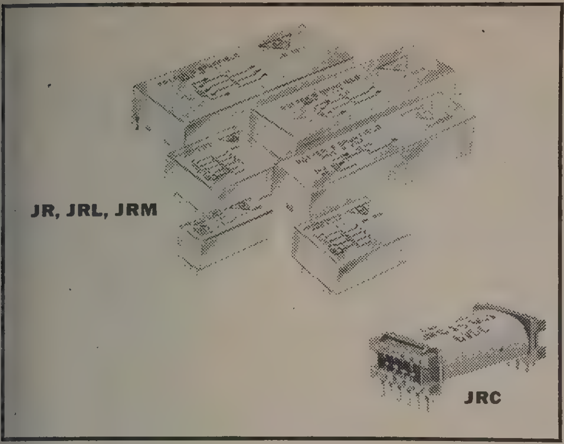
AMF | POTTER & BRUMFIELD Relays



JRL SERIES DRY REED LATCHING RELAYS

Reliable bi-stable relays designed for memory work. Single-wound coils switch contacts on polarity reversal. Needs no coil current to maintain contact in either position. Can be mounted on PC boards in any position; not position sensitive. **Contact Arrangement:** 1 Form A and 2 Form A rated 15 watts resistive. **Operate Time:** 1.0 msec at 25° C including bounce. **Size:** Same as JR standard series above. Weight, same as JR standard series above.

P&B No.	No. Cav-ities	Coil		Contacts		Net Each, Lots of*		
		Nom. VDC	Res. Ohms	Arrange-ment	Rat-ing	1-9	10-24	25-99
JRL1000	2	6	400	1 A	15 W	$7.30	$5.45	$4.64
JRL1001	2	12	1600	1 A	15 W	7.85	5.86	4.98
JRL1002	2	24	6400	1 A	15 W	7.95	5.93	5.05
JRL1012	3	6	300	2 A	15 W	9.90	7.39	6.29
JRL1013	3	12	1200	2 A	15 W	9.95	7.42	6.32

MINIATURE OPEN STYLE DRY REED RELAYS

JRC SERIES

PC terminals arranged on 0.100″ x 1.00″ grid layout. Rhodium contacts rated 10 watts max.; 0.5 amp max. and 125 V max. for DC resistive loads. Operate speed of 1 msec typ. including bounce for pick-up; 0.5 msec for drop-out. Contact protection is recommended to assure long operating life. **Size:** 1.00″ l. x .360″ h. max. Wt., 0.3 to 1.0 oz. approx.

P&B No.■	Cavity		Coil		Contact Arrange-ment	Net Ea., Lots of*		
	No.	Width, In.	Nom. V	Resis. Ohms		1-24	25-49	50-74
JRC1DA1	1	.375	6	240	1A	$5.50	$4.95	$4.68
			12	960	1A	5.50	4.95	4.68
			24	3840	1A	5.50	4.95	4.68
JRC2DB1	2	.460	12	625	1B	6.50	5.85	5.53
			24	2500	1B	6.50	5.85	5.53
JRC7DB1	2	.460	6	155	2A	6.65	5.99	5.65
			12	625	2A	6.65	5.99	5.65
			24	2500	2A	6.65	5.99	5.65
JRC15DD1	4	.660	12	320	4A	9.30	8.37	7.91
			24	1280	4A	9.30	8.37	7.91
JRC50DD1	4	.660	12	320	1A+1B	7.80	7.02	6.63
			24	1280	1A+1B	7.80	7.02	6.63

■Specify coil voltage when ordering.

JR AND JRM SERIES DRY REED RELAYS

Fast response, reliable performance, high sensitivity and long life are characteristic of JR standard and JRM miniature relays. Specially suited for data processing applications, computer equipment, logic circuitry and various other sophisticated control circuits. Both JR and JRM relays have reed switches with either Form A (SPST-NO) or Form C (SPDT) contact configuration. Biasing with a permanent magnet changes Form A to a Form B (SPST-NC); arrangement requires that coil polarity be observed. Combining one Form A with one Form B results in a single Form C (SPDT) break-before-make. A "true" Form C (SPDT) uses a reed switch with two stationary and one movable contact (movable contact is normally closed until the coil is energized). **Size:** 2.718″ l. x 0.656″ h. max. (JR); 1.125″ l. x 0.468″ h. max. (JRM).

JR STANDARD SERIES				JRM MINIATURE SERIES			
Cavity		Coil Power/ Capsule	Wt., Oz.	Cavity		Coil Power/ Capsule	Wt., Oz.
No.	Width, Inches			No.	Width, Inches		
1	.687	240 mW	1.5	1	.437	180 mW	.366
2	.890	360 mW	2.0	2	.562	275 mW	.395
3	1.094	720 mW	2.5	3	.703	420 mW	.530
4	1.297	960 mW	3.0	4	.813	540 mW	.620
5	1.516	1.5 W	3.5	5	.968	720 mW	.781

JR STANDARD SERIES

P&B No.	No. Cav-ities	Coil		Contacts		Net Each, Lots of*		
		Nom. V	Res. Ohms	Arrange-ment	Rat-ing	1-9	10-24	25-99
JR1000	1	6	150	1A	15 W	$4.60	$3.43	$2.92
JR1001	2	6	100	2A	15 W	6.25	4.66	3.97
JR1020	1	6	150	1A	50 W	6.25	4.66	3.97
JR1040	1	6	150	1C*	10 W	10.40	7.76	6.60
JR1041	2	6	100	2C*	10 W	11.20	8.36	7.11
JR1005	1	12	600	1A	15 W	4.85	3.62	3.08
JR1006	2	12	400	2A	15 W	6.30	4.70	4.00
JR1008	4	12	150	4A	15 W	9.70	7.24	6.16
JR1025	1	12	600	1A	50 W	6.45	4.81	4.10
JR1045	1	12	600	1C*	10 W	10.40	7.76	6.60
JR1046	2	12	400	2C*	10 W	13.65	10.18	8.67
JR1063	2	12	400	1B	15 W	5.95	4.44	3.78
JR1086	3	12	200	1A+1B	15 W	8.30	6.19	5.27
JR1010	1	24	2400	1A	15 W	5.30	3.95	3.37
JR1011	2	24	1600	2A	15 W	6.55	4.89	4.16
JR1013	4	24	600	4A	15 W	9.85	7.35	6.25
JR1030	1	24	2400	1A	50 W	6.90	5.15	4.38
JR1031	2	24	1600	2A	50 W	9.75	7.27	6.19
JR1050	1	24	2400	1C*	10 W	10.35	7.72	6.57
JR1051	2	24	1600	2C*	10 W	11.55	8.62	7.33
JR1066	2	24	1600	1B	15 W	6.45	4.81	4.10
JR1088	3	24	800	1A+1B	15 W	8.50	6.34	5.40
JR1100	1	5	104	1A	15 W	4.60	3.43	2.92
JR1101	2	5	79	2A	15 W	6.25	4.66	3.97
JR1102	1	5	104	1A	50 W	6.25	4.66	3.97
JR1103	1	5	104	1C*	10 W	10.40	7.76	6.60
JR1104	2	5	79	2C*	10 W	11.20	8.36	7.11

*True Form C.

JRM MINIATURE SERIES

P&B No.	No. Cav-ities	Coil		Contacts		Net Each, Lots of*		
		Nom. V	Res. Ohms	Arrange-ment	Rat-ing	1-9	10-24	25-99
JRM1000	1	6	200	1A	10 W	$4.75	$3.54	$3.02
JRM1001	2	6	130	2A	10 W	6.55	4.89	4.16
JRM1003	4	6	67	4A	10 W	10.40	7.76	6.60
JRM1036	2	6	130	1B	10 W	5.85	4.36	3.71
JRM1048	3	6	86	1A+1B	10 W	7.50	5.60	4.76
JRM1006	1	12	800	1A	10 W	4.65	3.47	2.95
JRM1007	2	12	520	2A	10 W	6.55	4.89	4.16
JRM1009	4	12	268	4A	10 W	10.40	7.76	6.60
JRM1040	2	12	520	1B	10 W	5.95	4.44	3.78
JRM1041	3	12	344	2B	10 W	7.90	5.89	5.02
JRM1050	3	12	344	1A+1B	10 W	7.55	5.63	4.79
JRM1051	5	12	200	2A+2B	10 W	11.90	8.88	7.56
JRM1012	1	24	3200	1A	10 W	5.15	3.84	3.27
JRM1013	2	24	2080	2A	10 W	6.75	5.04	4.29
JRM1015	4	24	1072	4A	10 W	10.50	7.83	6.67
JRM1044	2	24	2080	1B	10 W	6.00	4.48	3.81
JRM1045	3	24	1376	2B	10 W	8.05	6.01	5.11
JRM1052	3	24	1376	1A+1B	10 W	7.65	5.71	4.86
JRM1053	5	24	800	2A+2B	10 W	11.90	8.88	7.56

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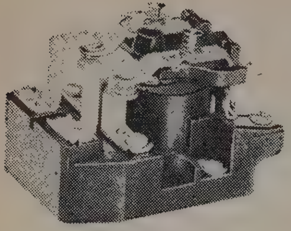


PRD11

AB Series: UL and CSA recognized. For applications requiring long life and quiet operation. Connections are .250″ quick-connect; screw adapters are available. Contacts are silver. **Contact Rating:** Suffix **H,** 15 amps at 277 VAC; suffix **Y,** 10 amps at 120 VAC or 5 amps at 240 VAC, resistive. **Mounting:** Two 8-32 tapped holes on 1.25″ ctrs. **Size:** 1.375″ x 1.906″ x 3.0″. **Weight:** 5 ozs.

ABC Series: AB type in non-hermetic metal cover. **Mounting:** 8-32 stud and locating tab on .562″ ctrs. **Size:** 2.094″ x 1.469″ x 2.781″. **Weight:** 7 ozs.

MB Series: Miniature DC contactor designed for very high current applications. Silver contacts rated 60 amps at 28 VDC, resistive. **Mounting:** Four 3-48 tapped holes on .375″ x .375″ ctrs. **Weight:** 2 ozs. **Size:** 1.44″ x .88″ x 1.66″.

MR Series: A medium duty power relay that can handle small motors, transmitters, and general purpose applications. Silver contacts. **Mounting:** Two .156″ dia. holes on 2.25″ ctrs. for MR3 and MR11; on 2.625″ ctrs for MR5 and MR14. **Size:** 2.969″ x 2.188″ x 2.0″. **Weight:** 4 ozs.

PM Series: A compact power relay for polyphase and heavy duty applications. Type PM has screw terminals; type PMT has .250″ quick-connect terminals. Contacts are silver cadmium oxide rated 25 amps at 240 VAC, resistive; 1 hp per movable arm at 120 or 240 VAC. UL and CSA. **Mounting:** one front keyhole and two rear slots for 8-32 screws. **Size:** 3.394″ x 2.657″ x 2.719″. **Weight:** 14 ozs.

PRD Series: A direct replacement for the popular PR series. Has reinforced screw terminals and plastic enclosure around coil. UL and CSA listed. PRD relays with 12 or 24 VDC coils are compatible with IC drivers used to terminate logic boards. PRDA11AYA relay has an auxiliary miniature snap-action switch with SPDT contacts rated 5 amps at 120 VAC. **Mounting:** Two .188″ dia. holes on 1.875″ ctrs. **Size:** 2.531″ x 3.375″ x 2.50″. **Weight:** 11 ozs. UL listed.

POWER RELAYS

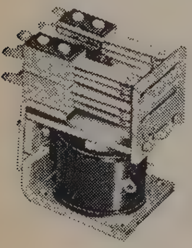
P & B Number■	Coil Input	Contacts Arrangement	Contacts Amps, Max.	Net Each, Lots of ★ 1-24	25-50	51-99
AB11AH	6, 24, 120 VAC	DPDT	15	$ 9.10	$ 8.65	$ 8.19
AB11AH	240 VAC	DPDT	15	9.70	9.22	8.73
AB11AY	24, 120 VAC	DPDT	10	9.25	8.79	8.33
AB11AY	240 VAC	DPDT	10	9.75	9.26	8.78
AB11DH	12, 24 VDC	DPDT	15	9.55	9.07	8.60
AB11DH	110 VDC	DPDT	15	10.30	9.79	9.27
AB11DY	12, 24 VDC	DPDT	15	9.80	9.31	8.82
AB11DY	110 VDC	DPDT	15	10.25	9.74	9.23
ABC11AH▲	6, 24, 120 VAC	DPDT	15	9.95	9.45	8.96
ABC11AH▲	240 VAC	DPDT	15	10.45	9.93	9.41
ABC11AY▲	24, 120 VAC	DPDT	10	10.15	9.64	9.14
ABC11AY▲	240 VAC	DPDT	10	10.65	10.12	9.59
ABC11DH▲	6, 12, 24 VDC	DPDT	15	10.45	9.93	9.41
ABC11DH▲	110 VDC	DPDT	15	11.10	10.55	9.99
ABC11DY▲	12, 24 VDC	DPDT	10	10.70	10.17	9.63
MB3D	6, 12, 24 VDC	SPST*	60	11.70	11.12	10.53
MB3D	110 VDC	SPST*	60	12.55	11.92	11.30
MR3A	24, 120 VAC	SPST*	10	7.40	7.03	6.66
MR3D	12, 24 VDC	SPST*	10	7.65	7.27	6.89
MR5A	6, 12, 24, 120 VAC	SPDT	8	6.50	6.18	5.85
MR5A	240 VAC	SPDT	8	7.15	6.79	6.44
MR5D	6, 12, 24 VDC	SPDT	8	6.55	6.22	5.90
MR5D	110 VDC	SPDT	8	7.20	6.84	6.48
MR11A	6, 12, 24, 120 VAC	DPDT	8	8.60	8.17	7.74
MR11A	240 VAC	DPDT	8	9.30	8.84	8.37
MR11D	6, 12, 24 VDC	DPDT	8	8.65	8.22	7.79
MR11D	110 VDC	DPDT	8	9.40	8.93	8.46
MR14A	6, 12, 24, 120 VAC	3PDT	8	11.30	10.74	10.17
MR14A	240 VAC	3PDT	8	11.95	11.35	10.76
MR14D	12, 24 VDC	3PDT	8	11.25	10.69	10.13
MR14D	110 VDC	3PDT	8	12.00	11.40	10.80
PM17AY	6, 12, 24, 120 VAC	4PDT	25	19.55	18.57	17.60
PM17AY	240 VAC	4PDT	25	19.65	18.67	17.69
PM17AY	480 VAC	4PDT	25	21.00	19.95	18.90
PM17DY	6, 12, 24 VDC	4PDT	25	16.80	15.96	15.12
PM17DY	110 VDC	4PDT	25	18.30	17.39	16.47
PMT17AY	24, 120 VAC	4PDT	25	18.00	17.10	16.20
PRD1AYO	24, 120 VAC	SPST#	25	5.90	5.61	5.31
PRD3AYO	6, 12, 24, 120 VAC	SPST*	25	6.10	5.80	5.49
PRD3AYO	208, 240 VAC	SPST*	25	6.30	5.99	5.67
PRD3DYO	5, 6, 12, 24 VDC	SPST*	25	5.65	5.37	5.09
PRD3DYO	110 VDC	SPST*	25	6.40	6.08	5.76
PRD5AYO	6, 12, 24, 120 VAC	SPDT	25	6.60	6.27	5.94
PRD5AYO	208, 240 VAC	SPDT	25	6.80	6.46	6.12
PRD5DYO	5, 6, 12, 24 VDC	SPDT	25	6.15	5.84	5.54
PRD5DYO	110 VDC	SPDT	25	6.90	6.56	6.21
PRD7AGO	120 VAC	DPST#	30	7.50	7.13	6.75
PRD7AYO	6, 12, 24, 120 VAC	DPST#	25	7.45	7.08	6.71
PRD7AYO	208, 240 VAC	DPST#	25	7.65	7.27	6.89
PRD7DYO	5, 6, 12, 24 VDC	DPST#	25	7.00	6.65	6.30
PRD7DYO	110 VDC	DPST#	25	7.75	7.36	6.98
PRD11AGO	120 VAC	DPDT	30	9.75	9.26	8.78
PRD11AYO	6, 12, 24, 120 VAC	DPDT	25	9.00	8.55	8.10
PRD11AYO	208, 240 VAC	DPDT	25	9.20	8.74	8.28
PRD11AYO	480 VAC	DPDT	25	11.80	11.21	10.62
PRDA11AYA	12, 24, 120 VAC	DPDT•	25	13.60	12.92	12.24
PRDA11AYA	240 VAC	DPDT•	25	13.80	13.11	12.42
PRD11DYO	5, 6, 12, 24 VDC	DPDT	25	8.55	8.12	7.70
PRD11DYO	110 VDC	DPDT	25	9.30	8.84	8.37

*Normally open—double make. #Normally open. ▲Enclosed relay. ■Specify coil voltage when ordering. •Has auxiliary SPDT switch.

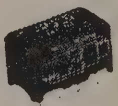
GENERAL PURPOSE RELAYS

GA Series: Multiple contact, voltage operated relay designed for industrial control applications. Self-cleaning, silver contacts rated 5 amps at 28 VDC or 120 VAC. Tinned, pierced, solder type terminals. Mounts on 8-32 tapped core with locating boss. **Size:** 1.063″ x 1.719″ x 1.781″. **Weight:** 3½ ozs.

P & B Number■	Coil Input	Contacts Arrangement	Contacts Amps, Typ.	Net Each, Lots of ★ 1-24	25-50	51-99
GA11A	6, 12, 24, 120 VAC	DPDT	5	$ 7.30	$ 6.94	$ 6.57
GA11D	6, 12, 24 VDC	DPDT	5	7.15	6.79	6.44
GA11D	110 VDC	DPDT	5	7.50	7.13	6.75
GA14A	24, 120 VAC	3PDT	5	8.90	8.46	8.01
GA17A	6, 12, 24, 120 VAC	4PDT	5	10.20	9.69	9.18
GA17A	240 VAC	4PDT	5	10.30	9.79	9.27
GA17D	6, 12, 24 VDC	4PDT	5	9.65	9.17	8.69
GA17D	110 VDC	4PDT	5	9.90	9.41	8.91



GA



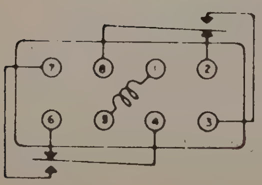
HP, HPS

HP Series: Designed for TV cameras, computers, copiers, etc. Terminals on a .2″ grid for plug-in or PC board. DPDT contacts rated 2 amps at 28 VDC, resistive; 0.5 amp at 120 VAC. Has nylon, non-hermetic cover. **Size:** .48″ x .88″ x .49″. **Weight:** 0.3 oz.

HPS Series: Hermetically sealed version of HP. For reliable performance in logic circuits or where prolonged submersion in cleaning solvents is required. Sealed metal cover. **Size:** .41″ x .81″ x .41″. **Weight:** 0.25 oz.

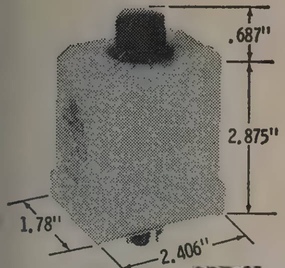
P & B Number■	Coil Input	Contacts Arrangement	Contacts Amps, Typ.	Net Each, Lots of ★ 1-24	25-50	51-99
HP11D	5, 6, 12, 24 VDC	DPDT	2	$11.05	$10.50	$ 9.95
HP11D	48 VDC	DPDT	2	11.50	10.93	10.35
HPS11D	12, 24 VDC	DPDT	2	12.75	12.11	11.48

■Specify coil voltage when ordering.

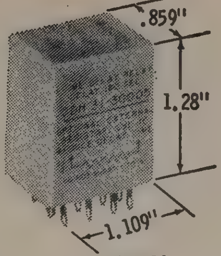


AMF | POTTER & BRUMFIELD Relays

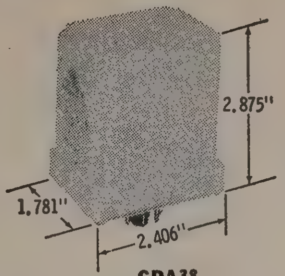
SOLID STATE TIME DELAY RELAYS



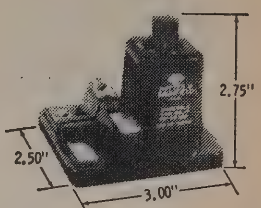
CDD-38



CD-31



CDA38.

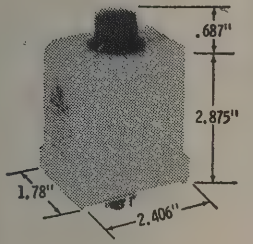


CD-45

CD-31

CDD-38

CD Series: The CD series offers an unusually wide selection of operational configurations, all with accurate time delays, fast reset time and excellent repeatability. It is available in two types: Knob-adjustable in two versions, one with a relay in the same enclosure as the solid state unit, the other with an auxiliary relay. A second type is adjustable with an external resistor. **Tolerance:** ±5%. For AC units, add ±½ cycle 60 Hz. **Delta Time:** ±5%. For AC units, add 1 cycle 60 Hz. **Repeatability:** ±1% for 38 style. All others ±2%. For AC units, add 1 cycle 60 Hz. **Oper. Temp. Range:** −40° C to +55° C. **Release Time:** 45 msec. typ.; 60 msec. max. **Recycle Time:** Less than 60 msec. for CD-38 units; 2 sec. for others. **Timing Cycle Interrupt Transfer:** None.

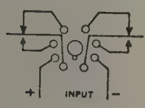


CG-38

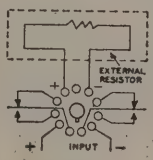
CG Series: CG relays feature a C/MOS IC controlling a DPDT relay with 10 amp contacts. The time delay is not normally affected by voltage transients. **Repeatability:** AC, ±0.1%; DC, ±0.05%. **Tolerance:** +10% −0% of max. specified at high end of dial scale; +0% −10% at low end. **Delta Time:** ±2%. **Oper. Temp. Range:** −10° C to +55° C. **Release Time:** 30 msec. typ.; 45 msec. max. **Recycle Time:** AC, 60 msec. max.; DC, 45 msec. max. **Timing Cycle Interrupt Transfer:** None. **Weight:** Approx. 8 ozs.

P & B Number	Delay Seconds	Method of Control	Input Volts	Notes	Dia. No.	Net Each, Lots of★		
						1-9	10-24	25-49
DELAY ON OPERATE								
CDA38-70012	1.0	Fixed	120 VAC	a	1	$49.15	$46.69	$44.24
CDB21-70001	1.8–180	Knob	120 VAC	b	4	48.10	45.70	43.29
CDB21-70003	0.1–10	Knob	120 VAC	b	4	48.10	45.70	43.29
CDB38-30001	0.1–10	Knob	24 VAC	a	1	54.40	51.68	48.96
CDB38-30002	0.6–6	Knob	24 VAC	a	1	54.40	51.68	49.86
CDB38-70001	0.1–1	Knob	120 VAC	a	1	54.40	51.68	48.96
CDB38-70002	0.1–5	Knob	120 VAC	a	1	54.40	51.68	48.96
CDB38-70003	0.1–10	Knob	120 VAC	a	1	54.40	51.68	48.96
CDB38-70004	0.6–60	Knob	120 VAC	a	1	54.40	51.68	48.96
CDB38-70005	1.8–180	Knob	120 VAC	a	1	54.40	51.68	48.96
CDB38-70006	0.3–30	Knob	120 VAC	a	1	54.40	51.68	49.86
CDB45-70002	0.6–60	Knob	120 VAC	c	6	46.10	43.80	41.49
CDD21-30001	1.8–180	Knob	24 VDC	d	3	47.70	45.32	42.93
CDD21-30003	0.1–10	Knob	24 VDC	d	3	47.70	45.32	42.93
CDD38-30003	0.1–10	Knob	24 VDC	a	1	51.60	49.02	46.44
CDD38-30004	0.6–60	Knob	24 VDC	a	1	51.60	49.02	46.44
CDD38-30005	1.8–180	Knob	24 VDC	a	1	51.60	49.02	46.44
CDD38-40002	0.6–60.	Knob	48 VDC	a	1	51.60	49.02	46.44
CDF31-70003	10 max.	Resistor	120 VAC	e. f	7	48.35	45.93	43.52
CDF38-70001	1 max.	Resistor	120 VAC	a, g	2	50.60	48.07	45.54
CDF38-70002	5 max.	Resistor	120 VAC	a, h	2	50.60	48.07	45.54
CDF38-70003	10 max.	Resistor	120 VAC	a, f	2	50.60	48.07	45.54
CDH31-30005	180 max.	Resistor	24 VDC	i, j	8	48.35	45.93	43.52
DELAY ON RELEASE								
CDB38-70012	0.6–60	Knob	120 VAC	a	5	$65.00	$61.75	$58.50
CDB38-70014	0.1–10	Knob	120 VAC	a	5	65.00	61.75	58.50
CDB38-70015	1.8–180	Knob	120 VAC	a	5	65.00	61.75	58.50
CDD38-30008	1.8–180	Knob	24 VDC	a	5	61.35	58.28	55.22
CDD38-30012	0.6–60	Knob	24 VDC	a	5	61.35	58.28	55.22
CDD38-30014	0.1–10	Knob	24 VDC	a	5	61.35	58.28	55.22
DELAY ON OPERATE								
CGB38-70010M	1–10*	Knob	120 VAC	a	1	$61.30	$58.24	$55.17
CGB38-70050M	5–50*	Knob	120 VAC	a	1	61.30	58.24	55.17
CGB38-70100M	10–100*	Knob	120 VAC	a	1	61.30	58.24	55.17
CGD38-30010M	1–10*	Knob	24 VDC	a	1	58.15	55.24	52.34
CGD38-30050M	5–50*	Knob	24 VDC	a	1	58.15	55.24	52.34
CGD38-30100M	10–100*	Knob	24 VDC	a	1	58.15	55.24	52.34
INTERVAL ON								
CGB38-79010M	1–10*	Knob	120 VAC	a	1	$61.30	$58.24	$55.17
CGB38-79050M	5–50*	Knob	120 VAC	a	1	61.30	58.24	55.17
CGB38-79100M	10–100*	Knob	120 VAC	a	1	61.30	58.24	55.17
CGD38-39010M	1–10*	Knob	24 VDC	a	1	58.15	55.24	42.35
CGD38-39050M	5–50*	Knob	24 VDC	a	1	58.15	55.24	52.34
CGD38-39100M	10–100*	Knob	24 VDC	a	1	58.15	55.24	52.34

a. Has internal relay with DPDT contacts rated 10 A, 120 VAC. **b.** Use with P & B KRP5AG—120 VAC, KRP11AG—120 VAC or KRP14AG—120 VAC relay. **c.** Use with P & B PRD11AY—120 VAC relay. **d.** Use with P & B KRP5DG—24 VDC, KRP11DG—24 VDC or KRP14DG—24 VDC relay. **e.** Use with P & B KHP17A11—120 VAC relay. **f.** Use 400K resistor for ½ max. time. **g.** Use 33K resistor for ½ max. time. **h.** Use 200K resistor for ½ max. time. **i.** Use 1.6 megohm resistor for ½ max. time. **j.** Use with P & B KHP17D11—24 VDC relay. *Minutes.



Dia. 1



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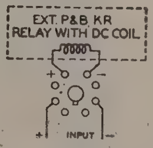
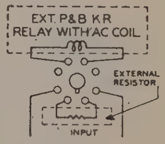


Dia. 3



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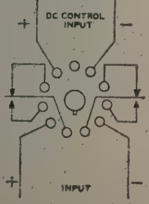

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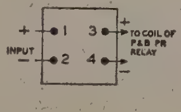

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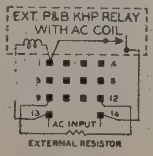

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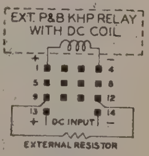
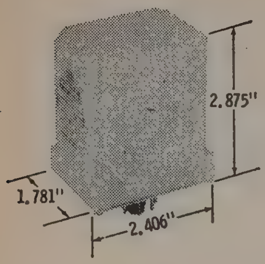


Dia. 8

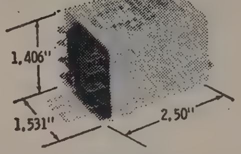
★LARGER QUANTITY PRICES ON REQUEST (SEE ANOTHER P & B PAGE FOR ACCESSORIES)

CURRENT PRICES WILL APPLY ON ALL LINES

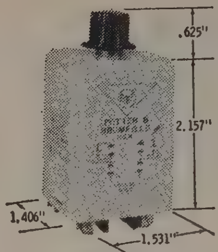
SOLID STATE TIME DELAY RELAYS



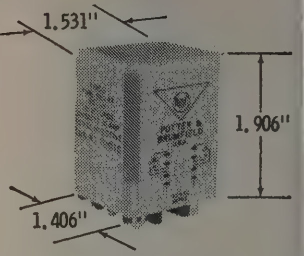
CH-38



CL-42 CU-42



CL-51 CU-51



CU-41 CL-41

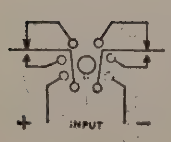
CH Series: CH relays are intended for industrial applications where economy is more important than performance. It is available as a knob-adjustable type with a relay in the same case or as a fixed time delay that is set at the factory. The CH series is available for time delay on operate or on release. **Tolerance:** Knob adj. units, −0 +20% at high end of dial scale/min. or less at low end; others, ±5%. **Delta Time:** ±10%. For AC units, add 1 cycle 60 Hz. **Repeatability:** ±2%. For AC units, add 1 cycle 60 Hz. **Oper. Temp. Range:** −10° C to +55° C. **Release Time:** 125 msec. **Recycle Time:** 125 msec. **Timing Cycle Interrupt Transfer:** Contacts may transfer momentarily if timing cycle is interrupted. **Contacts:** DPDT, 10 A, 120 VAC.

CL Series: For applications where false operation cannot be tolerated. Designed for delay on operate. Includes internally mounted DPDT 10-amp relay in case. Plug-in terminals. **Tolerance:** Knob adj. types, −0 +20% of max. at high end of dial scale/min. or less at low end; res. adj. types, ±10% at high end/min. or less at low end; fixed types, ±5%. **Repeatability:** ±3%. For AC units, add 1 cycle 60 Hz. **Oper. Temp. Range:** −10° C to +40° C. **Release Time:** 100 msec. **Recycle Time:** 100 msec. **Timing Cycle Interrupt Transfer:** None. UL recognized.

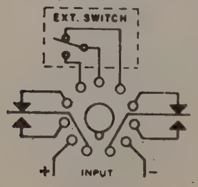
CU Series: Available in three types: fixed, resistor adjustable or knob adjustable. Has internal DPDT 10-amp relay. **Tolerance:** Knob adj. types, −0 +20% of max. at high end of dial scale/min. or less at low end; res. adj. types, ±10%. For AC units, add ½ cycle 60 Hz. **Repeatability:** ±3%. For AC units, add 1 cycle 60 Hz. **Oper. Temp. Range:** −10° C to +40° C. **Contact Rating:** DPDT, 10 A, 120 VAC. **Release Time:** 150 msec. **Recycle Time:** 150 msec. **Timing Cycle Interrupt Transfer:** Contacts may transfer momentarily if timing cycle is interrupted. UL recognized.

P & B Number	Delay Seconds	Method of Control	Input Volts	Notes	Dia. No.	Net Each, Lots of★		
						1-9	10-24	25-49
DELAY ON OPERATE								
CHA38-70001	10	Fixed	120 VAC•	a	1	$23.30	$22.14	$20.97
CHB38-30001	1–10	Knob	24 VAC	a	1	24.50	23.28	22.05
CHB38-30003	1–180	Knob	24 VAC	a	1	24.50	23.28	22.05
CHB38-70001	1–10	Knob	120 VAC•	a	1	24.50	23.28	22.05
CHB38-70002	1–60	Knob	120 VAC•	a	1	24.50	23.28	22.05
CHB38-70003	1.8–180	Knob	120 VAC•	a	1	24.50	23.28	22.05
CHB38-80001	1–10	Knob	240 VAC•	a	1	25.90	24.61	23.31
CHD38-30001	1–10	Knob	24 VDC	a	1	23.35	22.18	21.02
CHD38-30003	1–180	Knob	24 VDC	a	1	23.35	22.18	21.02
DELAY ON RELEASE								
CHB38-30011	1–10	Knob	24 VAC	a, b	6	$32.25	$30.64	$29.03
CHB38-70011	1–10	Knob	120 VAC•	a, b	6	30.60	29.07	27.54
CHB38-70012	1–60	Knob	120 VAC•	a, b	6	31.45	29.88	28.31
CHB38-70013	1–180	Knob	120 VAC•	a, b	6	30.95	29.40	27.86
CHD38-30011	1–10	Knob	24 VDC	a, b	6	32.15	30.54	28.94
CHD38-30013	1–180	Knob	24 VDC	a, b	6	31.45	28.88	28.31
INTERVAL ON								
CHB38-70021	1–10	Knob	120 VAC•	a	1	$29.50	$28.03	$26.55
CHB38-70022	1–60	Knob	120 VAC•	a	1	31.10	29.55	27.99
CHB38-70023	1–180	Knob	120 VAC•	a	1	29.75	28.26	26.78
CHD38-30021	1–10	Knob	24 VDC	a	1	31.00	29.45	27.90
DELAY ON OPERATE								
CLA41-70010	10	Fixed	120 VAC	a	3	$21.35	$20.28	$19.22
CLB51-30010	0.1–10	Knob	24 VAC	a	3	25.75	24.46	23.18
CLB51-70010	0.1–10	Knob	120 VAC	a	3	25.25	23.99	22.73
CLB51-70120	1.2–120	Knob	120 VAC	a	3	26.20	24.89	23.58
CLF41-70010	0.1–10	Resistor	120 VAC	c	4	23.25	22.09	20.93
CLF42-70010	0.1–10	Resistor	120 VAC	c	4	23.25	22.09	20.93
CLH41-30010	0.1–10	Resistor	24 VDC	d	4	23.25	22.09	20.93
DELAY ON OPERATE								
CUA41-30010	10	Fixed	24 VAC	a	3	$17.55	$16.67	$15.80
CUA41-70001	1	Fixed	120 VAC	a	3	17.55	16.67	15.80
CUA41-70005	5	Fixed	120 VAC	a	3	17.55	16.67	15.80
CUA41-70010	10	Fixed	120 VAC	a	3	17.55	16.67	15.80
CUA41-70120	120	Fixed	120 VAC	a	3	19.45	18.48	17.51
CUA42-30010	10	Fixed	24 VAC	a	3	17.55	16.67	15.80
CUA42-70010	10	Fixed	120 VAC	a	3	17.55	16.67	15.80
CUA42-70120	120	Fixed	120 VAC	a	3	19.45	18.48	17.51
CUB51-70010	1–10	Knob	120 VAC	a	3	21.20	20.14	19.08
CUB51-70120	1–120	Knob	120 VAC	a	3	22.00	20.90	19.80
CUC41-30010	10	Fixed	24 VDC	a	3	17.55	16.67	15.80
CUC41-30120	120	Fixed	24 VDC	a	3	19.45	18.48	17.51
CUC42-30010	10	Fixed	24 VDC	a	3	17.55	16.67	16.80
CUC42-30120	120	Fixed	24 VDC	a	3	19.45	18.48	17.51
CUF41-30010	1–10	Resistor	24 VAC	c	4	18.50	17.58	16.65
CUF41-70010	1–10	Resistor	120 VAC	c	4	18.50	17.58	16.65
CUF41-70030	1–30	Resistor	120 VAC	e	4	19.10	18.15	17.19
CUF41-70120	1–120	Resistor	120 VAC	f	4	20.10	19.10	18.09
CUF42-30010	1–10	Resistor	24 VAC	c	4	18.50	17.58	16.65
CUF42-70010	1–10	Resistor	120 VAC	c	4	18.50	17.58	16.65
CUF42-70120	1–120	Resistor	120 VAC	f	4	20.10	19.10	18.09
CUH41-30010	1–10	Resistor	24 VDC	d	4	18.50	17.58	16.65
CUH41-30120	1–120	Resistor	24 VDC	g	4	20.10	19.10	18.09
CUH42-30010	1–10	Resistor	24 VDC	d	4	18.50	17.58	16.65
CUH42-30120	1–120	Resistor	24 VDC	g	4	20.10	19.10	18.09

a. Has internal relay with DPDT contacts rated 10 A, 120 VAC, except CU series, 10 A, 250 VAC. **b.** External switch or relay required. **c.** Use 200K for max time. **d.** Use 160K for max. time. **e.** Use 600K for max. time. **f.** Use 2.4 megohm for max. time. **g.** Use 2 megohm for max. time. •Not recommended for continuous duty.



Dia. 1



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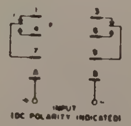

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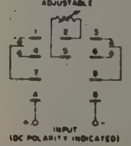
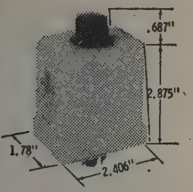


Dia. 4

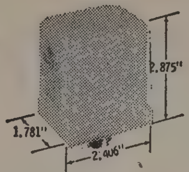
★LARGER QUANTITY PRICES ON REQUEST (SEE ANOTHER P & B PAGE FOR ACCESSORIES)

AMF | POTTER & BRUMFIELD Relays

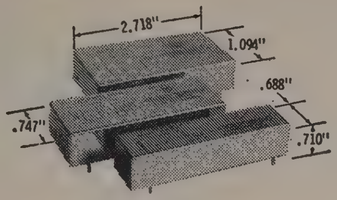
SOLID STATE TIME DELAY RELAYS



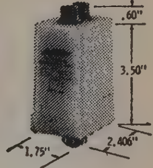
CK-38



CK-38



CJ Series



CR Series

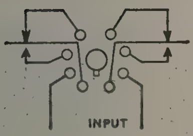
CK Series: Available in three types: fixed time, resistor adjustable, and knob adjustable for AC or DC operation. Will not false operate and will time as low as 0.1 sec. All include a DPDT relay rated 10 amps. Has octal-type plug-in terminals. **Tolerance:** Knob adj. types, −0 +20% of max. at high end of dial scale/min. or less at low end; others, ±5%. For AC units, add ½ cycle 60 Hz. **Delta Time:** ±10%. For AC units, add 1 cycle 60 Hz. **Repeatability:** ±2%. For AC units, add 1 cycle 60 Hz. **Oper. Temp. Range:** −10° C to +55° C. **Contact Rating:** 10 A, 120 VAC. **Release Time:** 60 msec. **Recycle Time:** 60 msec. **Timing Cycle Interrupt Transfer:** None.

CJ Series: Time delay dry reed relays available. **Tolerance:** Fixed, ±5%; res. adj., ±10% of max. at high end of dial scale/min. or less at low end. **Delta Time:** ±10%. **Repeatability:** ±2%. **Oper. Temp. Range:** −10° C to +55° C. **Release Time:** 50 msec. **Recycle Time:** 50 msec. **Timing Cycle Interrupt Transfer:** None.

CR Series: The CR series recycle timer has two control knobs for adjusting ON and OFF delays. The recycling sequence is initiated by applying power to the terminals. When the first preset delay is complete, the normally OFF contacts transfer to ON, at which time the ON delay begins. If power is removed during any part of the operate cycle, the relay will revert to its OFF state (contacts open). **Tolerance:** −0 +20% at max. time/min. or less at min. time. **Delta Time:** ±2%. **Oper. Temp. Range:** −10° C to +55° C. **Contact Rating:** 10 A, 120 VAC. **Release Time:** 60 msec.

P & B Number	Delay Seconds	Method of Control	Input Volts	Notes	Dia. No.	Net Each, Lots of★ 1-9	10-24	25-49
DELAY ON OPERATE								
CKA38-70010	10	Fixed	120 VAC	a	1	$27.00	$25.65	$24.30
CKB38-30010	0.1–10	Knob	24 VAC	a	1	28.25	26.84	25.43
CKB38-70010	0.1–10	Knob	120 VAC	a	1	28.25	26.84	25.43
CKB38-70060	0.6–60	Knob	120 VAC	a	1	28.25	26.84	25.43
CKB38-70120	1.2–120	Knob	120 VAC	a	1	28.25	26.84	25.43
CKD38-20010	0.1–10	Knob	12 VDC	a	1	27.05	25.70	24.35
CKF38-70010	0.1–10	Resistor	120 VAC	a, b	2	27.15	25.79	24.44
CKH38-30010	0.1–10	Resistor	24 VDC	a, b	2	25.95	24.65	23.36
DELAY ON RELEASE								
CKB38-78010	0.1–10	Knob	120 VAC	a	3	$35.75	$33.96	$32.18
DELAY ON OPERATE								
CJH01-20010	0.1–10	Resistor	12 VDC	b	4	$24.35	$23.13	$21.92
CJH01-20120	1–120	Resistor	12 VDC	c	4	27.75	26.36	24.98
CJH01-30010	0.1–10	Resistor	24 VDC	b	4	24.35	23.13	21.92
CJH01-30120	1–120	Resistor	24 VDC	c	4	27.75	26.36	24.98
CJH03-20010	0.1–10	Resistor	12 VDC	b	5	26.70	25.37	24.03
CJH03-30010	0.1–10	Resistor	24 VDC	b	5	26.70	25.37	24.03
DELAY ON OPERATE AND RELEASE								
CRB48-30180	1.8–180	Knob	24 VAC	a	1	$53.20	$50.54	$47.88
CRB48-70010	0.1–10	Knob	120 VAC	a	1	53.20	50.54	47.88
CRB48-70180	1.8–180	Knob	120 VAC	a	1	53.20	50.54	47.88
CRD48-30180	1.8–180	Knob	24 VDC	a	1	51.90	49.31	46.71

a. Has internal relay with DPDT contacts rated at 10 A, 120 VAC. **b.** Use 750K resistor for max. time. **c.** Use 1.8 megohm resistor for max. time.



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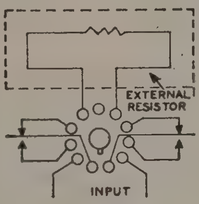

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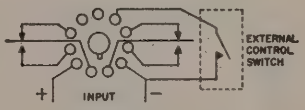

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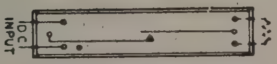
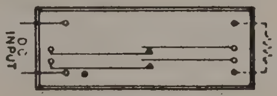


Dia. 4 N/O RED DOT



Dia. 5 RED

CS SERIES SOLID STATE VOLTAGE SENSORS

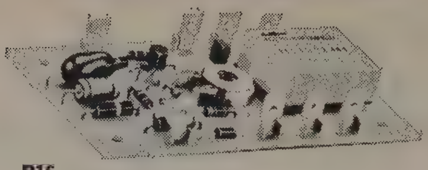
CS series voltage sensor is designed to energize and de-energize its internal relay at predetermined voltages. Desired values are either fixed or knob adjustable. Fixed sensors are factory set—cannot be changed; knob-adjustable versions allow the levels to be varied over a selected range. Voltage sensors consist of sensing circuit that turns on or off a solid state switch, energizing or de-energizing the internal relay. Both the solid state switch and DPDT relay are enclosed in molded nylon dust cover. Reverse polarity protection on DC types. Octal mounting plug. **Load Switching Relay:** 2 Form C (DPDT) rated 10 amps at 28 VDC resistive or 120 VAC resistive. **Temp. Range:** −10° C to +55° C. **Temp. Coefficient:** 0.16%/° C max. **Repeatability:** ±1% max. **Size:** 2.406″ x 1.781″ x 4.035″ (including knob and mounting plug). Weight, 8 oz. approx.

P&B Number	Pick-Up Volts	Drop-Out Volts	Type Voltage	Net 1-9★
FIXED PICKUP TIME/ADJUSTABLE DROPOUT TIME				
CSJ38-30010	20–30	18–28	AC (50/60 Hz)	$37.10
CSJ38-70010	92–140	90–138	AC (50/60 Hz)	40.55
CSL38-30010	20–30	18–28	DC	32.40
CSL38-60010	92–140	90–138	DC	37.10
ADJUSTABLE PICKUP TIME/ADJUSTABLE DROPOUT TIME				
CSJ38-71010	105	90–103	AC (50/60 Hz)	35.90
CSL38-31010	22	16–21	DC	28.45

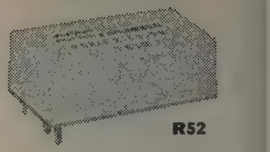
★ LARGER QUANTITY DISCOUNTS AVAILABLE (SEE ANOTHER P & B PAGE FOR ACCESSORIES)

SOLID STATE TIME DELAY RELAYS

R12, R13, R14, R15



R16



R52

R12 Series: Small size DPDT with 5 amp contacts and silicon transistor circuitry. Delay time .1 to 120 seconds in three ranges; no false operation. Time is varied with high-resolution 15-turn potentiometer. Solder/plug-in terminals. **Tolerance:** −0% +60% of max. at high end of potentiometer; min. or less at low end. **Delta Time:** ±10%. **Repeatability:** ±3% at 25° C. **Recycle Period:** 100 msec. **Timing Cycle Interrupt Transfer:** None. **Temp. Range:** −10° C to +55° C. **Weight:** 1.7 ozs.

R13 Series: Fixed time delay relays in six timing ranges from 1 to 300 seconds. Designed for delay on operate and fast recycle time. Shock rated at 10 g. operating and 25 g. mechanical. **Tolerance:** ±30% at 25° C. **Repeatability:** ±5%. **Recycle Period:** 250 msec. **Timing Cycle Interrupt Transfer:** Momentary. **Duty Cycle:** 60% max. **Temp. Range:** −10° C to +55° C. **Weight:** 1.7 ozs.

R14 Series: DC operated, fixed or externally adjustable time delay relay available in five ranges from .25 to 600 seconds. The coil is polarity protected. Shock rated at 15 g. operating and 30 g. mechanical. Type R14A is an interval timer.

R15 Series: AC operated fixed or externally adjustable time delay relay available in four timing ranges from 0.5 to 300 seconds. Shock rated at 15 g. operating and 30 g. mechanical. **Tolerance at 25° C:** Fixed, ±25%. **Repeatability:** ±3%. **Recycle Period:** 200 msec. **Timing Cycle Interrupt Transfer:** R15 series, momentary; others, none. **Temp. Range:** −10° C to +55° C. **Weight:** 1.7 ozs.

R14/R15 TIMING RESISTOR

Max. Delay Time	Resistance
2 sec.	1.32 meg
10 sec.	434K
30 sec.	1.32 meg
120 sec.	1.32 meg
300 sec.	1.65 meg
600 sec.	1.32 meg

For minimum time, short the external-resistor terminals together.

P & B Number	Delay Seconds	Input Volts	Contacts Arrangement	Contacts Rating▲ Typ. (max.)	Dia. No.	Net Each, Lots of 1-9	10-49	50-99
DELAY ON OPERATE								
R12-2-12-X2-E1	0.1–2	12 VDC	DPDT	5	1	$24.10	$21.69	$19.2
R12-2-24-X2-E1	0.1–2	24 VDC	DPDT	5	1	24.10	21.69	19.2
R12-30-12-X2-E1	1.0–30	12 VDC	DPDT	5	1	24.70	22.23	19.7
R12-30-24-X2-E1	1.0–30	24 VDC	DPDT	5	1	24.70	22.23	19.7
R12-120-12-X2-E1	5.0–120	12 VDC	DPDT	5	1	26.70	24.03	21.3
R12-120-24-X2-E1	5.0–120	24 VDC	DPDT	5	1	26.70	24.03	21.3
R13-1F-24-X2-E1	1.0	24 VDC	DPDT	5	1	14.40	12.96	11.5
R13-1F-24-X4-E1	1.0	24 VDC	4PDT	5	3	16.15	14.54	12.9
R13-5F-24-X2-E1	5.0	24 VDC	DPDT	5	1	14.40	12.96	11.5
R13-5F-24-X4-E1	5.0	24 VDC	4PDT	5	3	16.15	14.54	12.9
R13-10F-12-X4-E1	10	12 VDC	4PDT	5	3	16.15	14.54	12.9
R13-10F-24-X2-E1	10	24 VDC	DPDT	5	1	14.40	12.96	11.5
R13-10F-24-X4-E1	10	24 VDC	4PDT	5	3	16.15	14.54	12.9
R13-60F-48-Y2-E1	60	48 VDC	DPDT	2	1	16.25	14.63	13.0
R13-120F-12-X4-E1	120	12 VDC	4PDT	5	3	18.90	17.01	15.1
R13-300F-12-X4-E1	300	12 VDC	4PDT	5	3	20.15	18.14	16.1
R13-300F-24-X4-E1	300	24 VDC	4PDT	5	3	20.15	18.14	16.1
R14-2A-12-X2-E1	.25–2	12 VDC	DPDT	5	2	19.30	17.37	15.4
R14-2A-12-X4-E1	.25–2	12 VDC	4PDT	5	4	20.90	18.81	16.7
R14-30A-24-X2-E1	.5–30	24 VDC	DPDT	5	2	20.30	18.27	16.2
R14-30A-24-X4-E1	.5–30	24 VDC	4PDT	5	4	21.90	19.71	17.5
R14-120A-24-X2-E1	5–120	24 VDC	DPDT	5	2	21.30	19.17	17.0
R14-120A-24-X4-E1	5–120	24 VDC	4PDT	5	4	22.75	20.48	18.2
R15-10A-24-W2-E1	.5–10	24 VAC	DPDT	10	2	21.95	19.76	17.5
R15-10A-24-W4-E1	.5–10	24 VAC	4PDT	10	4	23.90	21.51	19.1
R15-30A-115-X2-E1	.5–30	115 VAC	DPDT	5	2	22.00	19.80	17.6
R15-30A-115-X4-E1	.5–30	115 VAC	4PDT	5	4	23.45	21.11	18.7
R15-60A-115-Y2-E1	1–60	115 VAC	DPDT	2	2	21.85	19.67	17.4
R15-60A-115-Y4-E1	1–60	115 VAC	4PDT	2	4	23.15	20.84	18.5
R16-30A-24A-Y2	2.0–30	24 VAC	DPDT	2(3)	5	11.35	10.22	9.0
R16-30A-120A-Y2	2.0–30	120 VAC	DPDT	2(3)	5	12.40	11.16	9.9
R52-2B-1E1	0.2–2.0	4.5–30 VDC	SPST-NO	.35*	6	6.25	5.63	5.0
R52-30B-1E1	2.0–30	4.5–30 VDC	SPST-NO	.35*	6	6.25	5.63	5.0
R52-100B-1E1	5–100	4.5–30 VDC	SPST-NO	.35*	6	6.75	6.08	5.4
INTERVAL ON								
R14A-30A-24-X4-E1	.5–30	24 VDC	4PDT	5	4	$23.05	$20.75	$18.4
R14A-300A-12-X4-E1	10–300	12 VDC	4PDT	5	4	25.35	22.82	20.2
R14A-300A-24-X4-E1	10–300	24 VDC	4PDT	5	4	25.35	22.82	20.2
R14A-600A-24-X4-E1	30–600	24 VDC	4PDT	5	4	26.60	23.94	21.2
R15A-30A-24-X4-E1	.5–30	24 VAC	4PDT	5	4	24.60	22.14	19.6
R15A-300A-115-X4-E1	10–300	115 VAC	4PDT	5	4	27.90	25.11	22.3

▲At 28 VDC or 115 VAC resistive, except R52 series, 4.5 to 30 VDC. *At 25° C, derate to .26 A at +55° C.

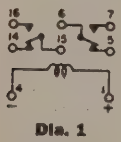
R16 Series: Available in the timing range of 2 to 30 seconds. A potentiometer is used to set the timing values. Relay and timing components are mounted on a glass epoxy circuit board having .25" quick-connect terminals. **Tolerance:** Potentiometer adjustable. **Delta Time:** ±10%. **Repeatability:** ±3% max. **Recycle Time:** 100 msec. for 95% recovery. **Oper. Temp. Range:** −10° C to +55° C. **Timing Cycle Interrupt Transfer:** Momentary for AC inputs. **Weight:** 1.5 ozs. approx.

R52 Series: Low cost, solid state timin modules can make time delay relays of al but a few of the P & B 5, 6, 12 and 24 VD relays. R52 will conduct 350 mA at voltages from 4.5 to 30 VDC. **Tolerance:** ±5% plus that of the timing resistor. **Delt Time:** ±10%. **Repeatability:** ±3%. **Release Time:** 10 msec. **Recycle Time:** 10 msec. for 95% recovery. **Timing Cycl Interrupt Transfer:** None. **Oper. Temp Range:** −10° C to +55° C. **Weight:** 2 oz

R52 TIMING RESISTOR

Max. Time Delay	Resistance
2 sec.	1.20 meg
30 sec.	1.24 meg
100 sec.	1.35 meg

For minimum time, short the external resistor terminals together.



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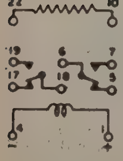

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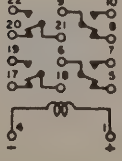

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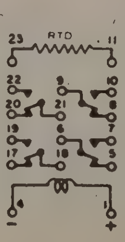

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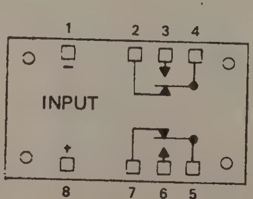

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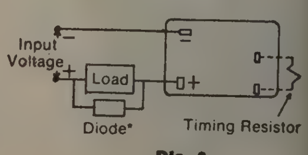


Dia. 6

★ LARGER QUANTITY DISCOUNTS AVAILABLE (SEE ANOTHER P & B PAGE FOR ACCESSORIES)

SIGMA Relays

SERIES 42 DPDT AC AND DC RELAYS

For general-purpose applications from alarm and control systems o demand meters and timing circuits. Combines sensitivity from 00 mW with rugged design for 1 billion operation mechanical life 1 million under load). Low power minimizes coil load in circuits vith limited load-handling ability. Excellent stability, high circuit solation; coil overload capacity 4 to 6 times rated input. High elease for use in circuits with high idle current. Pickup power: Adjustment S: 100 mW; G: 200 mW; ACS: .3 VA; ACG; .5 VA. Contact ratings (at 28 VDC/120 VAC resistive): ACG, G: 5 A; ACS, S: 2 A. Dust-covered and open types UL and CSA Listed. Temperature range, −55° C to +70° C except plastic covers, to +80° C. **42RO, 42ROZ:** Plastic dust cover, 8-pin octal plug. Size, $1\frac{21}{64}$″ sq. x $1\frac{3}{64}$″ h. **42RO6, 42RO6Z:** Differ in wiring only. **42JOZ:** Hermetically sealed, 8-pin plug. Size, $1\frac{19}{32}$″ sq. x $\frac{15}{32}$″ h. **42F:** Unenclosed, stud mounting, solder terminals. $\frac{1}{2}$″ w. x $1\frac{13}{32}$″ h. Weight, $2\frac{1}{2}$ to $5\frac{1}{4}$ oz.

AC TYPES

Sigma Type No.	Contact Rating, Amps.	Nominal Volts	Pickup Max.	Net Ea., Disc. Sch. 1*
2JOZ-4,000 ACG-SIL	5	120 VAC	90 V	$23.35
2ROZ-8 ACG-SIL	5	6 VAC	4 V	13.00
2ROZ-50 ACG-SIL	5	12 VAC	9 V	13.00
2ROZ-200 ACG-SIL	5	24 VAC	18 V	13.00
2ROZ-4,000 ACG-SIL	5	120 VAC	90 V	13.00
2ROZ-7,000 ACS-SIL	2	120 VAC	90 V	16.60
2RO6Z-8 ACG-SIL	5	6 VAC	4 V	13.45
2RO6Z-4,000 ACG-SIL	5	120 VAC	90 V	13.45

DC TYPES

2F-150 G-SIL	5	....	38 mA	$10.10
2F-500 G-SIL	5	....	20 mA	10.10
2F-1,000 G-SIL	5	24 VDC	14 mA	10.10
2F-2,500 G-SIL	5	48 VDC	9.0 mA	10.10
2RO-50 G-SIL	5	6 VDC	65 mA	13.00
2RO-100 G-SIL	5	....	45 mA	13.00
2RO-200 G-SIL	5	12 VDC	32 mA	13.00
2RO-500 G-SIL	5	....	20 mA	13.00
2RO-1,000 G-SIL	5	24 VDC	14 mA	13.00
2RO-2,500 G-SIL	5	48 VDC	9.0 mA	13.00
2RO-5,000 G-SIL	5	....	6.5 mA	13.45
2RO-10,000 G-SIL	5	....	4.5 mA	13.90
2RO-12,000 G-SIL	5	....	4.0 mA	15.10
2RO-100 S-SIL	2	....	32 mA	14.90
2RO-150 S-SIL	2	6 BDC	26 mA	14.90
2RO-200 S-SIL	2	....	22 mA	14.90
2RO-500 S-SIL	2	12 VDC	14 mA	14.90
2RO-1,000 S-SIL	2	....	10 mA	14.90
2RO-2,500 S-SIL	2	24 VDC	6.2 mA	14.90
2RO-5,000 S-SIL	2	....	4.5 mA	15.70
2RO-10,000 S-SIL	2	....	3.1 mA	15.95
5RO6-50 G-SIL	5	6 VDC	65 mA	13.00
2RO6-500 G-SIL	5	....	20 mA	13.00
2RO6-1,000 G-SIL	5	25 VDC	14 mA	13.00
2RO6-2,500 G-SIL	5	48 VDC	9.0 mA	13.00
2RO6-5,000 G-SIL	5	....	6.5 mA	13.45
2RO6-10,000 G-SIL	5	....	4.5 mA	13.90
2RO6-500 S-SIL	2	12 VDC	14 mA	14.90
2RO6-1,000 S-SIL	2	....	10 mA	14.90
2RO6-2,500 S-SIL	2	24 VDC	6.2 mA	14.90

SERIES 191 DRY REED RELAYS
SPST, DPST AND SPDT
DC COILS

Dry reed relays in molded thermoplastic case with standard 0.1″ printed circuit spacing and DIP package. Relays are TTL compatible for SPST. Internal magnetic shielding available. **Maximum Contact Ratings:** single pole, 0.5 amp/100 VDC/10 W.; double pole, 0.25 amp/50 VDC/3 W. **Bounce Time:** 1 msec. **Pick-up Voltage:** 80% max. of nominal coil voltage. **Dielectric Strength:** 500 VDC between all insulated points; 200 VDC across contacts. **Operating Temperature Range:** −40° C to +65° C.

Sigma No. 191TE-	Contacts		Options*	Coil Resis. Ohms	Net Ea. Disc. Sch. 2*
1A1-5S	1A		N	500	$3.30
1A1-5G	1A		N	200	3.30
1A1-6S	1A		N	500	3.30
1A1-6G	1A		N	200	3.30
1A1-12G	1A		N	1250	3.30
1A1-12L	1A		N	500	3.30
1A1-24W	1A		N	1250	3.30
1A2-5S	1A		D	500	3.85
1A2-12G	1A		D	1250	3.85
1A2-24W	1A		D	1250	3.85
1A5-5S	1A		ES	500	3.85
1A5-12G	1A		ES	1250	3.85
1A5-24W	1A		ES	1250	3.85
1A6-5S	1A		ES, D	500	4.40
1A6-12G	1A		ES, D	1250	4.40
1A6-24W	1A		ES, D	1250	4.40
1C1-5S	1C		N	200	5.00
1C1-5G	1C		N	150	5.00
1C1-6S	1C		N	200	5.00
1C1-6G	1C		N	150	5.00
1C1-12G	1C		N	500	5.00
1C1-24L	1C		N	1250	5.00
1C1M-5S	1C		N	200	5.00
1C1M-5G	1C		N	150	5.00
1C1M-6S	1C		N	200	5.00
1C1M-6G	1C		N	150	5.00
1C1M-12G	1C		N	500	5.00
1C1M-24L	1C		N	1250	5.00
1C2-5S	1C		D	200	5.55
1C2-12G	1C		D	500	5.55
1C2-24L	1C		D	1250	5.55
1C2M-5S	1C		D	200	5.55
1C2M-12G	1C		D	500	5.55
1C2M-24L	1C		D	1250	5.55
1C5-5S	1C		ES	200	5.55
1C5-12G	1C		ES	500	5.55
1C5-24L	1C		ES	1250	5.55
1C5M-5S	1C		ES	200	5.55
1C5M-12G	1C		ES	500	5.55
1C5M-24L	1C		ES	1250	5.55
1C6-5S	1C		ES, D	200	6.10
1C6-12G	1C		ES, D	500	6.10
1C6-24L	1C		ES, D	1250	6.10
1C6M-5S	1C		ES, D	200	6.10
1C6M-12G	1C		ES, D	500	6.10
1C6M-24L	1C		ES, D	1250	6.10
2A1-5S	2A		N	200	6.10
2A1-6G	2A		N	200	6.10
2A1-12G	2A		N	500	6.10
2A1-24L	2A		N	1250	6.10

*N = none; D = diode; ES = electrostatic shielding.

SERIES 193 REED RELAYS
1 TO 4 POLES, FORM A AND C
DC COILS

Reed relays in both open and enclosed types in four case sizes. Standard 0.1″ printed circuit grid spacing. TTL compatible for ingle pole. Enclosed types have magnetic shielding. **Contact Rating:** 0.5 amp/100 VDC/10 W max. for resistive load. **Pick-up Voltage:** 80% max. of nominal coil voltage. **Operating Temperature Range:** −40° C to +65° C.

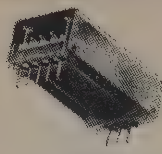
Sigma No. Enclosed Model	Net Ea. Disc. Sch. 2*	Contacts	Coil Resis. Ohms	Sigma No. Open Model	Net Ea. Disc. Sch. 2*
93RE1A3-5S	$ 3.10	1A	500	193FP1A1-5S	$ 2.65
93RE1A3-6G	3.10	1A	100	193FP1A1-6G	2.65
93RE1A3-12G	3.10	1A	420	193FP1A1-12G	2.65
93RE1A3-24G	3.10	1A	2300	193FP1A1-24G	2.65
93RE1C3-5S	5.15	1C	350	193FP1C1-5S	4.80
93RE1C3-6G	5.15	1C	100	193FP1C1-6G	4.80
93RE1C3-12G	5.15	1C	420	193FP1C1-12G	4.80
93RE1C3-24G	5.15	1C	2300	193FP1C1-24G	4.80
93RE2A3-6G	4.00	2A	70	193FP2A1-6G	3.50
93RE2A3-12G	4.00	2A	280	193FP2A1-12G	3.50
93RE2A3-24G	4.00	2A	1500	193FP2A1-24G	3.50
93RE2C3-6G	6.85	2C	70	193FP2C1-6G	6.30
93RE2C3-12G	6.85	2C	280	193FP2C1-12G	6.30
93RE2C3-24G	6.85	2C	1500	193FP2C1-24G	6.30
93RE3A3-6G	4.60	3A	50	193FP3A1-6G	4.35
93RE3A3-12G	4.60	3A	210	193FP3A1-12G	4.35
93RE3A3-24G	4.60	3A	1150	193FP3A1-24G	4.35
93RE3C3-6G	9.60	3C	50	193FP3C1-6G	9.05
93RE3C3-12G	9.60	3C	210	193FP3C1-12G	9.05
93RE3C3-24G	9.60	3C	1150	193FP3C1-24G	9.05

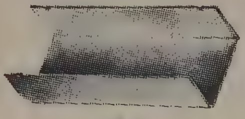
SOLID STATE RELAYS
SERIES 226 MINIATURE

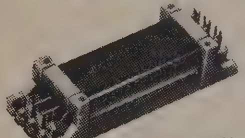
Low cost solid state relay designed to switch low to medium current AC loads from low level logic signals. Can be PC board mounted, projecting less than 0.5″. Can be chassis mounted and connected with standard Molex slip-on connectors. Compatible with TTL logic. Can be operated from AC or DC input. Unit is completely potted to resist shock and moisture effects. DC input versions have LED activated opto-isolator input. AC input versions have incandescent or neon activated opto-isolators. Operate time, 8 msec typ. Release time, 25 msec typ. Dielectric strength, 2500 VAC rms from input to output and case. Size, 1.5″ x 0.65″ x 0.75″ high for chassis version; 0.62″ high for PC version. Units have continuous current rating without heatsink of 0.05 to 1.5 amps; 0.05 to 7 amps with heatsink.

Sigma Numbers			Output		Net Each, Disc. Sch. 5*
Push-On Terms. 226-	P.C. Terms. 226-	Input	Applied VAC	Blocking Voltage ± VDC	
R1-5A1	RE1-5A1	5	120	200	$6.90
R1-12A1	RE1-12A1	12	120	200	6.90
R2-5A1	RE2-5A1	5	240	400	7.90
R2-12A1	RE2-12A1	12	240	400	7.90
R4-5A1	RE4-5A1	5	120	300	7.40
R4-12A1	RE4-12A1	12	120	300	7.40
R5-5A1	RE5-5A1	5	240	500	8.90
R5-12A1	RE5-12A1	12	240	500	8.90
R6-5A1	RE6-5A1	5	240	600	9.40
R6-12A1	RE6-12A1	12	240	600	9.40
R7-5A1	RE7-5A1	5	120–240	400	7.90
R7-12A1	RE7-12A1	12	120–240	400	7.90

S-D Dry Reed Relays


Series MRRN

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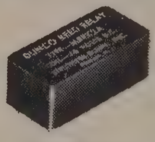
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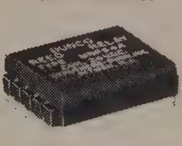
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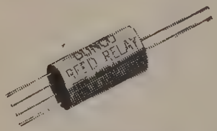
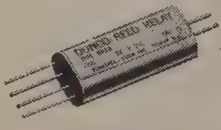
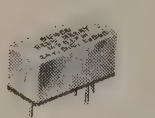
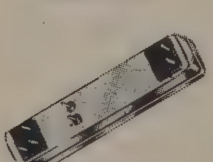

Series MRR


Series RR


Series MRR-M


Series RRLM

★QUANTITY DISCOUNTS

For larger quantity orders, the following discounts apply. Use price shown and multiply with multipliers shown.

For Lots	Discount	Multiplier
25–49	−5%	.95
50–74	−10%	.90
75–99	−20%	.80
100 Up	−30%	.70

DRY REED RELAYS

Quality-made dry reed relays featuring fast response, excellent sensitivity, and reliab performance. Fully equipped with contamination-proof, glass-sealed reed switches, no critical mounting, and complete magnetic shielding for exceptionally fast low-level a light-duty switching. Available with either miniature or standard size reed switches, in wide selection of Form A (SPST-NO), Form B (SPST-NC), or Form C (SPDT) conta arrangements. **Rating:** Miniature size, not to exceed 10 VA at maximums of 0.5 an or 250 VAC or VDC (3 VA at maximums of 0.25 amp or 100 VAC or VDC for Form C standard size, not to exceed 15 VA at maximums of 1 amp or 250 VAC or VDC (10 V at maximums of 0.5 amp or 250 VAC or VDC for Form C). **Performance Time:** Opera 0.5–1.5 millisec for miniature size, 1.5–2.0 millisec for standard size; release, 0.5– millisec, all sizes. **Life:** 200 million operations (50 for Form C miniature size) in d circuit, 20 million operations with miniature switches, and 100 million operations (50 f Form C) with standard switches at half rating. 10 million operations with miniatu switches, and 20 million operations with standard switches at full rating. **Dielect Strength:** Miniature type, 250 volts rms; standard type, 400 volts rms. **Ambient Te perature Range:** −20° C to +60° C. **Insulation Resistance:** Minimum 1000 megohn

OPEN TYPE RELAYS FOR P/C MOUNTING

Compact units for low cost applications. Coils and reed-switch capsules are protected snap-on metal cans that also provide magnetic shielding. Reed switch leads connect "in-line" non-magnetic PC terminals. **Terminal Spacing:** Miniature reed MRRN ty 1″ centers, 0.1″ grid; standard reed RRN type, 1.9″ centers, 0.2″ grid.

S-D Type	Contacts and Form	Coil Resis., Ohms DC			Body Size Inches W. x D. x H.	Net Each*	
		at 6 VDC■	at 12 VDC■	at 24 VDC■		6, 12 VDC	24 VDC
MRRN1A	1A	190	750	3000	1.125 x .406 x .375	$ 4.24	$ 4.7
MRRN2A	2A	125	500	2000	1.125 x .535 x .375	5.96	6.3
MRRN3A	3A	100	400	1600	1.125 x .609 x .375	8.15	8.1
MRRN4A	4A	65	250	1000	1.125 x .706 x .375	10.15	10.1
MRRN1B	1B	125	500	2000	1.125 x .535 x .375	4.71	5.2
MRRN2B	2B	100	400	1600	1.125 x .609 x .375	6.77	7.1
MRRN1C	1C	190	750	3000	1.125 x .406 x .375	8.25	8.2
MRRN2C	2C	100	400	1600	1.125 x .609 x .375	12.04	12.0
MRRN3C	3C	65	250	1000	1.125 x .706 x .375	15.87	15.8
RRN1A	1A	150	600	2400	2.500 x .740 x .641	3.84	3.8
RRN2A	2A	100	400	1600	2.500 x .958 x .641	5.85	5.8
RRN3A	3A	50	200	800	2.500 x 1.188 x .641	6.77	6.7
RRN4A	4A	40	150	600	2.500 x 1.418 x .641	8.89	8.8
RRN1B	1B	100	400	1600	2.500 x .958 x .641	4.36	4.3
RRN2B	2B	50	200	800	2.500 x 1.188 x .641	6.65	6.6
RRN1C	1C	150	600	2400	2.500 x .740 x .641	7.40	7.4
RRN2C	2C	50	200	800	2.500 x 1.188 x .641	10.55	10.5
RRN3C	3C	40	150	600	2.500 x 1.418 x .641	14.34	14.3

PLASTIC CASE TYPE RELAYS FOR P/C MOUNTING

Mechanically protected relays come with ultrasonically welded thermoplastic ca Standoff pads near terminations facilitate production line soldering. Internal magne shields. **Terminal Spacing:** 0.1″ grid. Miniature reed switch type only.

MRRK1A	1A	100	400	1600	1.290 x .660 x .445	$ 4.58	$ 5.1
MRRK2A	2A	100	400	1600	1.290 x .660 x .445	6.65	6.8
MRRK3A	3A	100	400	1600	1.290 x .660 x .445	8.89	8.8
MRRK1A1B	1A and 1B	100	400	1600	1.290 x .660 x .445	7.11	7.1
MRRK1B	1B	100	400	1600	1.290 x .660 x .445	5.10	5.4
MRRK2B	2B	100	400	1600	1.290 x .660 x .445	7.40	7.4
MRRK1C	1C	100	400	1600	1.290 x .660 x .445	8.89	8.8
MRRK2C	2C	100	400	1600	1.290 x .660 x .445	12.67	12.6

LOW PROFILE EPOXY MOLDED RELAYS FOR P/C MOUNTING

Low-profile, one, two, and four-pole relays for use on printed circuit boards. Molded in rigid, homogeneous structures with internal magnetic shielding. In-line PC terminals on 0.172″ grid spacing. Miniature reed switch type only.

MRRS1A	1A	144	576	2300	1.300 x .500 x .350	$ 5.68	$ 5.6
MRRS2A	2A	95	380	1440	1.300 x .625 x .350	7.87	7.8
MRRS4A	4A	31	125	500	1.300 x 1.00 x .350	9.91	9.9
MRRS1A1B	1A and 1B	31	125	500	1.300 x 1.00 x .350	10.76	10.7
MRRS1B	1B	95	380	1440	1.300 x .625 x .350	7.87	7.8

EPOXY MOLDED RELAYS WITH AXIAL LEADS

Epoxy molded units for maximum mechanical protection. Leads may be soldered terminal studs or supporting wire, or bent at right angle for printed circuit use. Wra around cans for external magnetic shielding. **Terminal Spacing:** Miniature reed M type, 0.115″; standard reed RR type, 0.2″.

MRR1A	1A	288	1152	4600	1.062 x .425 dia.	$ 5.44	$ 8.0
MRR2A	2A	144	576	2300	1.062 x .430 x .515	8.00	9.9
MRR4A	4A	72	288	1152	1.062 x .535 x .810	13.61	13.6
MRR12A	12A	24	94	384	1.062 x .635 x 1.805	34.92	34.9
RR1A	1A	90	360	1440	1.875 x .655 dia.	4.17	4.1
RR2A	2A	36	145	580	1.875 x .670 x .840	6.43	6.4
RR4AF	4A	24	95	380	1.875 x .810 x 1.385	11.01	11.0
RR1B	1B	90	360	1440	1.875 x .655 dia.	5.33	5.3

METAL CAN TYPE RELAYS FOR P/C MOUNTING

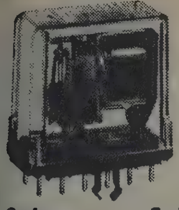
Quality designed relays in metal cans. Steel cases provide magnetic shielding and compl mechanical protection. **Terminal Spacing:** Miniature reed MRR-M type, 0.1″; stand reed RR-M type, 0.2″.

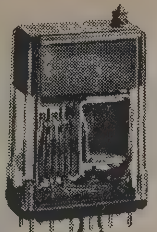
MRR1AM	1A	144	576	2304	1.125 x .500 x .500	$ 7.23	$ 7.2
MRR2AM	2A	72	288	1152	1.125 x .500 x .500	8.66	8.6
MRR3AM	3A	72	288	1152	1.125 x .500 x .500	10.03	10.0
MRR1BM	1B	144	576	2304	1.125 x .500 x .500	7.51	7.5
MRR2BM	2B	72	288	1152	1.125 x .500 x .500	8.89	8.8
MRR1CM	1C	144	576	2304	1.125 x .500 x .500	13.47	13.4
MRR1A1BM	1A and 1B	72	288	1152	1.125 x .500 x .500	9.81	9.8
MRR2A2BM	2A and 2B	40	135	800	1.795 x .795 x .495	18.12	18.1
RR2BM	2B	36	144	576	2.938 x .800 x .550	8.89	8.8
RR1CM	1C	288	1152	4600	2.938 x .600 x .550	16.11	16.1
RR1A1BM	1A and 1B	36	144	576	2.938 x .800 x .550	8.89	8.8
RR2A2BM	2A and 2B	18	72	288	2.938 x 1.200 x .550	15.59	15.5
RRLM1CM	1C*	288	1152	4600	2.938 x .600 x .550	14.96	14.9
RRLM-1CM102	1C†	120	480	1920	2.938 x .600 x .550	16.11	16.1
RRFF4-A2BM	‡ ‡	22 45	90 180	360 720	2.938 x 2.100 x .650	30.98	30.9

*Single coil, bistable, magnetic latching type. †Double coil, bistable, magnetic latchi type. ‡4A and 2B contacts, of which 2A and 1B available for load handling.

■Specify type number and coil voltage when ordering.

S-D Industrial Relays, Sockets


Series 219


Series 236, 237

Series A255

Series A311

GENERAL PURPOSE RELAYS

old diffused, silver cadmium oxide contacts, normally rated at 10 amps; clear burn-sistant plastic covers. **Mechanical Life:** 20 million operations. **Contact Rating:** 10 amps, 0 VAC, resistive. **Coils■:** 6/12/24/120/240 VAC, 60 Hz, 5 VA; 6/12/24/115–125 DC, 1.8 watts. **Size:** $2\frac{5}{8}$″ w. x $1\frac{15}{32}$″ d. x $3\frac{13}{32}$″ h. (with pins). UL Recognized.

S-D Type	Contacts	Contacts Fig.	Net Each*
219XBXP	DPDT	A	**$21.69**
219BBXP	DPDT, 2 NO	B	**25.93**
219ABAP	DPDT, 1 NO, 1 NC	C	**25.93**

4 POLE AND 6 POLE GENERAL PURPOSE RELAYS

me as above, but provide 4PDT or 6PST switching. Includes 14 pins. **Size:** $3\frac{1}{16}$″ w. x ⁄32″ d. x $3\frac{13}{32}$″ h. (with pins). Mates with #33377 socket.

219DXBP	4PNO, 2PNC	D	**$29.43**
219FXXP	6PNO	E	**29.43**
219XDXP	4PDT	F	**29.43**

OPTIONAL FEATURES FOR GENERAL PURPOSE RELAYS

Order: Add suffix to the type, and add price of option to the item (e.g., S-D Type 9XBXP**LM** indicates 219XBXP type relay with indicator lamp and manual actuator).
D Suffix L Indicator Lamp—Lamp wired across coil indicates when coil is energized. et Each...**$2.19***
D Suffix M Manual Actuator—Manual actuator on cover allows manual operation of ay contacts; spring returns contacts to normal. Net Each..................**$2.19***
D Suffix 33 Bifurcated Contacts—Twin contacts of gold diffused fine silver, with equate pressure and overtravel for reliability. Net Each....................**$7.00***

LATCH RELAYS

tch relays are mechanically latched, electrically reset versions of the 219 type relays. ntacts operate from common armature to avoid overlapping. **Mechanical Life:** 10 llion operations. **Contact Rating:** 10 amps, 120 VAC, resistive. **Coils■:** 6, 12, 24,), or 240 VAC at 60 Hz and 5 VA; 6, 12, 24, or 115–125 VDC at 1.8 watts. **Size:** $2\frac{5}{8}$″ w. x ⁄32″ d. x $4\frac{9}{16}$″ h. (with pins).

A255XBXP	DPDT	G	**$42.68**
A255XCXP	3PDT	H	**46.06**
A255BXBP	2 NO, 2 NC	I	**46.06**

TIME DELAY RELAYS

lid state timing network for type 219 relays. "On Delay" (type 236) network energizes ay at preset timing period, after power is applied. "Off Delay" (type 237) network pplies power to relay coil for preset period of time, after signal circuit is deenergized. **lay Range:** "On Delay", 0.2–12 sec, 0.2–20 sec, or 2–200 sec; "Off Delay", 0.2–20 sec, 2–200 sec. **Contact Rating:** 10 amps, 120 VAC, resistive. **Coils■:** 24 or 120 VAC, 60 ; 24 or 115 VDC. **Size:** $2\frac{5}{8}$″ w. x $1\frac{15}{32}$″ d. x $4\frac{9}{16}$″ h. (with pins).

236ABXP	DPDT, 1 NO	J	**$ 99.65**
237XBXP	DPDT	K	**117.03**

SEQUENCE RELAYS

quence relays contain a rugged 8-tooth ratchet operating two contact cams. Contacts ange position on each impulse; hold last position until next impulse. Cam position anges when coil is energized or deenergized. **Contact Rating:** 5 amps, 115 VAC, resis-e. **Coils■:** 6, 12, 24, 120, or 240 VAC at 60 Hz; 6, 12, 24, 115 VDC. **Size:** $2\frac{5}{8}$″ w. x ⁄32″ d. x $4\frac{9}{16}$″ h. (with pins).

A311XBXP*	DPDT	L	**$46.65**
A311XBXPR†	DPDT	L	**46.65**

ontacts transfer when coil is energized. †Contacts transfer when coil is deenergized.

OVER AND UNDER VOLTAGE RELAYS

pe 349 relays contain an adjustable solid state voltage sensing device. Potentiometer aft extends through the cover for setting pick-up voltage. **Contact Rating:** 10 amps,) VAC resistive. **Coil■:** 85–135 VAC adjustable pull-in range. **Size:** $2\frac{5}{8}$″ w. x $1\frac{15}{32}$″ d. x ⁄16″ h. (with pins).

349BBXP*	DPDT, 2 NO	M	**$120.59**
349ABXP†	DPDT, 1 NO	N	**120.59**
349XBXP†	DPDT	P	**136.30**

ith 3 ± 1 volt fixed differential. †With 2–14 volts adjustable differential.

ALARMS

ality designed units combine the functions of two intertwined relays. Alarms operate m sustained or momentary contacts. Relay operates both alarm and light. Signal may turned off manually or automatically, when alarm initiating condition clears. **Contact ting:** 10 amps, 120 VAC resistive. **Coil■:** 120 VAC, 60 Hz. **Size:** $2\frac{5}{8}$″ w. x $1\frac{15}{32}$″ d. x ⁄32″ h. (with pins).
) Type RSX1440Z Alarm—Initiated by sustained, momentary, or intermittent closure NO trouble contacts. Net Each...................................**$36.83***
) Type RSX1440S Alarm—Initiated by NC trouble contacts. Net Each... **36.83***

SOCKETS

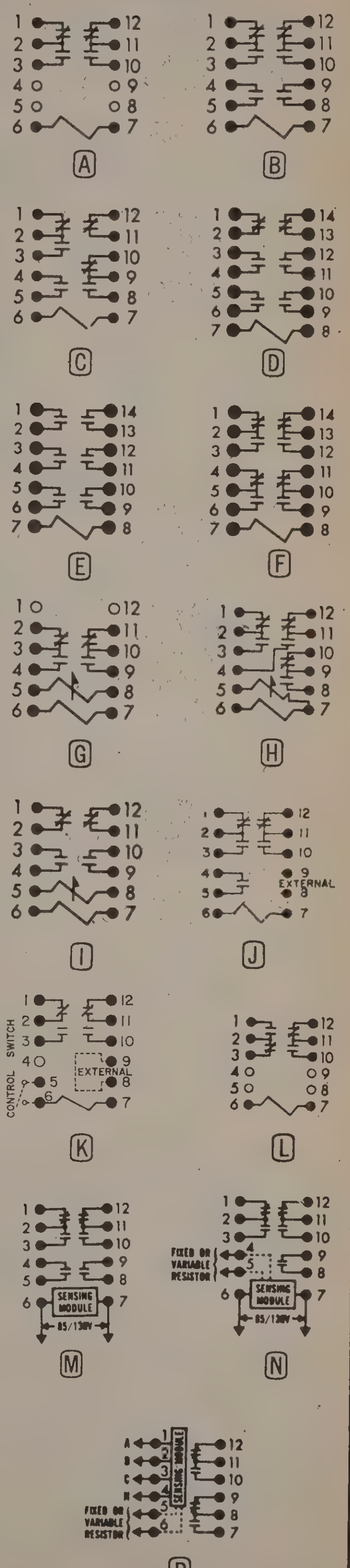
) Type 27390 Sockets—12-terminal socket accepts all relays shown on this page except pin versions of series 219. Front connect screws with captive clamp plates hold up to) #14 wires. Mounted to panel with two 6-32 screws. Size, $2\frac{21}{32}$″ w. x $2\frac{3}{16}$″ d. x $\frac{27}{32}$″ h. t Each...**$3.39**
) Type 33377 Sockets—Same as above, but with 14 pins. Used only for series 219, terminal relays. Size, $3\frac{3}{32}$″ w. x $2\frac{3}{16}$″ d. x $\frac{27}{32}$″ h. Net Each..................**$3.83**

■Specify type number and coil voltage when ordering.

★QUANTITY DISCOUNTS

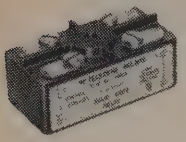
or Lots	Discount	For Lots	Discount	For Lots	Discount	For Lots	Discount
25–49	–5%	50–74	–10%	75–99	–20%	100 Up	–30%

CONTACTS DIAGRAMS



TELEDYNE RELAYS

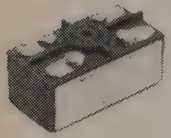
SERIES 601-1400 OPTICALLY ISOLATED SOLID STATE AC RELAYS



SPST, normally open solid state relays featuring optical isolation and synchronous/zero voltage turn-on. Available in 5 or 10 amp steady state current ratings for 120 or 250 volt loads, with peak ratings up to 600 volts. Input choice of logic compatible 3–28 VDC or 90–250 VAC. The package design provides standard screw terminals or a choice of quick disconnect terminals for chassis or panel mounting, or solder pins for direct PC board applications. Add suffix **P** for printed circuit mounting terminals; add suffix **Q** for quick disconnect terminals. Package size is 1″ (25.4 mm) x 2″ (50.8 mm) x .9″ (22.9 mm).

Teledyne No. 601-	Output VAC		Output Current Amps	Net Each, Lots of			
	RMS	Peak		1-24	25-49	50-99	100-249
3–28 VDC INPUT (CONTROL) VOLTAGE							
1401	140	200	5	$20.40	$18.75	$17.25	$15.90
1402	140	200	10	21.55	19.80	18.25	16.75
1403	250	400	5	21.60	19.90	18.30	16.85
1403H	250	600	5	28.40	26.10	24.05	22.10
1404	250	400	10	23.65	21.75	20.05	18.45
1404H	250	600	10	30.70	28.25	25.95	23.90
90–250 VAC INPUT (CONTROL) VOLTAGE							
1411	140	200	5	$22.20	$20.45	$18.80	$17.30
1412	140	200	10	23.40	21.45	19.80	18.20
1413	250	400	5	23.45	21.50	19.85	18.25
1414	250	400	10	25.30	23.35	21.50	19.75

SERIES 603 OPTICALLY ISOLATED SOLID STATE DC RELAYS

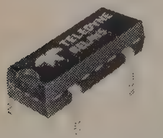


SPST solid state DC relays featuring LED optical isolation. Available in 2 and 5 amp steady state current ratings at up to 250 VDC. Control inputs are available in high or low logic level ranges from 3-32 VDC or 90-250 VAC. Controlled rise and fall time is offered on some models to limit in-rush currents for lamp loads and switching transients for inductive loads. Terminals are either screw, quick-disconnects for chassis or panel mounting, or solder pins for PC board mounting.

Teledyne No.*	Input (Control) Voltage Range	Output Cur., Amps	Net Each, Lots of			
			1-24	25-49	50-99	100-249
50 VDC OUTPUT						
603-1	3–32 VDC	2	$24.60	$22.10	$19.90	$17.90
603-2	3–32 VDC	5	29.30	26.30	23.70	21.30
603-11	90–250 VAC	2	28.50	25.60	23.00	20.70
603-12	90–250 VAC	5	33.00	29.70	26.70	24.10
603-21#	3–32 VDC	2	29.30	26.30	23.70	21.30
603-22#	3–32 VDC	5	35.65	32.10	28.90	26.00
250 VDC OUTPUT						
603-3	4–10 VDC	5	$34.65	$31.20	$28.05	$25.25
603-4	10–32 VDC	5	34.65	31.20	28.05	25.25

*Supplied with screw terminals. Add suffix **P** for printed circuit mounting pins only; add suffix **Q** for quick disconnect terminals. #Has controlled rise and fall time.

SERENDIP® SPST SOLID STATE DIP RELAYS



Completely solid state SPST relay in dual inline package. Replacement for DIP reed relays, etc. No moving parts. Input drive compatible with 5 volt logic. Features fast response time (up to 100,000 operations per second for Model 640-1). No bounce; flip-flop IC's can be driven directly. No inductive coil kick-back; therefore, suppression diodes are not required. Total isolation (10^9 ohm min.) between input and output. No derating required for lamp loads. Standard low profile 14-pin dual inline TO-116 package; two input and two output terminals.

Teledyne No.	# Output Current	Output Voltage	Net Each, Lots of			
			1-24	25-49	50-99	100-249
640-1	±80 mA	±50 VAC/DC	$10.50	$ 9.70	$ 8.50	$7.50
641-1	1.0 amp*	140 VAC rms	13.25	11.90	10.60	9.70
641-2	1.0 amp*	250 VAC rms	13.95	12.70	11.25	10.35
643-1	400 mADC	60 VDC	10.50	9.70	8.50	7.50
643-2	100 mADC	250 VDC	12.60	11.30	10.05	9.25
644-1	±5 mA	±5 V (low off-set V)	13.95	12.50	11.20	10.60
640HS	Accessory heat sink		1.25	.95	.90	.85

*Rated with 640HS heat sink installed. #10 V input; for 5 V inputs derate currents 50%, except for numbers 641-1, 2.

SERIES 611 OPTICALLY ISOLATED 10-40 AMP SOLID STATE AC RELAYS

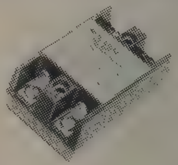
SPST solid state AC relay featu
optical isolation and synchronou
zero voltage switching to virtua
eliminate RFI for any type of lo
resistive or reactive. Load ratings
10, 15, 25 or 40 amps, 140 or 250 VA
Ultra-sensitive control input is T
compatible. Electrical connections
combination .250″ quick disconn
and screw terminals.

Teledyne No.	Input (Control) Voltage Range	Output Cur., Amps	Net Each, Lots of			
			1-24	25-49	50-99	10 24
140 VAC OUTPUT RATING						
611-7	3–28 VDC	10	$18.55	$16.70	$15.00	$13.
611-3		15	20.80	18.70	16.80	15.
611-1		25	25.00	22.50	20.25	18.
611-5		40	39.10	35.20	31.70	28.
611-17	90–250 VAC	10	20.50	18.45	16.60	14.
611-13		15	24.10	21.70	19.50	17.
611-11		25	32.80	29.50	26.55	23.
611-15		40	45.70	41.10	37.00	33.
250 VAC OUTPUT RATING						
611-8	3–28 VDC	10	$19.25	$17.30	$15.60	$14.
611-8H*		10	21.95	19.80	17.80	16.
611-4		15	22.70	20.40	18.40	16.
611-4H*		15	33.20	29.90	26.90	24.
611-2		25	28.00	25.20	22.70	20.
611-2H*		25	38.80	34.90	31.40	28.
611-6		40	43.20	38.90	35.00	31.
611-6H*		40	52.30	47.00	42.30	38.
611-18	90–250 VAC	10	21.30	19.20	17.25	15.
611-18H*		10	24.05	21.66	19.50	17.
611-14		15	26.00	23.40	21.10	19.
611-14H*		15	36.50	32.80	29.60	26.
611-12		25	35.80	32.20	29.00	26.
611-12H*		25	46.50	41.90	37.70	33.
611-16		40	49.80	44.80	40.30	36.
611-16H*		40	58.90	53.00	47.70	42.

*Teledyne suffix **H**; withstands 600 volts transient peaks.

SERIES 613 20 AMP/50 VOLT DC SOLID STATE RELAY

Low and high logic level input relays. Normally open SPST, w
transformer isolation for low off-state leakage.



Teledyne No.	Input Voltage	Net Each, Lots of			
		1-24	25-49	50-99	100-24
613-1	4–10 VDC	$34.70	$31.20	$28.10	$25.30
613-2	10–32 VDC	34.70	31.20	28.10	25.30

SERIES 970 METAL OXIDE VARISTORS FOR PROTECTION OF SSR's

Teledyne 970 series MOX's are characteriz
for protection of AC solid state relays agair
high voltage transients that are prevalent
AC lines. Model 970-1 has peak clampi
voltage rating of 400 volts for up to 140 VRM
continuous line voltage. Model 970-2 has pe
clamping voltage rating of 600 volts for up
250 VRMS continuous line voltage.

Teledyne No.	Peak Volts	Net Each, Lots of			
		1-24	25-49	50-99	100-24
970-1	400	$2.75	$2.45	$2.20	$2.00
970-2	600	2.75	2.45	2.20	2.00

TELEDYNE RELAYS

SERIES 400 MILITARY TO-5 RELAYS

All welded construction, hermetic sealing, and high force/mass ratios withstand environmental extremes. Gold plated precious metal contacts for 1 amp 28 VDC resistive load. Low capacitance allows RF switching to 500 MHz. Qualified to MIL-R-39016 or MIL-R-28776, levels L and M. **Insulation Resistance:** 10,000 megohms min. between mutually insulated terminals. **Contact Resistance:** .2 ohm maximum. **Series D** have internal diodes for arc suppression. **Series DD** have internal diodes for arc suppression and polarity protection-steering. **Series T** have internal transistor driver and suppression diode.

IES 411: CONTACTS SPDT/SERIES 412: CONTACTS DPDT

eledyne o. 411- o. 412-	Coil			Series	Net Each, Lots of			
	Nom. VDC	DC Ohms 411	DC Ohms 412		1-24	25-49	50-99	100-249
5	5	63	50	411	$20.60	$18.55	$16.50	$14.40
6	6	125	98	411D	24.60	22.55	20.50	17.40
9	9	280	220	411DD	28.50	25.60	23.55	21.50
12	12	500	390	411T	29.50	26.60	24.55	22.50
18	18	1130	880	412	27.20	24.50	21.80	19.05
26	26.5	2000	1560	412D	31.20	28.50	25.80	22.05
				412DD	35.80	32.20	29.50	26.80
				412T	36.90	33.20	30.50	27.80

SERIES 420, 422: CONTAC DPDT
SERIES 421: CONTACTS TS SPDT
MAGNETIC LATCHING RELAYS

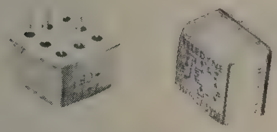
eledyne o. 420- o. 421- o. 422-	Coil		Series	Net Each, Lots of			
	Nom. VDC	DC Ohms		1-24	25-49	50-99	100-249
5	5	61	421	$31.40	$29.80	$28.35	$26.90
6	6	120	421D	34.05	32.35	30.75	29.20
9	9	280	421DD	36.20	34.35	32.65	31.00
12	12	500	420, 422	42.15	40.05	38.05	36.15
18	18	1130	420D, 422D	46.25	43.95	41.75	39.65
26	26.5	2000	420DD, 422DD	49.00	46.55	44.20	42.00

IES 431: CONTACTS SPDT/SERIES 432: CONTACTS DPDT
SENSITIVE RELAYS

ledyne o. 431- o. 432-	Coil		Series	Net Each, Lots of			
	Nom. VDC	DC Ohms		1-24	25-49	50-99	100-249
5	5	125	431	$23.60	$21.55	$19.50	$16.40
6	6	255	431D	27.60	25.55	23.50	19.40
9	9	630	431DD	31.80	28.60	26.55	24.50
12	12	1025	431T	32.90	29.60	27.55	25.50
18	18	2300	432	30.20	27.50	24.80	21.05
26	26.5	4000	432D	34.20	31.50	28.80	24.05
32†	32	6500	432DD	39.20	35.20	32.50	29.80
36‡	36	6500	432T	40.20	36.20	33.50	30.80
40†	40	11,000					
48‡	48	11,000					

*Add **$2.00** for 32 or 36 volt coils and **$3.10** for 40 or 48 volt coils.

ries 431 only. ‡Series 432 only.

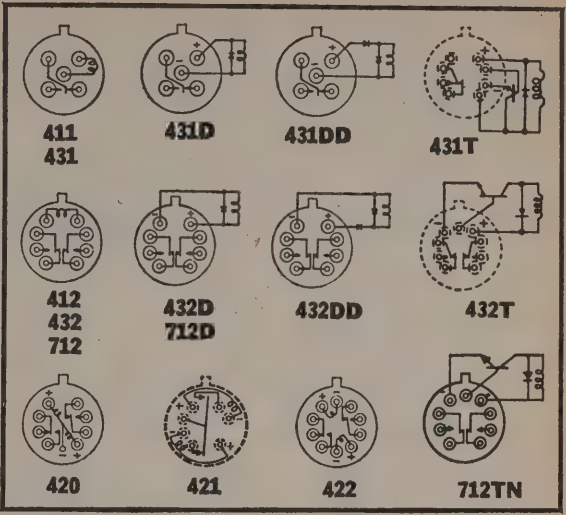


ERIES 112 CENTIGRID MILITARY DPDT RELAYS

v profile subminiature relay features all welded construction, metic sealing and high force/mass ratios for excellent resistance environmental extremes. Gold plated precious metal contacts ure reliable switching of loads from dry circuits to 1 ampere. tact geometry and low inter-contact capacitance provide RF tching capability up to 500 MHz. All models qualified to L-R-39016, levels "L" and "M". **Dimensions:** .230 inch high .270 inch square, with .100 inch grid spaced leads. **Contact istance:** .2 ohm max. **Life:** 100,000 operations at maximum ed contact load; 10,000,000 operations at low level. **Series D** e internal suppression diode. **Series DD** have suppression and ering diodes.

ledyne No. 112-	Coil		Series	Net Each, Lots of			
	Nom. VDC	DC Ohms		1-24	25-49	50-99	100-249
5	5	50*	112	$24.90	$22.90	$21.10	$19.40
6	6	98†	112D	25.90	23.90	22.10	20.40
9	9	220	112DD	26.90	24.90	23.10	21.40
12	12	390					
18	18	880					
26	26.5	1560					

ries 112DD, 39 ohms.
ries 112DD, 78 ohms.



SERIES 712/720/722/732
COMMERCIAL/INDUSTRIAL
TO-5 RELAYS

Hermetic sealed all welded construction with gold plated precious metal contacts. Contact geometry and low intercontact capacitance for good RF switching. **Contact Resistance:** .2 ohm life max. **Life:** 100,000 operations at max. load. **Max. Load:** 1 amp at 28 VDC. **Temperature Range:** – 55° C to + 71° C. **RF Switching:** to 500 MHz. **Series D** have internal suppression diode. **Series TN** have internal driver transistor and suppression diode.

Teledyne No. 712-	Coil		Series	Net Each, Lots of			
	Nom. VDC	DC Ohms		1-49	50-99	100-249	250-499
5	5	50	712	$10.50	$ 9.90	$ 9.40	$ 8.50
6	6	100	712D	12.00	11.15	10.65	9.75
9	9	220	712TN	14.85	13.90	13.40	12.50
12	12	390					
18	18	880					
26	26.5	1560					

SENSITIVE RELAY

Teledyne No. 732-	Coil		Series	Net Each, Lots of			
	Nom. VDC	DC Ohms		1-49	50-99	100-249	250-499
5	5	100	732	$11.50	$10.90	$10.40	$ 9.50
6	6	200	732D	12.80	11.90	11.40	10.50
9	9	400	732TN	15.70	14.50	13.90	13.00
12	12	850	732-1000	★			
18	18	1600	732D-1000	★			
26	26.5	3300					
1000	12	940					

★Prices available on request.

MAGNETIC LATCHING RELAY

Teledyne No. 720- No. 722-	Coil		Series	Net Each, Lots of		
	Nom. VDC	DC Ohms		1-49	50-99	100-249
5	5	61	720	$18.50	$16.80	$15.70
6	6	120	720D	20.00	18.30	17.20
9	9	280	722	19.80	17.80	16.70
12	12	500	722D	21.30	19.30	18.20
18	18	1130				
26	26.5	2000				

TO-5 SPREADER PADS
Model 192-10

Preforms leads to .200″ x .300″ grid at .100″ spacing. Simplifies insertion of leads into PC boards. Reduces stress on leads; serves as board spacer. Aids visual inspection of solder flow. Fits all TO-5 relays except 411 and 431 series.
Teledyne Model 192-10 Spreader Pad—Net Each, 1–499. . **$0.37**

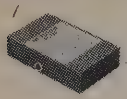
Model 192-59

Same as Model 192-10, except spreads lead to .300″ grid at .100″ spacing. Designed for use with DIP boards. Fits series 412, 421, 432, 712, 732, 411T and 431T.
Teledyne Model 192-59 Spreader Pad—Net Each, 1–499. . **$0.37**

NOTE: All TO-5 relays that will accept spreader pads can be ordered with pads cemented in place. For 192-10 pad, add **M** to Teledyne No.; ex., **412M-6**. For 192-59 pad, add **M2** to Teledyne No.; ex., **412M2-5**. Prices available on request.

TELEDYNE RELAYS

SERIES 675 PC BOARD MOUNTED OPTICALLY ISOLATED AC AND DC I/O CONVERTERS

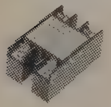


Functionally identical to the 671 series but featuring low profile PC board compatible potted module construction for PC board mounting.

Teledyne No.	Description	Net Each, Lots of 1-24	25-49	50-99	100-249
675-1	AC input converter, 130 VAC input	$15.50	$14.25	$13.10	$12.05
675-4	AC output converter, 4–10 VDC input, 3 amps at 250 VAC*	16.65	15.30	14.10	13.00
675-4H #	AC output converter, 4–10 VDC input, 3 amps at 250 VAC	26.10	24.00	22.10	20.35
675-5	AC output converter, 10–32 VDC input, 3 amps at 250 VAC*	16.65	15.30	14.10	13.00
675-5H #	AC output converter, 10–32 VDC input, 3 amps at 250 VAC	26.10	24.00	22.10	20.35
675-11	AC input converter, 250 VAC input	15.50	14.25	13.10	12.05
675-21	DC input converter	16.05	14.75	13.55	12.45
675-22	DC output converter, 4–10 VDC input, 3 amps at 55VDC	18.90	17.40	16.00	14.70
675-23	DC output converter, 10–32 VDC input, 3 amps at 55 VDC	18.90	17.40	16.00	14.70

*Zero-voltage turn-on. #H series withstand 600 volt peak transients.

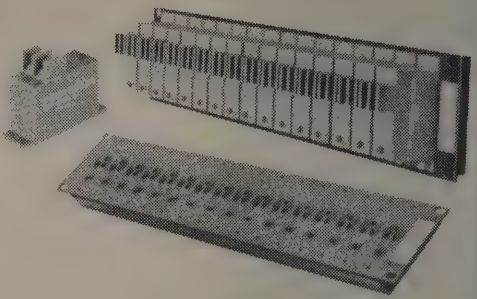
SERIES 621 OPTICALLY ISOLATED HIGH VOLTAGE SOLID STATE AC RELAYS



Normally open SPST relays with 3750 VRMS optical isolation and synchronous/zero voltage turn-on. Available in 15, 25, and 40 amp steady state current ratings for 480 volt loads, with 800 V peak transients. Choice of logic compitable 3–14 or 12–32 VDC input. Package design provides multi-purpose screw and quick-disconnect terminals.

Teledyne No.	Input (Control) Voltage Range	Output Cur., Amps	Net Each, Lots of 1-24	25-49	50-99	100-249
621-1	3–14 VDC	15	$35.40	$31.85	$28.65	$25.80
621-2	12–32 VDC	15	35.40	31.85	28.65	25.80
621-3	3–14 VDC	25	37.25	33.50	30.15	27.15
621-4	12–32 VDC	25	37.25	33.50	30.15	27.15
621-5	3–14 VDC	40	44.85	40.35	36.35	32.70
621-6	12–32 VDC	40	44.85	40.35	36.35	32.70

SERIES 671 PANEL MOUNTED OPTICALLY ISOLATED AC AND DC I/O CONVERT



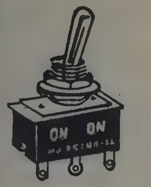
Designed for use in programmable controllers, computer process control systems, machine tool controls, etc. All solid st circuitry optically isolated with high transient and noise immu to withstand severe industrial environments without false t gering. Unique single circuit modular design with logic termi physically isolated from power wiring, and high-barriered po terminals providing for side-by-side panel mounting. Integral L status indicators are included for easy troubleshooting.

Teledyne No.	Description	Net Each, Lots of 1-24	25-49	50-99	10 2
671-1	AC input converter, 130 VAC input	$15.70	$14.40	$13.25	$12
671-4	AC output converter, 4–10 VDC input, 3 amps at 250 VAC*	20.50	18.95	17.40	16
671-4H #	AC output converter, 4–10 VDC input, 3 amps at 250 VAC	24.80	22.80	21.00	19
671-5	AC output converter, 10–32 VDC input, 3 amps at 250 VAC*	20.50	18.95	17.40	16
671-5H #	AC output converter, 10–32 VDC input, 3 amps at 250 VAC	24.80	22.80	21.00	19
671-11	AC input converter, 250 VAC input	15.70	14.40	13.25	12
671-21	DC input converter	15.20	13.95	12.85	11.
671-22	DC output converter, 4–10 VDC input, 3 amps at 55 VDC	20.90	19.25	17.70	16.
671-23	DC output converter, 10–32 VDC input, 3 amps at 55 VDC	20.90	19.25	17.70	16.
671P-†	Mounting panel for above	$99.50	....	....	....

*Zero-voltage turn-on. †Add suffix -2 for rear mounted connect or -4 for top mounted connector. #H series withstand 600 V pe transients.

FOR INDUSTRIAL ELECTRONIC EQUIPMENT AND PARTS,
WE CAN SUPPLY ALL YOUR REQUIREMENTS,
OFFERING COMPLETE LINE WITH UP-TO-DATE STOCK, FAST DELIVERY AND INDUSTRIAL QUANTITY
CONVENIENCE. AS NEW PRODUCTS ARE DEVELOPED, WE WILL OBTAIN
THEM FOR YOUR IMMEDIATE AVAILABILITY.
WRITE FOR FULL INFORMATION ON NEW OR UNLISTED ITEMS.

MILITARY AND COMMERCIAL SWITCHES



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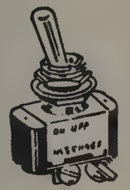

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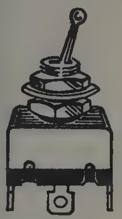

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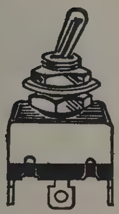
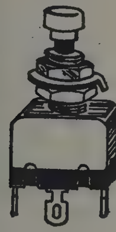


TM-3



PM-3

MIL APPROVED TOGGLE SWITCHES

MS-25098 (SINGLE POLE) AND MS-25100 (DOUBLE POLE)

Wiping contacts; phenolic base. Slotted sleeve, 15⁄32" dia. Non-ferrous material satin chrome finish. Solder lug terminals. Supplied with 2 hex nuts, 1 locating ring and 1 shakeproof lockwasher.

A-H Number	MS Number	Circuit	List Each, Lots of				
			1-24	25-99	100-499	500-999	1000-9999
25098AM	MS-25098-22	On-none-off	$5.28	$4.22	$2.64	$2.11	$1.95
25098BM	MS-25098-29	On-none-mom. off	6.47	5.18	3.24	2.59	2.39
25098CM	MS-25098-30	Off-none-mom. on	6.47	5.18	3.24	2.59	2.39
25098DM	MS-25098-23	On-none-on	5.69	4.55	2.85	2.28	2.11
25100AM	MS-25100-22	On-none-off	6.47	5.18	3.24	2.59	2.39
25100BM	MS-25100-29	On-none-mom. off	7.72	6.18	3.86	3.09	2.86
25100CM	MS-25100-30	Off-none-mom. on	7.72	6.18	3.86	3.09	2.86
25100DM	MS-25100-23	On-none-on	6.90	5.52	3.45	2.76	2.55

MS-35058 (SINGLE POLE) AND MS-35059 (DOUBLE POLE)

Butt-type contacts; phenolic base. Slotted sleeve, 15⁄32" dia. Exposed parts of non-ferrous material, satin chrome finished. Screw terminals. Circuit designations stamped on side. Supplied with 2 hex nuts, 1 locating ring and 1 shakeproof lockwasher.

A-H Number	MS Number	Circuit	List Each, Lots of				
			1-24	25-99	100-499	500-999	1000-9999
35058EM	MS-35058-21	On-off-on	$4.77	$3.82	$2.39	$1.91	$1.76
35058WM	MS-35058-22	On-none-off	3.95	3.16	1.98	1.58	1.46
35058DM	MS-35058-23	On-none-on	4.77	3.82	2.39	1.91	1.76
35058AM	MS-35058-24	On-off-none	3.95	3.16	1.98	1.58	1.46
35058CM	MS-35058-25	On-mom. off-none	4.36	3.49	2.18	1.74	1.61
35058FM	MS-35058-26	On-none-mom. on	5.19	4.15	2.60	2.08	1.92
35058GM	MS-35058-27	Mom. on-off-mom. on	5.19	4.15	2.60	2.08	1.92
35058BM	MS-35058-28	None-off-mom. on	4.36	3.49	2.18	1.74	1.61
35058XM	MS-35058-29	On-none-mom. off	4.36	3.49	2.18	1.74	1.61
35058YM	MS-35058-30	Off-none-mom. on	4.36	3.49	2.18	1.74	1.61
35058HM	MS-35058-31	On-off-mom. on	5.19	4.15	2.60	2.08	1.92
35059EM	MS-35059-21	On-off-on	$6.38	$5.10	$3.19	$2.55	$2.36
35059WM	MS-35059-22	On-none-off	5.29	4.23	2.65	2.12	1.96
35059DM	MS-35059-23	On-none-on	6.38	5.10	3.19	2.55	2.36
35059AM	MS-35059-24	On-off-none	5.29	4.23	2.65	2.12	1.96
35059CM	MS-35059-25	On-mom. off-none	6.38	5.10	3.19	2.55	2.36
35059FM	MS-35059-26	On-none-mom. on	6.90	5.52	3.45	2.76	2.55
35059GM	MS-35059-27	Mom. on-off-mom. on	6.90	5.52	3.45	2.76	2.55
35059BM	MS-35059-28	None-off-mom. on	6.38	5.10	3.19	2.55	2.36
35059XM	MS-35059-29	On-none-mom. off	6.38	5.10	3.19	2.55	2.36
35059YM	MS-35059-30	Off-none-mom. on	6.38	5.10	3.19	2.55	2.36
35059HM	MS-35059-31	On-off-mom. on	6.90	5.52	3.45	2.76	2.55

SUBMINIATURE MS-75028 AND MS-75029

Butt-type gold plated silver contacts. Slotted sleeve 1⁄4" dia. Combination solder lug-quick connect terminals. Aluminum exposed parts; clear anodized aluminum finish. With 2 hex nuts, 1 lockwasher and 1 locking ring.

A-H Number	MS Number	Circuit	List Each, Lots of				
			1-24	25-99	100-499	500-999	1000-9999
TS1M	MS-75028-22	Off-none-on	$3.99	$3.19	$2.99	$2.79	$2.59
TC3M	MS-75028-21	On-off-on	4.25	3.40	3.19	2.98	2.76
TE3M	MS-75028-31	Mom. on-off-maint. on	4.52	3.62	3.39	3.16	2.94
TG3M	MS-75028-27	Mom. on-off-mom. on	4.52	3.62	3.39	3.16	2.94
TM3M	MS-75028-26	Mom. on-none-on	4.52	3.62	3.39	3.16	2.94
TS3M	MS-75028-23	On-none-on	4.25	3.40	3.19	2.98	2.76
TS2M	MS-75029-22	Off-none-on	4.78	3.82	3.59	3.35	3.11
TC6M	MS-75029-21	On-off-on	5.45	4.36	4.09	3.82	3.54
TE6M	MS-75029-31	Mom. on-off-maint. on	6.91	5.53	5.18	4.84	4.49
TG6M	MS-75029-27	Mom. on-off-mom. on	6.91	5.53	5.18	4.84	4.49
TM6M	MS-75029-26	Mom. on-none-maint. on	6.91	5.53	5.18	4.84	4.49
TS6M	MS-75029-23	On-none-on	5.45	4.36	4.09	3.82	3.54

COMMERCIAL SUBMINIATURE SWITCHES

2 AND 3 POSITION TOGGLE TYPE

Butt-type gold plated silver contacts; slotted sleeve, 1⁄4" dia. Solder lug-quick connect terminals; PC on request. Stainless steel ball lever. Gold anodized aluminum exposed parts. Rated at 5 A, 25 VAC; 5 A, 29 VDC. Supplied with 2 hex nuts, 1 locating ring nd 1 locking ring.

A-H No.	Circuit	Toggle Lever Position	List Each, Lots of				
			1-24	25-99	100-499	500-999	1000-9999
TS-3	SPDT	On-none-on	$3.99	$3.19	$2.99	$2.79	$2.59
TM-3	SPDT	On*-none-on†	4.25	3.40	3.19	2.98	2.76
TS-2	DPST	Off-none-on	4.52	3.62	3.39	3.16	2.94
TS-6	DPDT	On-none-on	5.19	4.15	3.89	3.63	3.37
TM-6	DPDT	On*-none-on†	6.65	5.32	4.99	4.66	4.32
TC-3	SPDT	On-off-on	3.99	3.19	2.99	2.79	2.59
TE-3	SPDT	On*-off-on†	4.25	3.40	3.19	2.98	2.76
TG-3	SPDT	On*-off-on*	4.25	3.40	3.19	2.98	2.76
TC-6	DPDT	On-off-on	5.19	4.15	3.89	3.63	3.37
TE-6	DPDT	On*-off-on†	6.65	5.32	4.99	4.66	4.32
TG-6	DPDT	On*-off-on*	6.35	5.08	4.76	4.45	4.13

*Momentary. †Maintained.

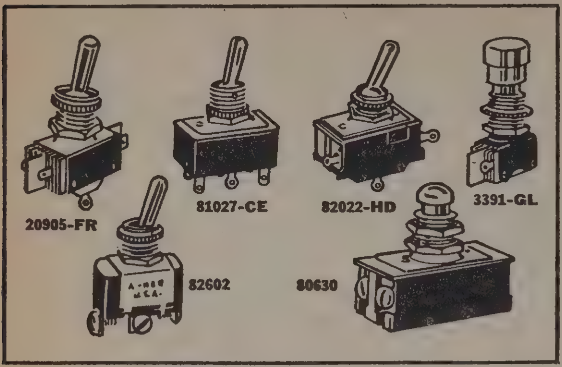
PUSHBUTTON TYPE

Subminiature pushbutton switches incorporate maximum performance, dependability and durability on an ultra-lightweight base. Ideal for electronic instrumentation, computer equipment and communication switchboard applications. Leaf blade wiping action; gold plated silver contacts for low energy reliability. Combination solder lug-quick connect terminals. Slotted sleeve 1⁄4" dia. x 1⁄4" lg. Rated at 1 amp, 115 VAC; 2 amps, 29 VDC. Supplied with 2 hex nuts, 1 locating ring, 1 locking ring and white nylon button.

A-H Number	Circuit	List Each, Lots of				
		1-24	25-99	100-499	500-999	1000-9999
PM-3	SPDT	$3.80	$3.04	$2.85	$2.66	$2.47
PM-6	DPDT	4.66	3.73	3.50	3.26	3.03
PM-7	3PST-NO	4.40	3.52	3.30	3.08	2.86
PM-8	3PST-NC	6.18	4.94	4.63	4.33	4.02
PMQ-3*	SPDT	4.32	3.46	3.24	3.02	2.81

*Rated at 7 A, 125 VAC; 5 A, 29 VDC. Snap-acting butt-type contacts.

ALL SWITCHES ARE LISTED BY UNDERWRITER LABORATORIES



Unless otherwise noted, bright nickel finished exposed parts; slotted sleeve, 15/32″-32 dia.; with standard hardware. SPST and DPST switches operate on-off; SPDT and DPDT switches operate on-on (3-position, on-off-on); 2-circuit switches have two independent circuits, one on and the other off and vice versa when operated. All switches are listed by Underwriter Laboratories.

2 POSITION MAINTAINED TOGGLE SWITCHES

3 AMP AC-DC CANOPY SERIES

Roller action contacts with quick make-break action; laminated base. Solder lug terminals. Rated at 1 A, 230 V; 3 A, 125 V.

A-H No.	Circuit	Sleeve Lgth. Inches	Lever	List Each, Lots of 1-24	25-99	100-499	500-999	1000-9999
20994-CS	SPST	15/32	Ball	$2.17	$1.74	$1.09	$0.87	$0.80
20994-LH	SPST	15/32	Bat	2.17	1.74	1.09	.87	.80
21615-BD	SPST	1	Ball	3.00	2.40	1.50	1.20	1.11
21615-BE	SPST	1	Bat	3.00	2.40	1.50	1.20	1.11
21350-EH	SPDT	15/32	Bat	2.73	2.18	1.37	1.09	1.01
20902-N	DPST	15/32	Ball	3.94	3.15	1.97	1.58	1.46
20902-CX	DPST	15/32	Bat	3.94	3.15	1.97	1.58	1.46
20905-BX	DPDT	15/32	Ball	4.50	3.60	2.25	1.80	1.67
20905-FR	DPDT	15/32	Bat	4.50	3.60	2.25	1.80	1.67
20905-KA	DPDT	1	BAT	5.38	4.30	2.69	2.15	1.99

3 AMP AC-DC MIDGET SERIES

Wiping blade contact; molded phenolic base. Solder lug terminals. Rated at 1 A, 250 V; 3 A, 125 V. **83050** metal bat lever; **83050-C** paddle lever, satin chrome finish; **83050-S** black nylon lever.

A-H No.	Circuit	Sleeve Length, Inches	List Each, Lots of 1-24	25-99	100-499	500-999	1000-9999
83050	SPST	15/32	$2.15	$1.72	$1.08	$0.86	$0.80
83050-CG	SPST	15/32	2.84	2.27	1.42	1.14	1.05
83052	SPDT	15/32	2.56	2.05	1.28	1.02	.95
83052-CG	SPDT	15/32	3.55	2.84	1.78	1.42	1.31
83052-SG	SPDT	13/32	3.02	2.42	1.51	1.21	1.12
83053	DPST	15/32	3.19	2.55	1.60	1.28	1.18
83053-CG	DPST	15/32	4.17	3.34	2.09	1.67	1.54
83053-SG	DPST	13/32	3.62	2.90	1.81	1.45	1.34
83054	DPDT	15/32	3.66	2.93	1.83	1.46	1.35
83054-SG	DPDT	13/32	4.08	3.26	2.04	1.63	1.51

6 AMP AC-DC SERIES

Wiping blade contacts; molded phenolic base. End-connected solder lug terminals except as noted. Rated 3 A, 250 V; 6 A, 125 V.

81015-AW*	SPST	15/32	$2.15	$1.72	$1.08	$0.86	$0.80
81021-AV†	SPDT	15/32	2.56	2.05	1.28	1.02	.95
81024-GB*	DPST	15/32	3.19	2.55	1.60	1.28	1.18
81027-CE*	DPDT	15/32	3.66	2.93	1.83	1.46	1.35

Same as above except slider contacts and terminals: Suffix **QE**, wire leads; **E**, screw and **N**, solder lug.

86599-QE	SPST	15/32	$2.21	$1.77	$1.11	$0.88	$0.82
86964-E	SPST	15/32	2.21	1.77	1.11	.88	.82
86994-N	SPST	15/32	1.86	1.49	.93	.74	.69

*Back-connected. †Rated at 1 A, 250 V; 6 A, 125 V.

15 AMP AC UTILITY SERIES

Slow make and slow break butt type contacts. Molded phenolic base. Bat lever. Sleeve, 15/32″ dia. Rated at 10 A, 250 VAC; 15 A, 125 VAC; ¾ hp, 120–240 VAC.

A-H No.	Circuit	Terminals	List Each, Lots of 1-24	25-99	100-499	500-999	1000-9999
82600	SPST	Screw	$1.94	$1.55	$0.97	$0.78	$0.72
82601	SPST	Solder	1.70	1.36	.85	.68	.63
82604	SPDT	Screw	2.33	1.86	1.17	.93	.86
82605	SPDT	Solder	1.94	1.55	.97	.78	.72
82606	DPST	Screw	3.13	2.50	1.57	1.25	1.16
82607	DPST	Solder	2.65	2.12	1.33	1.06	.98
82610	DPDT	Screw	3.85	3.08	1.93	1.54	1.42
82611	DPDT	Solder	3.13	2.50	1.57	1.25	1.16
82612*	3PST	Screw	5.99	4.79	3.00	2.40	2.22
82616*	3PDT	Screw	7.59	6.07	3.80	3.04	2.81
82617*	3PDT	Solder	6.34	5.07	3.17	2.54	2.35
82635†	4PDT	Screw	10.74	8.59	5.37	4.30	3.97
82636†	4PDT	Solder	9.49	7.59	4.75	3.80	3.51

*Rated for 1 hp, 1-2-3 phase, 120 VAC; †½ hp, 115–230 VAC.

2-POSITION MAINTAINED SWITCHES (CONT'D)

16 AMP AC-DC SERIES

Wiping contacts; positive quick make-break action. Screw terminals. Molded phenolic base except 83800-D, all-molded construction and double insulated design. Sleeve, 15/32″ lg. Rated at 8 A, 250 V; 16 A, 125 V; 1 hp, 125–250 V.

A-H No.	Circuit	Lever	List Each, Lots of 1-24	25-99	100-499	500-999	1000-9999
80607-BJ*	SPST	Bat	$3.27	$2.62	$1.64	$1.31	$1.21
80618-K*	SPDT	Bat	3.23	2.58	1.62	1.29	1.20
80600-BJ	DPST	Bat	3.27	2.62	1.64	1.31	1.21
80600-B	DPST	Ball	3.27	2.62	1.64	1.31	1.21
83800-D	DPST	Bat	3.41	2.73	1.72	1.36	1.26

*Rated at 6 A, 250 V; 12 A, 125 V.

20 AMP AC-DC SERIES

Wiping contacts; molded phenolic base. Screw terminals. Rated at 10 A, 250 V; 20 A, 125 V; 1½ hp, 125–250 V.

A-H No.	Circuit	Sleeve Length, Inches	List Each, Lots of 1-24	25-99	100-499	500-999	1000-9999
80601-BD	SPST	15/32	$5.70	$4.56	$2.85	$2.28	$2.11
80609-CA*	SPDT	15/32	5.70	4.56	2.85	2.28	2.11
80602-C	DPST	15/32	5.70	4.56	2.85	2.28	2.11
80602-CA	DPST	15/32	5.70	4.56	2.85	2.28	2.11

Quick make and quick break contacts; molded phenolic base. No. 8421 sleeve, ½″ dia. Screw terminals. Rated at 20 A, 250 V; 1½ hp, 125 V; 2 hp, 250 V.

80421	DPST	11/32	$7.65	$6.12	$3.83	$3.06	$2.83
80421-U	DPST	35/64	7.65	6.12	3.83	3.06	2.83

*Rated at 10 A, 250 V; 15 A, 125 V.

30 AMP AC-DC 93 SERIES

Knife blade contacts; molded phenolic square lever. Screw terminals. Two-hole flush mounting on 3 5/16″ centers. Rated at 30 A, 250 V; 20 A, 600 V; 2 hp, 115–600 V.

A-H No.	Circuit	List Each, Lots of 1-24	25-99	100-999	500-999	1000-9999
8684-U*	SPST	$6.42	$5.14	$3.21	$2.57	$2.38
80093	DPST	10.40	8.32	5.20	4.16	3.85
8686-U*	DPST	8.43	6.74	4.22	3.37	3.12
80404	3PST	25.62	20.50	12.81	10.25	9.48

*2 hp, 115–230 VAC; 1 hp, 460 VAC.

60 AMP AC-DC SERIES

Same as 30 amp 93 Series except rated at 6 A, 250 V; 2 hp, 120–240 V.

7828-B	DPST	$15.96	$12.77	$ 7.98	$ 6.38	$ 5.91

6 AMP AC-DC INTERMEDIATE SERIES

Wiping contacts; phenolic base; nickel finish bat lever. Solder lug terminals. Rated at 3 A, 250 V; 6 A, 125 V.

82022-HD	SPDT	15/32	$4.16	$3.33	$2.08	$1.66	$1.54
82024-HD	DPDT	15/32	5.11	4.09	2.56	2.04	1.89

14 AMP AC-DC 638 SERIES

Sliding wedge contacts; phenolic base. Sleeve, ¾″ dia. Screw terminals. Positive off position; available without off on request. No. 80638-D rated at 7 A, 250 V; 14 A, 125 V; ¾ hp, 250 V. Nos. 80983, 80985 rated at 5 A, 250 V; 10 A, 125 V; ½ hp, 115–230 VAC.

80638-D	DPDT	13/32	$9.50	$7.60	$4.75	$3.80	$3.52
80983	3PDT	13/32	14.68	11.74	7.34	5.87	5.43
80985	4PDT	13/32	19.58	15.66	9.79	7.83	7.24

15 AMP AC UTILITY SERIES

Heavy duty butt-type silver contacts. Molded phenolic base; nickel finished exposed parts. Bat lever. Sleeve, 15/32″ lg. Rated at 10 A, 250 VAC; 15 A, 125 VAC; ¾ hp, 120–240 VAC.

A-H No.	Circuit	Terminals	List Each, Lots of 1-24	25-99	100-499	500-999	1000-9999
82602	SPDT	Screw	$2.33	$1.86	$1.17	$0.93	$0.86
82603	SPDT	Solder	1.94	1.55	.97	.78	.72
82608	DPDT	Screw	3.85	3.08	1.93	1.54	1.42
82609	DPDT	Solder	3.13	2.50	1.57	1.25	1.16
82614	3PDT	Screw	7.59	6.07	3.80	3.04	2.81
82615*	3PDT	Solder	6.33	5.06	3.17	2.53	2.34
82633†	4PDT	Screw	10.74	8.59	5.37	4.30	3.97
82634	4PDT	Solder	9.49	7.59	4.75	3.80	3.51

20 AND 30 AMP AC-DC SERIES

Quick make-break action; positive center off. Molded phenolic base; insulated molded square lever. Two hole flush mounting on 3 9/32″ centers. Rated at 20 A, 250 V; 30 A, 125 V; 1½ hp, 250 V.

80634‡	DPDT	Screw	15.28	12.22	7.64	6.11	5.65
80988§	DPDT	Screw	26.55	21.24	13.28	10.62	9.82
80898	3PDT	Screw	34.94	27.95	17.47	13.98	12.93
80899	4PDT	Screw	26.55	21.24	13.28	10.62	9.82

*Rated for 1 hp at 125 VAC. †Rated for ½ hp at 115–230 VAC.

‡Rated at 10 A, 250 V; 20 A, 125 V; 1½ hp, 250 VDC; 2 hp, 230 VAC; 5 A, 600 V. §Rated at 20 A, 250 V; 30 A, 125 V.

Switches

MOMENTARY CONTACT PUSHBUTTON SWITCHES

1 AMP AC CANOPY SERIES

Slow make-break butt-type contacts; solder lug terminals; laminated base. Bright nickel finished exposed parts. Plain metal top or snap-on phenolic button. Slotted sleeve 15/32″-32 x 9/16″ lg. Rated at 1 A, 125 VAC; ¾ A, 125 VDC.

A-H Number	Circuit	Button Style	List Each, Lots of 1-24	25-99	100-499	500-999
3391	SPST-NC	Std. metal	$2.32	$1.86	$1.16	$0.93
3391-GJ		Black snap-on	3.07	2.46	1.54	1.23
3391-GJR		Red snap-on	3.07	2.46	1.54	1.23
3391-E	SPST-NO	Std. metal	2.32	1.86	1.16	.93
3391-GL		Black snap-on	3.07	2.46	1.54	1.23
3391-GLB		None*	2.37	1.90	1.19	.95
3391-GLR		Red snap-on	3.07	2.46	1.54	1.23
3392	2 circuit—	Std. metal	3.00	2.40	1.50	1.20
3392-AE	1 NO,	Black snap-on	3.71	2.97	1.86	1.48
3392-AER	1 NC	Red snap-on	3.00	2.40	1.50	1.20

3 AMP AC 511 SERIES

Same as above except molded phenolic base and choice of three button styles: Std. aluminum, concave aluminum or snap-on molded phenolic. Rated at 1 A, 250 VAC; 3 A, 120 VAC; 1/10 hp, 120 VAC.

A-H Number	Circuit	Button Style	List Each, Lots of 1-24	25-99	100-499	500-999
80511	SPST-NC	Std. metal	$1.23	$0.98	$0.62	$0.49
80511-C		Concave metal	1.54	1.23	.77	.64
80541		Black snap-on	2.42	1.94	1.21	.97
80541-R		Red snap-on	2.42	1.94	1.21	.97
80541-L	SPST-NO	None*	1.86	1.49	.93	.74
80511-E		Std. metal	1.23	.98	.62	.49
80511-CE		Concave metal	1.54	1.23	.77	.64
80541-E		Black snap-on	2.42	1.94	1.21	.97
80541-ER		Red snap-on	2.42	1.94	1.21	.97

*Same as 3391-GJ and 80541 but without snap-on button; will accept either black or red button.

3 AMP AC-DC MIDGET SERIES

Combination solder lug-quick connect terminals; silver-plated current carrying parts; single wiping blade contacts. Molded phenolic base; plain metal top or black snap-on phenolic button. Rated at 1 A, 250 V; 3 A, 125 V.

A-H Number	Circuit	Button Style	List Each, Lots of 1-24	25-99	100-499	500-999
83090	SPST-NO	Std. metal	$3.38	$2.70	$1.69	$1.35
83094-CB	DPDT	Black snap-on	5.55	4.44	2.78	2.22

6 AMP AC-DC INTERMEDIATE SERIES

Wiping blade contacts with quick make-break action. Molded phenolic base; solder lug terminals; bright nickel finished exposed parts. Slotted sleeve 15/32″-32 x ½″ lg. Rated at 1 A, 250 V; 6 A, 125 V.

A-H Number	Circuit	Button Style	List Each, Lots of 1-24	25-99	100-499	500-999
81081-G	SPDT	Std. metal	$4.48	$3.58	$2.24	$1.79
81084-G	DPST-NO	Std. metal	5.39	4.31	2.70	2.16
81087-J	DPDT	Std. metal	5.82	4.66	2.91	2.33

AC-DC HEAVY DUTY SERIES

Wiping contacts; molded phenolic base. Screw terminals. Slotted sleeve 15/32″-32; contacts NO. Std. metal button. Rated at 8 A, 250 V; 16 A, 125 V; 1 hp, 125–250 V.

A-H Number	Circuit	Sleeve Length, Inches	List Each, Lots of 1-24	25-99	100-499	500-999
80630	DPST	7/16	$4.86	$3.89	$2.43	$1.94
80631	SPST	7/16	4.86	3.89	2.43	1.94
80938*	DPST	7/16	7.39	5.91	3.70	2.96

*Rated 10 A, 250 V; 20 A, 125 V; 1½ hp, 125–250 V.

DOUBLE ACTION PUSH-PUSH SWITCHES

6 AMP AC-DC SERIES

Wiping blade contacts; molded phenolic base. Solder lug terminals except No. 82404 has 6″ wire leads. Standard metal button. Rated at 3 A, 250 V; 6 A, 125 V.

A-H Number	Circuit	Sleeve Length, Inches	List Each, Lots of 1-24	25-99	100-499	500-999
82403	SPST	9/16	$2.49	$1.99	$1.25	$1.00
82404	SPST	9/16	2.80	2.24	1.40	1.12
81117	DPDT	9/16	4.92	3.94	2.46	1.97

16 AMP AC-DC SERIES

Wiping contacts; molded phenolic base. Screw terminals. Rated at 8 A, 250 V; 16 A, 125 V; 1 hp, 125–250 V.

A-H Number	Circuit	Sleeve Length, Inches	List Each, Lots of 1-24	25-99	100-499	500-999
80863	DPST	9/16	$5.06	$4.05	$2.53	$2.02
81951*	DPST	9/16	7.13	5.70	3.57	2.85

*Rated at 10 A, 250 V; 20 A, 125 V; 1½ hp, 125–250 V.

AVAILABLE ON REQUEST—PLEASE INQUIRE

- **SWITCHES: PORTABLE TOOL, PRECISION SNAP-ACTING, MISCELLANEOUS**
- **MINIATURE PRECISION CIRCUIT BREAKERS**
- **SWITCH OPTIONS, MOUNTING HARDWARE AND MISCELLANEOUS ACCESSORIES**

SLIDE SWITCH

Wiping action for positive, no-tease contact; quick make-break action. Molded phenolic base; bright nickel finished exposed parts. Screw Terminals; black slide lever. Rated at 3 A, 250 V; 6 A, 125 V.

A-H Number	Circuit	List Each, Lots of 1-24	25-99	100-499	500-999
81569	SPST	$3.27	$2.62	$1.64	$1.31

TWO-POSITION MAINTAINED ROTO-POWER SWITCHES

3 AMP AC-DC SERIES

Roller action contacts; laminated base construction; bright nickel finished exposed parts. Solder lug terminals. Slotted sleeve 11/32″-32 x ⅜″ lg. Rated at 1 A, 250 V; 3 A, 125 V.

A-H Number	Circuit	Spindle Projection	List Each, Lots of 1-24	25-99	100-499	500-999
1561-B	SPST	⅜″	$2.92	$2.34	$1.46	$1.17
1561-BS	SPST	1⅛″	2.92	2.34	1.46	1.17

6 AMP AC-DC INTERMEDIATE SERIES

Wiping blade contact mechanism; molded phenolic base. Bright nickel finished exposed parts. Solder lug terminals. Slotted sleeve 11/32″-32 x ⅜″ lg. Rated at 1 A, 250 V; 6 A, 125 V.

A-H Number	Circuit	Spindle Projection	List Each, Lots of 1-24	25-99	100-499	500-999
81715	SPST	⅜″	$3.95	$3.16	$1.98	$1.58
81715-J	SPST	1⅛″	3.95	3.16	1.98	1.58
81721-J	SPDT	1⅛″	4.43	3.54	2.22	1.77
81727	DPDT	⅜″	5.76	4.61	2.88	2.30
81727-J	DPDT	1⅛″	5.76	4.61	2.88	2.30

TWO-POSITION MAINTAINED ROTARY LOCK SWITCHES

3 AMP AC-DC CANOPY SERIES

Roller action contacts; laminated base; bright nickel finished exposed parts and dress nut. Slotted sleeve 15/32″-32 x 15/32″ lg. Solder lug terminals. Two keys provided with each switch. Rated at 1 A, 250 V; 3 A, 125 V.

A-H Number	Circuit	Key Removable	List Each, Lots of 1-24	25-99	100-499	500-999
1561-L	SPST	Off	$5.62	$4.50	$2.81	$2.25
1561-LE	SPST	Both	5.62	4.50	2.81	2.25
1572-L	DPST	Off	7.12	5.70	3.56	2.85
1565-L	SPDT	Both	5.75	4.60	2.88	2.30
1575-L	DPDT	Both	7.14	5.71	3.57	2.86

6 AMP AC-DC INTERMEDIATE SERIES

Wiping blade contacts; molded phenolic base, bright nickel finished exposed parts and dress nut. Slotted sleeve 15/32″-32 x 15/32″ lg. Solder lug terminals. Two keys provided with each switch. Rated at 3 A, 250 V; 6 A, 125 V.

A-H Number	Circuit	Key Removable	List Each, Lots of 1-24	25-99	100-499	500-999
81715-L	SPST	Off	$5.05	$4.04	$2.53	$2.02
81715-LE	SPST	Both	5.05	4.04	2.53	2.02
81724-L	DPST	Off	6.39	5.11	3.20	2.56
81724-LC	DPST	Both	6.39	5.11	3.20	2.56
81721-L*	SPDT	Both	5.32	4.26	2.66	2.13
81727-L	DPDT	Both	6.94	5.55	3.47	2.78

*Rated at 1 A, 250 V; 6 A, 125 V.

6 AMP AC-DC HIGH SECURITY SWITCHES

High quality Corbin locks; wiping blade contacts; molded phenolic base. Bright nickel finished exposed parts and dress nut. Slotted sleeve ⅞″ dia. x 45/64″ lg. Solder lug terminals. Two keys provided with each switch. Rated at 3 A, 250 V; 6 A, 125 V.

A-H Number	Circuit	Key Removable	List Each, Lots of 1-24	25-99	100-499	500-999
81715-LQ61	SPST	Off	$19.85	$15.88	$ 9.93	$ 7.94
81721-LQ61*	SPDT	CCW	20.82	16.66	10.41	8.33
81724-LQ61	DPST	Off	21.81	17.45	10.91	8.72
81727-LQ61	DPDT	CCW	22.77	18.22	11.39	9.11
81715-LQ41	SPST	Both	19.85	15.88	9.93	7.94
81721-LQ41*	SPDT	Both	20.82	16.66	10.41	8.33
81724-LQ41	DPST	Both	21.81	17.45	10.91	8.72
81727-LQ41	DPDT	Both	22.77	18.22	11.39	9.11

*Rated at 1 A, 250 V; 6 A, 125 V.

MULTI-POSITION MAINTAINED ROTARY LOCK SWITCHES

Slow make-break contacts; molded phenolic base; slotted sleeve 15/32″-32 x ½″ lg. Rated at 20 A, 120–240 VAC; 1½ hp, 120 VAC; 2 hp, 240 VAC. **No. 82787-B:** Diecast lock; quick-connect terminals with 3/32″ hole in terminal. One lock key. **No. 70307-LA:** Stamped lock; screw terminals; two lock keys.

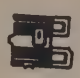
A-H Number	Circuit	Positions	List Each, Lots of 1-24	25-99	100-499	500-999
82787-B	DPST	4	$6.15	$4.92	$3.08	$2.46
70307-LA	DPST	2	5.97	4.78	2.99	2.39

LOCK KEYS

Supplied in standard package of 25 pieces.

A-H Number	Key is Removable in Position	List Each, Lots of 1-24	25-99	100-499	500-999
1561-487	Both	$0.47	$0.38	$0.24	$0.19
1561-488	Off only	.47	.38	.24	.19
1561-1487	Both	.47	.38	.24	.19
1561-1488	Off only	.47	.38	.24	.19
B-721	For Illinois locks	.60	.48	.30	.24

*With locking latch.


Lens

Actuator-Indicator

Contact Block

CTS-3

CTS-3-P

ADAPT-A-SWITCH LIGHTED PUSHBUTTON SWITCHES

Building block construction uses 31 stock components to build 25,344 different variations—lighted or unlighted pushbutton switches, or lighted indicators. Features low operating force, low profile, easy high density mounting (.710″ spacing), fingertip grip for easy cap removal, long life. Double break wiping contacts; UL spacing. Mar-resistant lenses are available in 7 colors and three shapes; actuator-indicators with momentary or alternate action; contact blocks with standard duty or low energy rating. Contact blocks can be finger-snap added to actuator-indicator module at any time. **Maximum Operating Force:** 1 pole, 12 oz. momentary, 16 oz. alternate action; 2 poles, 24 oz. mom., 32 oz. alternate; 3 poles, 36 oz. mom., 48 oz. alternate; 4 poles, 48 oz. momentary. **Lamp:** Accepts T-1¾ incandescent midget groove base lamp (not included). **Life:** 100,000 operations sug. **To Order:** Illuminated switch consists of a Lens, Actuator-Indicator and Contact Block(s); order each item separately. Non-illuminated switch consists of an opaque Lens, Actuator-Indicator, and Contact Block(s). Write for information on legend imprinting.

ACTUATOR-INDICATORS

Tin plated solder terminals accept #18 wire. Plunger travel, .094″. Mount in .640″ x .576″ oval hole; 1.406″ deep behind panel, 1.706″ deep overall. With mounting nut.

A-H No.	Action	Use with Lens	STANDARD PKG. OF 20				
			List Each, Lots of				
			1-24	25-99	100-499	500-999	1000-9999
83501	Momentary	Rect.	$1.77	$1.42	$1.33	$1.24	$1.15
83504	Alternate	Rect.	2.79	2.23	2.09	1.95	1.81
83502	Momentary	Square	1.77	1.42	1.33	1.24	1.15
83505	Alternate	Square	2.79	2.23	2.09	1.95	1.81
83503	Momentary	Round	1.77	1.42	1.33	1.24	1.15
83506	Alternate	Round	2.79	2.23	2.09	1.95	1.81
83507	None*	Rect.	2.16	1.73	1.62	1.51	1.40
83508	None*	Square	2.16	1.73	1.62	1.51	1.40
83509	None*	Round	2.16	1.73	1.62	1.51	1.40

*Indicator unit only; will not accept contact blocks.

LENSES

Size: Rectangular, .750″ x .500″; square, .500″ x .500″; round, .500″ diameter.

A-H No. 83500-			Color	STANDARD PKG. OF 20				
				List Each, Lots of				
Rect.	Sq.	Rd.		1-24	25-99	100-499	500-999	1000-9999
70	80	90	White	$0.22	$0.18	$0.17	$0.15	$0.14
71	81	91	Red	.22	.18	.17	.15	.14
72	82	92	Green	.22	.18	.17	.15	.14
73	83	93	Blue	.22	.18	.17	.15	.14
74	84	94	Yellow	.22	.18	.17	.15	.14
75	85	95	Amber	.22	.18	.17	.15	.14
76	86	96	Black*	.22	.18	.17	.15	.14

*Black opaque lenses for non-illuminated switches.

CONTACT BLOCKS

Standard Type has fine silver contacts rated 5 amps at 125 VAC resistive, 2 amps at 250 VAC resistive, 5 amps at 28 VDC resistive. Low Energy Type has gold plated contacts for applications under 100 mW; rated 10 μA minimum, 50 mV for dry circuit applications. Form Z two-circuit contacts. Positive snap with contact wipe. Momentary action actuator-indicators can use up to four contact blocks; alternate action, up to three contact blocks. Solid fine silver solder terminals.

A-H No.	Type	STANDARD PKG. OF 100				
		List Each, Lots of				
		1-24	25-99	100-499	500-999	1000-9999
83500-30	Standard	$1.91	$1.53	$1.43	$1.34	$1.24
83600-30	Low Energy	3.18	2.54	2.39	2.23	2.07

SNAP-IN MINIATURE ROCKER SWITCHES

Rocker lever action switches, 2 and 3 position, maintained or momentary, with or without lamp. **Contact Rating:** 16 amps at 250 VAC. Standard color is black; white, red, green and gray available on special order. Numbers listed are non-lighted; lighted versions available on special order.

A-H No.	Action	List Each, Lots of				
		1-24	25-99	100-499	500-999	1000-9999
	SINGLE POLE					
160011-E	Off-on	$1.42	$1.14	$0.71	$0.57	$0.53
160111-E	Off-mom. on	1.56	1.25	.78	.62	.58
160211-E	On-on	1.56	1.25	.78	.62	.58
160311-E	On-mom. on	1.65	1.32	.83	.66	.61
160411-E	On-off-on	1.70	1.36	.85	.68	.63
	DOUBLE POLE					
260011-E	Off-on	$2.15	$1.72	$1.08	$0.86	$0.80
260111-E	Off-mom. on	2.34	1.87	1.17	.94	.87
260211-E	On-on	2.65	2.12	1.33	1.06	.98
260311-E	On-mom. on	2.71	2.17	1.36	1.08	1.00
260411-E	On-off-on	2.77	2.22	1.39	1.11	1.02

IEC SERIES SUBMINIATURE TOGGLE SWITCHES

Lever action switches meet Continental European Standards a
prescribed by International Electrotechnical Commission. Com
patible with Arrow-Hart Series A switches. High quality phenoli
base with chrome plated mild steel case, chrome plated brass lever
Combination solder lug-quick connect terminals. **Contact Rating**
2 amps at 250 VAC, 5 amps at 29 VDC. **Contact Resistance**
4 milliohms maximum, initial. **Insulation Resistance:** 10,000 meg
ohms minimum. **Life:** 50,000 operations average electrical, 200,00
operations mechanical. **Operating Force:** 150–200 grams. **Angula**
Movement: 34° (±2°) total. **Size:** .551″ x .256″ x 1.381″ overall
single pole, .551″ x .510″ x 1.381″, double pole. Bushing mount i
.260″ dia. panel hole.

A-H No.	Contacts	Action	List Each, Lots of				
			1-24	25-99	100-499	500-999	1000-9999
CTS-3	SPDT	On-none-on	$1.64	$1.31	$1.23	$1.15	$1.0
CTS-3-P	SPDT*	On-none-on	1.64	1.31	1.23	1.15	1.0
CTC-3	SPDT	On-off-on	1.83	1.46	1.37	1.28	1.1
CTC-3-P	SPDT*	On-off-on	1.83	1.46	1.37	1.28	1.1
CTS-6	DPDT	On-none-on	2.18	1.74	1.64	1.53	1.4
CTS-6-P	DPDT*	On-none-on	2.18	1.74	1.64	1.53	1.4
CTC-6	DPDT	On-off-on	2.49	1.99	1.87	1.74	1.62
CTC-6-P	DPDT*	On-off-on	2.49	1.99	1.87	1.74	1.62

Same as above except momentary switching action.

A-H No.	Contacts	Action	Net Each, Lots of				
				1-24	25-49	50-99	100-499
CTM-3	SPDT	On-none-on	$2.08	$1.66	$1.56	$1.46	$1.35
CTE-3	SPDT	On-off-on†	2.08	1.66	1.56	1.46	1.35
CTG-3	SPDT	On†-off-on†	2.08	1.66	1.56	1.46	1.35
CTM-6	DPDT	On-none-on†	3.76	3.01	2.82	2.63	2.44
CTE-6	DPDT	On-off-on†	3.76	3.01	2.82	2.63	2.44
CTG-6	DPDT	On†-off-on†	3.76	3.01	2.82	2.63	2.44

*Straight lever; all others, bat lever. †Momentary.

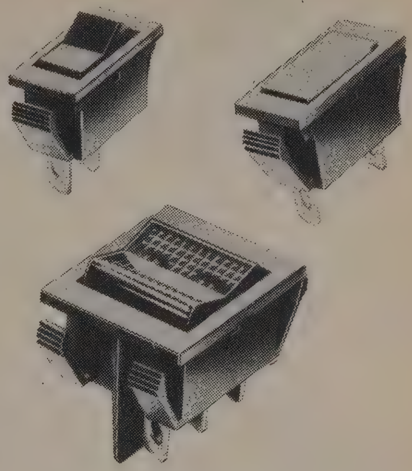
OUR STOCK IS COMPLETE AND UP TO DATE.

WRITE FOR ADDITIONAL INFORMATION ON

ANY NEW OR UNLISTED ITEMS

Lighted Rocker Switches

ARROW-HART SERIES 1600 AND 2600 MINIATURE ROCKER SWITCHES



ompact, miniature rocker switches in the popular snap-in mount-
g. Available in rocker lever action, 2 and 3 position, maintained
momentary, with or without lighting, dummy units and indi-
ators. The SPST switches, the dummy units and the indicators
re built on the single pole body; all others are built on the double
ole body. All non-lighted units are equipped with a black base,
black rocker and .250″ Quick Connect terminals. Optional colors,
erminals and actions are available on special order. All lighted
nits have black bodies and black rockers and have integral lamps
xcept for a switch or indicator with green rocker/lens. These are
tted with a 110 V or 240 V neon lamp inserted into a tube at the
ear of the body. Other switches can be ordered with the tube in
ne body; model numbers should be changed to include the letter
, e.g. **1600TR11E.** An all-black (**1609DUM11**) or all-white
609DUM22) dummy unit can be supplied as a blanking plug.
utout Dimensions: SPST, .480″ x 1.070″; DPST, .872″ x 1.070″.
urrent Rating: 16 amps at 250 VAC. **Insulation Resistance:**
,000 megohms. **Operating Temperature Range:** −40° C to
55° C.

STANDARD NON-LIGHTED SWITCHES

A-H Number	Circuit	Action	Net Each
		SINGLE POLE	
160011E	SPST	Off-on	Prices on Request
160211E	SPDT	On-on	
160411E	SPDT	On-off-on	
160111E	SPST	Off-mom. on	
160311E	SPDT	On-mom. on	
		DOUBLE POLE	
260011E	DPST	Off-on	Prices on Request
260211E	DPDT	On-on	
260411E	DPDT	On-off-on	
260111E	DPST	Off-mom. on	
260311E	DPDT	On-mom. on	

OPTIONAL NON-LIGHTED SWITCHES AVAILABLE ON SPECIAL ORDER

A-H Number*	Circuit	Action	Net Each
		SINGLE POLE	
1605-() () ()	SPST	On-mom. off	Prices on Request
1606-() () ()	SPDT	Mom. on-off-mom. on	
1607-() () ()	SPDT	On-off-mom. on	
		DOUBLE POLE	
2605-() () ()	DPST	On-mom. off	Prices on Request
2606-() () ()	DPDT	Mom. on-off-mom. on	
2607-() () ()	DPDT	On-off-mom. on	

First Suffix: Base Color—1, Black; **2,** White; **3,** Red; **4,** Green;
, Gray. **Second Suffix: Lever Color—1,** Black; **2,** White; **3,** Red;
, Green; **5,** Gray. **Third Suffix: Terminals—B,** Solder lugs; **E,**
uick Connect. Combinations of base and lever colors can be
ffered where quantity warrants.

LIGHTED SWITCHES

A-H Number*	Circuit	Action	Net Each
		SINGLE POLE	
1600-() () () ()	SPST	Off-on	Prices on Request
1622-() () () ()†	SPDT	On-on	
1624-() () () ()†	SPDT	On-off-on	
1601-() () () ()	SPST	Off-mom. on	
1623-() () () ()†	SPDT	On-mom. on	
1625-() () () ()†	SPST	On-mom. off	
1626-() () () ()†	SPDT	Mom. on-off-mom. on	
1627-() () () ()†	SPDT	On-off-mom. on	

†On double-pole body.

A-H Number*	Circuit	Action	Net Each
		DOUBLE POLE	
2605-() () () ()	DPST	On-mom. off	Prices on Request
2600-() () () ()	DPST	Off-on	
2601-() () () ()	DPST	Off-mom. on	

***First Suffix: Rocker/Lens Color—A,** Amber; **G,** Green; **R,** Red; **W,** White. **Second Suffix: Lamp Voltage—0,** No lamp; **1,** 110 V neon; **2,** 240 V neon; **4,** 6 V; **5,** 12 V; **6,** 24 V. **Third Suffix: Body Color—1,** Black; **2,** White; **3,** Red; **4,** Green; **5,** Gray. **Fourth Suffix: Terminals—B,** Solder lugs; **E,** Quick Connect.

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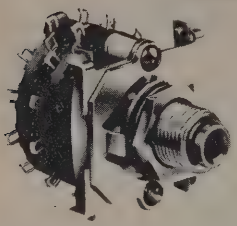
THEM FOR YOUR IMMEDIATE AVAILABILITY.
WRITE FOR FULL INFORMATION ON NEW OR UNLISTED ITEMS.

CENTRALAB Custom Rotary Switches

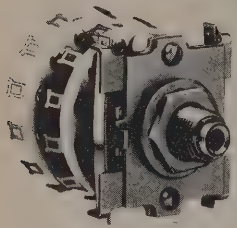
SWITCHES SERIES SA-200



1 INCH DIAMETER

Diallyl phthalate sections. Silver plated brass clips and contacts. One to three sections. Equivalent to Centralab PS and PSA series switches. 24 shorting and non-shorting type switches.

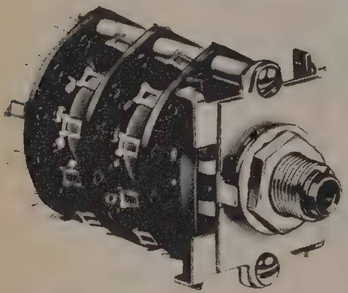
SERIES SA-6000



1.325 INCH DIAMETER

Ceramic sections. Gold plated coin silver alloy clips. Coin silver alloy contacts. One to two sections. 100 hour salt spray finish per MIL-S-3786. Equivalent to Centralab PA-6000 series switches. 16 shorting and non-shorting type switches.

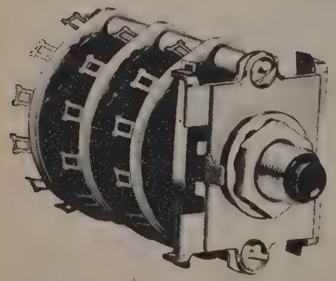
SERIES SA-1000



1.500 INCH DIAMETER

Phenolic sections. Silver plated brass clips and contacts. Equivalent to Centralab PA-1000 series switches. 22 shorting and non-shorting type switches.

SERIES SA-2000



1.500 INCH DIAMETER

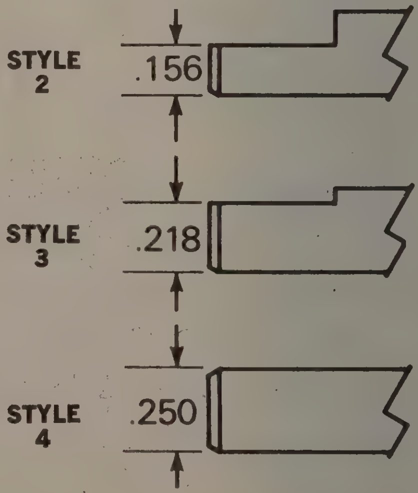
Ceramic sections. Silver plated brass clips and contacts. One to three sections. Equivalent to Centralab PA-2000 series switches. 30 shorting and non-shorting type switches.

SELECTASHAFT™ ROTARY SWITCHES

OVER 100,000 POSSIBLE CUSTOM SWITCH COMBINATIONS . . . ASSEMBLED FROM OUR STOCK TO YOUR SPECIFICATIONS

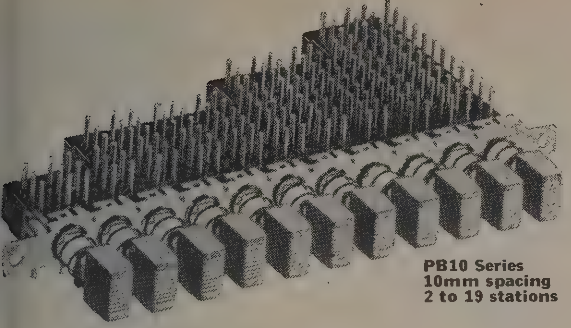
Just order the exact custom switch assembly tha fits your design requirements. It takes just days t deliver. No factory delays. No set-up charges. No costl modifications required. With Centralab Selectashaft switches, you can choose the exact length shaft wit the exact shaft end detail and the exact shaft flat angl to meet your requirements. Your order is custo assembled by our switch specialists, and the resultin product is indistinguishable in quality, performanc and appearance from a factory assembled unit. A Selectashaft™ switches feature a new dual-ball, side thrust mechanism for top index performance and exceptionally good torque and feel. Adjustable stop allow you to easily change number of positions. N disassembly or removal of stops tabs is required. Ge all the Selectashaft™ facts from us. Write or call fo Centralab Selectashaft rotary switch catalog. It is completely detailed with illustrations, specifications, circuit diagrams, standard switch equivalent tables and easy-to-read, how-to-order information.

SHAFTS

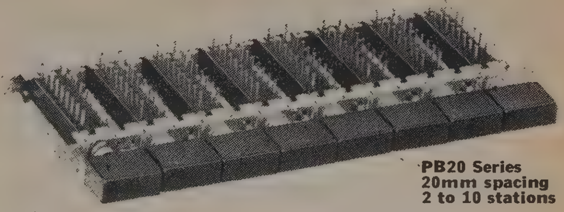


Three shaft styles: .156″ flat, .218″ flat and .250 diameter plain round. 24 shaft lengths: .687″ to 2.375 long from the mounting surface. 24 shaft flat angle in 15° increments.

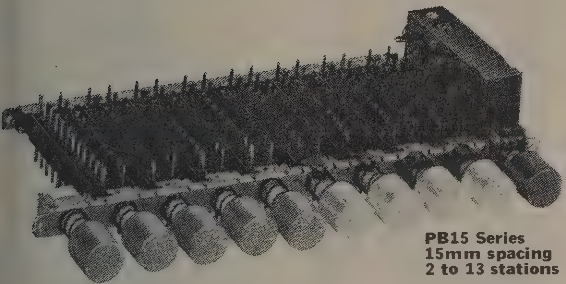
CENTRALAB Custom Pushbutton Switches



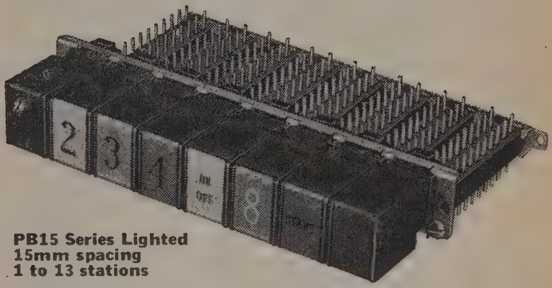
PB10 Series
10mm spacing
2 to 19 stations



PB20 Series
20mm spacing
2 to 10 stations



PB15 Series
15mm spacing
2 to 13 stations



PB15 Series Lighted
15mm spacing
1 to 13 stations

NON-ILLUMINATED TYPES

New, low-cost pushbutton switches are easy to wire, easy to mount; available in a wide variety of configurations, **custom designed** to meet your specific needs. Centralab's field assembly program insures prompt delivery of the switch that will meet your requirements. Exceptional versatility: Switching action may be momentary, push-pull, interlocking, interlocking with lockout, push-push, or a combination of these actions anywhere in the same row. Each station can have two, four, six or eight pole, double-throw functions; modules may be coupled to permit up to 16-pole, double-throw action. A line switch can also be included in the switch assembly.

Switches are compact in size, with three centerline spacing options: 10mm, 15mm or 20mm. Up to 19 stations per assembly are available. Designed for PC board or panel mounting; may be wired from top, bottom or both sides. Twelve standard button styles are available, each in five colors: Red, gray, black, cream or white.

Current and Voltage Ratings: 0.45 amp at 115 VAC; 1 amp at 28 VDC. **Contact Resistance:** 4 milliohms initial; 10 milliohms after 25,000 cycles. **Dielectric Strength:** 1000 VAC rms, bracket to pins; 1000 VAC rms, pins to pins. **Stator Block:** Phenolic per ASTM D-700-57R, Type 2. **Slider Bar:** Thermoplastic acetal resin (Delrin®). **Fixed Contacts:** Silver plated copper wire. **Moving Contacts:** Nickel-silver alloy with silver overlay. **Lubrication:** Permanent, applied during assembly. **Available Spacing Options:** PB10 Series, 10mm, 2 to 19 stations; PB15 Series, 15mm, 2 to 13 stations; PB20 Series, 20mm, 2 to 10 stations. Single station switches also available.

MAXIMUM COST PER STATION*

2 Pole	4 Pole	6 Pole	8 Pole
$1.31	$1.43	$1.64	$1.79

*Prices may be lower depending on actual functions and quantities; includes button. ®Reg. DuPont trademark.

ILLUMINATED TYPES

Available in PB15 Series, custom designed; offers outstanding versatility in application. Available in from one to 13 stations per assembly with 15mm spacing between centerlines. Each station can have two-, four-, six- or eight-pole double throw non-shorting switching functions. Switching action can be momentary, push-push, interlocking or a combination of these anywhere in the same row. Optional lockout feature is available for each type of switching action.

Interchangeable lenses and filters provide maximum color utility and esthetic appeal. Two lens thicknesses (.060″ and .100″) are both available in ten colors: Dark blue, medium blue, light blue, white, green, yellow, dark red, medium red, orange and clear.

Switches use slide base, indicator or pilot lamps available in a wide range of voltage ratings. Snap-in lens feature allows lamps to be removed conveniently from front of panel. **Write for complete information on legend capabilities.**

Current and Voltage Ratings: 0.45 amp at 115 VAC; 1 amp at 28 VDC. **Contact Resistance:** 4 milliohms initial; 10 milliohms after 25,000 cycles. **Dielectric Strength:** 1000 VAC rms, bracket to pins; 1000 VAC rms, pins to pins. **Stator Block:** Phenolic per ASTM D-700-57R, Type 2. **Slider Bar:** Thermoplastic acetal resin (Delrin®). **Fixed Contacts:** Silver plated copper wire. **Moving Contacts:** Nickel-silver alloy with silver overlay. **Lubrication:** Permanent, applied during assembly.

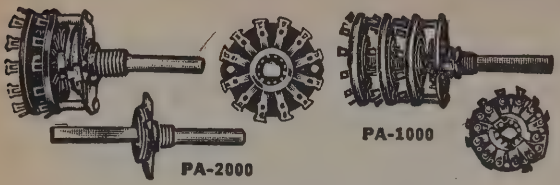
MAXIMUM COST PER STATION*

2 Pole	4 Pole	6 Pole	8 Pole
$3.70	$3.82	$4.03	$4.18

*Prices may be lower depending on actual functions and quantities; includes lamp.

AS YOUR LOCAL CENTRALAB FIELD ASSEMBLY DEPOT, WE ARE PREPARED TO MEET YOUR DESIGN REQUIREMENTS FOR A COMPETITIVELY PRICED PUSHBUTTON SWITCH, ILLUMINATED OR NON-ILLUMINATED, IN PROTOTYPE QUANTITIES OR YOUR PRODUCTION RUNS. OUR FACTORY TRAINED CENTRALAB PUSHBUTTON SWITCH ASSEMBLY SPECIALISTS ARE PREPARED TO SATISFY YOUR MOST STRINGENT DELIVERY REQUIREMENTS. CALL OR WRITE FOR COMPLETE ORDER ASSISTANCE AND INFORMATION.

CENTRALAB Miniature Switches



SERIES PA-2000 MINIATURE CERAMIC SWITCHES

Insulated with Grade L-422, or better, steatite; only 1½″ dia. (⅜″ smaller than standard switches). Same ratings as larger switches. Features maximum voltage flashover; high Q, low loss steatite body; minimum intercircuit capacity; insulated front-back clips. Durable construction. Rated: 2.75 amps, 15 VDC; 230 mA, 115 VAC, make-break resistive load. Breakdown, 1500 VAC rms between critical parts. One-piece shaft for accurate indexing. Adjustable stop or continuous rotation; mounts in single hole with locating lug. Bushing ⅜″-32 thread, ⅜″ long. Shaft, full round ¼″ dia. x 2¼″ long from mtg. surface. With mtg. nut and lockwasher. Shpg. Wt., 3 oz. per section.

SERIES PA-1000 MINIATURE PHENOLIC SWITCHES

Insulated with type PBE laminated phenolic per MIL-3115-B. Same size as PA-2000 ceramic switches. Rated: 2.75 amps, 15 VDC; 230 mA, 115 VAC. Breakdown, 1500 VAC. Positive, adjustable stop or continuous rotation; 30° or 60° detents available. Shpg. Wt., 3 oz. per section.

MINIATURE ROTARY SWITCHES

No. Sect.	Total No. Poles	PA-2000 Ceramic CRL No. PA- Shtg.	PA-2000 Ceramic CRL No. PA- Non-Shtg.	PA-2000 Ceramic Total Pos.	PA-1000 Phenolic CRL No. PA- Shtg.	PA-1000 Phenolic CRL No. PA- Non-Shtg.	PA-1000 Phenolic Total Pos.
1	1	2000	2001	2–12	1000	1001	2–11
1	2	2002	2003	2–6	1002	1003	2–5
2	2	2004	2005	2–12	1004	1005	2–11
1	3	2006	2007	2–5	1006	1007	2–3
3	3	2008	2009	2–12	1008	1009	2–11
1	4				1010	1011	2
2	4	2010	2011	2–6	1012	1013	2–5
4	4	2012	2013	2–12	1014	1015	2–11
1	5	2014	2015	2–3			
5	5	2016	2017	2–12	1016	1017	2–11
1	6	2018	2019	2			
2	6	2020	2021	2–5	1018	1019	2–3
3	6	2022	2023	2–6	1020	1021	2–5
6	6	2024	2025	2–12	1022	1023	2–11
2	8				1024	1025	2
4	8	2026	2027	2–6	1026	1027	2–5
3	9	2028	2029	2–5			
3	12				1028	1029	2
2	10	2030	2031	2–3			
5	10	2032	2033	2–6	1030	1031	2–5
2	12	2034	2035	2			
6	12	2036	2037	2–6	1032	1033	2–5
3	15	2038	2039	2–3			
3	18	2040	2041	2			
SPECIAL CIRCUIT AND 60° INDEXING SWITCHES							
1	1	2052*	....	2–10	1034*	....	2–10
1	1	2042†	....	2–10	1040†	....	2–10
1	1	....	2043#	2–6	....	1035#	2–6
2	2	....	2045#	2–6	....	1037#	2–6

*All shorted to common in full CCW, progressively opened and dropped with CW rotation. †All open in full CCW, progressively picked up and shorted to common with CW rotation. #60° Indexing; 1½″ spacing between sections.

SEPARATE SECTIONS

For use with 30° index assemblies No. PA-300, PA-301 and PA-302, except Nos. PA-17, PA-20 and PA-45, for use with 60° index assemblies PA-304 and PA-305.

Ask for Section Pricing.

No. Poles	Indexing	PA-2000 Ceramic CRL No. PA- Shtg.	PA-2000 Ceramic CRL No. PA- Non-Shtg.	PA-2000 Ceramic Total Pos.	PA-1000 Phenolic CRL No. PA- Shtg.	PA-1000 Phenolic CRL No. PA- Non-Shtg.	PA-1000 Phenolic Total Pos.
1	30°	0	1	2–12	30	31	2–11
2	30°	2	3	2–6	32	33	2–5
3	30°	4	5	2–5	34	35	2–3
4	30°				36	37	2
5	30°	6	7	2–3			
6	30°	8	9	2			
1	30°	10*	19*	2–5	38*	39*	2–5
2	30°	11†	18†	2–11	40†	41†	2–11
1	30°	12§	....	2–10	43‡	....	2–10
1	30°	13‡	....	2–10	49§	....	2–10
1	60°	20	17	2–6	....	45	2–6

*Unused contacts one side of common connected and shorted out. †All unused contacts connected and shorted out. ‡Active contacts shorted to common in full CCW, progressively opened and dropped with CW rotation. §All active contacts open in full CCW, progressively picked up and shorted to common with CW rotation.

SILVER CLIPS AND CONTACTS (CERAMIC)

Ask for Section Pricing.

CRL Number Shorting	CRL Number Non-Shorting	Index	No. of Poles	No. of Positions
PA-16	PA-21	30°	1	2–12
PA-14	PA-23	30°	2	2–6
PA-15	PA-24	30°	4	2

INDUSTRIAL NET PRICES
SERIES PA-2000 CERAMIC

CRL No. PA- Shtg.	CRL No. PA- Non-Shtg.	Net Each 1-24	Net Each 25-49	Net Each 50-99	Net Each 100/Pkg. 100-Up
2000	2001	$3.44	$3.16	$2.96	$2.30
2002	2003	3.66	3.37	3.15	2.45
2004	2005	5.55	5.11	4.77	3.72
2006	2007	3.90	3.59	3.35	2.61
2008	2009	7.21	6.63	6.20	4.83
2010	2011	5.81	5.35	5.00	3.89
2012	2013	9.09	8.36	7.82	6.09
2014	2015	4.07	3.74	3.50	2.73
2016	2017	11.00	10.12	9.46	7.37
2018	2019	3.96	3.64	3.41	2.65
2020	2021	6.15	5.66	5.29	4.12
2022	2023	7.80	7.18	6.71	5.23
2024	2025	12.83	11.80	11.03	8.60
2026	2027	10.80	9.94	9.29	7.24
2028	2029	8.52	7.84	7.33	5.71
2030	2031	6.45	5.93	5.55	4.32
2032	2033	12.25	11.27	10.54	8.21
2034	2035	6.70	6.16	5.76	4.49
2036	2037	15.32	14.09	13.18	10.26
2038	2039	9.92	5.13	8.53	6.65
2040	2041	10.78	9.92	9.27	7.22
2042	....	3.75	3.45	3.23	2.51
....	2043	3.10	2.85	2.67	2.08
....	2045	4.95	4.55	4.26	3.32
2052	....	3.40	3.13	2.92	2.28
SERIES PA-1000 PHENOLIC					
1000	1001	$2.72	$2.50	$2.34	$1.82
1002	1003	2.79	2.57	2.40	1.87
1004	1005	3.91	3.60	3.36	2.62
1006	1007	2.88	2.65	2.48	1.93
1008	1009	5.10	4.69	4.39	3.42
1010	1011	2.84	2.61	2.44	1.90
1012	1013	3.94	3.62	3.39	2.64
1014	1015	6.25	5.75	5.38	4.19
1016	1017	7.40	6.81	6.36	4.96
1018	1019	3.98	3.66	3.42	2.67
1020	1021	5.14	4.73	4.42	3.44
1022	1023	9.35	8.60	8.04	6.26
1024	1025	3.90	3.59	3.35	2.61
1026	1027	6.45	5.93	5.55	4.32
1028	1029	5.46	5.02	4.70	3.66
1030	1031	7.54	6.94	6.48	5.05
1032	1033	9.75	8.97	8.39	6.53
1034	....	2.72	2.50	2.34	1.82
....	1035	2.50	2.30	2.15	1.68
....	1037	3.68	3.39	3.16	2.47
1040	....	2.82	2.59	2.43	1.89

SEPARATE INDEX ASSEMBLIES

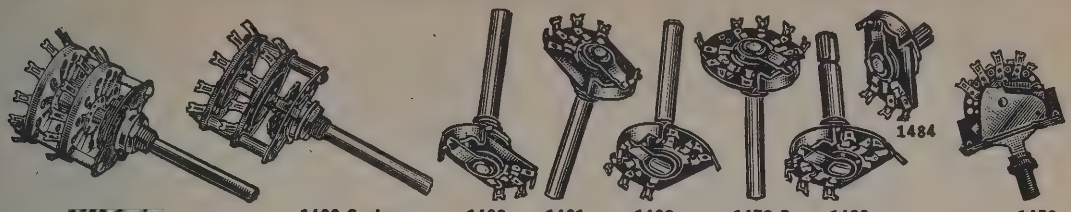
Index assemblies for series PA-1000 and PA-2000 interchangeable. **CRL No. PA-300 Assembly**—Contains PA-300 (30°) index, P-120 pointer knob, adjustable stop plate, two ⅛″ spacers, two 9/32″ spacers, four 7/16″ spacers, 2½″ tie bolts, nuts, lockwashers and fiber spacer washers. Rear shaft length 2″. Use with 1 to 3 sections. **CRL No. PA-301 Assembly**—Contains PA-301 index (30°), P-120 pointer knob, adjustable stop plate, two ⅛″ spacers, two 9/32″ spacers, ten 7/16″ spacers, four 15/16″ spacers, 5″ tie bolts and hardware. Rear shaft length 4″. Use with 4 to 6 sections. **CRL No. PA-302 Assembly**—Contains PA-302 (30°) index, P-120 pointer knob, adjustable stop plate, four 3/16″ spacers, two 9/32″ spacers, sixteen 7/16″ spacers, eight 15/16″ spacers, 7″ tie bolts, and hardware. Rear shaft length 6″. Use with 7 to 9 sections. **CRL No. PA-304 Assembly**—Contains PA-304 (60°) index and hardware same as PA-300. Rear shaft length 2″. Use with 1 to 3. **CRL No. PA-305 Assembly**—Contains PA-305 (60°) index and hardware same as PA-301. Rear shaft length 4″. 4 to 6 sections.

CRL No.	Indexing	Net Each 1-24	Net Each 25-49	Net Each 50-99
PA-300	30°	$1.75	$1.61	$1.51
PA-301	30°	2.56	2.36	2.20
PA-302	30°	3.60	3.32	3.10
PA-304	60°	1.75	1.61	1.51
PA-305	60°	2.56	2.36	2.20

PACKAGED SWITCH HARDWARE
FOR PA-1000 & PA-2000 SERIES MINIATURE SWITCHES

CRL No.	Description	Pkg. 100	CRL No.	Description	Pkg. 100
P-319	Min. stop plate	$8.00	P-348	⅞″ steatite spacer	$ 9.00
P-325	⅛″ steatite spacer	6.00	P-350	15/16″ steatite spacer	9.00
P-326	3/16″ steatite spacer	6.00	P-352	1″ steatite spacer	9.00
P-328	¼″ steatite spacer	6.00	P-362	1″ screw	18.00
P-329	9/32″ steatite spacer	6.00	P-370	2″ screw	18.00
P-330	5/16″ steatite spacer	6.00	P-374	2½″ screw	18.00
P-332	⅜″ steatite spacer	6.00	P-382	4″ screw	23.00
P-334	7/16″ steatite spacer	6.00	P-384	5″ screw	23.00
P-336	½″ steatite spacer	6.00	P-388	7″ screw	29.00
P-340	⅝″ steatite spacer	9.00	P-390	Nut	3.00
P-342	11/16″ steatite spacer	9.00	P-392	Lockwasher	3.00
P-344	¾″ steatite spacer	9.00	P-394	Phen. spacer washer	3.00

CENTRALAB LEVER AND ROTARY SWITCHES



SERIES 2500 CERAMIC ROTARY SWITCHES

Highest quality (Grade L-422 or better) steatite insulation. Meet critical requirements of RF circuit applications. Bushing 3/8"-32 thread 3/8" long. Shaft 2¼" long, ¼" full round. Sections 1⅞" dia. Positive index 30° with adjustable stop. Index assemblies and hardware are identical and interchangeable with those of the 1400 Series. Switches include pointer knob, nut and lockwasher. Rated: 2.75 amps, 15 VDC; 350 mA, 115 VAC. Breakdown, 1500 VAC between critical parts. Shipping Weight, 5 oz. per section.

SERIES 1400 PHENOLIC ROTARY SWITCHES

Extremely compact design. Mounting bushings 3/8"-32 thread, 3/8" long. Shafts 2¼" from mtg. surface; ¼" full round. Sections 1⅞" dia. Positive 30° index with adjustable stop. With mounting nut and lockwasher. Index assemblies and hardware are identical and interchangeable with those of 2500 series. Rated: 2.75 amps at 15 VDC; 350 mA at 115 VAC. Breakdown, 1000 VAC rms. Shipping Weight, 4 oz. per section.

ROTARY SELECTOR SWITCHES

Ceramic Types CRL Number		No. Sections	Total No. Poles	No. Positions	Phenolic Types CRL Number	
Shorting	Non-Short.				Shorting	Non-Short.
2500	2501	1	1	2–6	1400	1401
2502	2503	1	1	2–11	1402	1403
2504	2505	1	2	2–5	1404	1405
2510	2511	2	2	2–6	1410	1411
2512	2513	2	2	2–11	1412	1413
2506	2507	1	3	2–3	1406	1407
2520	2521	3	3	2–6	1420	1421
2522	2523	3	3	2–11	1422	1423
....	....	1	4	2	1408	1409
2514	2515	2	4	2–5	1414	1415
....	....	4	4	2–6	1426	1427
....	....	4	4	2–11	1428	1429
2516	2517	2	6	2–3	1416	1417
2524	2525	3	6	2–5	1424	1425
....	....	2	8	2	1418	1419
....	....	4	8	2–5	1430	1431

SEPARATE SECTIONS

Deluxe Types: .187" rotor slot, use P-270, P-271, P-272 indexes.

Ceramic Types CRL Number				Phenolic Types CRL Number	
Shorting	Non-Short.	No. Poles	No. Positions	Shorting	Non-Short.
TD	XD	1	2–6	AD	HD
UD	YD	1	2–11	BD	JD
RD	RRD	2	2–5	CD	KD
SD	SSD	3	2–3	DD	LD
VD	ZD	4	2	ED	MD
....	......	4	2–3	EED	BBD
GGD*	FFD*	1	2–11	GD*	CCD*
PISD‡	......	1	2–10	PID‡	......

*All unused contacts connected and shorted out. ‡9 contacts, open in full CW, progressively picked up and shorted to common with CWW rotation.

SEPARATE INDEX ASSEMBLIES

Deluxe Type: 1-piece shaft .187" thick flat; use deluxe 1400 or 2500 Series sections. Complete assembly has index and hardware. **No. P-270:** For 1–3 sections; 2" rear shaft. **No. P-271:** 3–5 sects.; 4" rear shaft. **No. P-272:** 5–10 sects.; 8" rear shaft.

INDUSTRIAL NET PRICES
CERAMIC SWITCHES, SECTIONS

CRL Number	Net Each			
	1-24	25-49	50-99	100-Up
2500, 2501	$ 3.95	$3.63	$3.40	$2.65
2502, 2503	4.24	3.90	3.65	2.84
2504, 2505	4.69	4.31	4.03	3.14
2506, 2507	4.85	4.46	4.17	3.25
2510, 2511	6.16	5.67	5.30	4.13
2512, 2513	6.71	6.17	5.77	4.50
2514, 2515	7.34	6.75	6.31	4.92
2516, 2517	7.54	6.94	6.48	5.05
2520, 2521	8.07	7.42	6.94	5.41
2522, 2523	10.10	9.29	8.69	6.77
2524, 2525	10.40	9.57	8.94	6.97

INDEX ASSEMBLIES

P-270	$2.34	$2.15	$2.01	
P-271	2.75	2.53	2.37	
P-272	4.15	3.82	3.57	

PHENOLIC SWITCH SECTIONS

CRL Number	Net Each			
	1-24	25-49	50-99	100-Up
1400, 1401	$2.92	$2.69	$2.51	$1.96
1402, 1403	3.06	2.82	2.63	2.05
1404, 1405	3.20	2.94	2.75	2.14
1406, 1407	3.26	3.00	2.80	2.18
1408, 1409	3.53	3.25	3.04	2.37
1410, 1411	3.88	3.57	3.34	2.60
1412, 1413	4.73	4.35	4.07	3.17
1414, 1415	4.86	4.47	4.18	3.26
1416, 1417	5.12	4.71	4.40	3.43
1418, 1419	5.16	4.75	4.44	3.46
1420, 1421	5.42	4.99	4.66	3.63
1422, 1423	5.98	5.50	5.14	4.01
1424, 1425	8.05	7.40	6.92	5.39
1426, 1427	8.42	7.75	7.24	5.64
1428, 1429	8.79	8.09	7.56	5.89
1430, 1431	9.38	8.63	8.07	6.29
AD, HD	1.24	1.14	1.04	....
BD, JD	1.62	1.49	1.39	....
BBD, EED	3.18	2.93	2.73	....
CD, KD	1.77	1.63	1.52	....
CCD, GD	2.21	2.03	1.90	....
DD, LD	1.97	1.81	1.69	....
ED, MD	2.19	2.01	1.88	....
FFD, GGD	2.67	2.46	2.30	....
PID	1.46	1.34	1.26	....

ROTARY ACTION FLAT SWITCHES

Laminated phenolic insulation. Rated: 1,75 amps, 28 VDC; 350 mA, 115 VAC. Breakdown, 1000 VAC rms. Bushing 3/8"-32 thread, 3/8" long. Shaft ¼" dia., 2¼" long. Shipping Weight, 3 oz.

CRL No.	No. Poles	No. Pos.	Net Each			
			1-24	25-49	50-99	100-Up
1451*†	4	2	$3.93	$3.62	$3.37	$2.63
1488*†	6	3	5.23	4.81	4.50	3.50
1489*‡	6	3	5.82	5.35	5.00	3.90

*Non-shorting. †Spring return. ‡Combination positive and spring return index.

GENERAL PURPOSE SWITCHES

Laminated phenolic insulation. Rated: 1.5 amps, 28 VDC; 230 mA, 115 VAC. Breakdown, 1000 VAC rms. Bushing 3/8"-32 thread, 3/8" long except 1484, ¼". Positive index unless otherwise noted.

CRL No.	No. Poles	No. Pos.	Net Each			
			1-24	25-49	50-99	100-Up
1460	1	2	$1.37	$1.26	$1.18	$0.92
1461	1	3	1.45	1.33	1.25	.97
1462	2	2	1.94	1.78	1.67	1.30
1463*†	1	2	1.95	1.79	1.68	1.29
1464*†	2	2	2.22	2.04	1.91	1.49
1472*	2	3	1.77	1.63	1.52	1.19
1473	2	3	1.64	1.51	1.41	1.10
1484#	1	3	1.49	1.37	1.28	1.00
1486•	2	3	2.02	1.86	1.74	1.35

*Non-shorting; all others shorting. †Spring return indexing. ‡3 active with AC-DPST line switch. §Remote speaker switch. #Remote auto radio spkr. switch. •Remote stereo spkr. switch.

LEVER ACTION SWITCHES

Mounted singly or in groups on special plates; adaptable to intercoms, PA, test instruments, broadcast, industrial applications. Positive and/or spring return index design with shtg. or non-shtg. contacts. Laminated phenolic insulation; clips and contacts, silver-plated brass. Rated 1.5 A at 28 VDC, 230 mA at 115 VAC. Two-hole mtg. bkt. supplied with 6-32 tapped holes. Single switch 7/16" w. x 1⅞" h. x 1½" d. behind panel. With mtg. hdwe. Shpg. Wt., 4 oz.

CRL No.		No. Poles	No. Pos.	Index	Net Each			
Shorting	Non-Shorting				1-24	25-49	50-99	100-Up
1452	1454	2	3	Pos.	$2.42	$2.23	$2.08	$1.62
1453	1455	2	3	Sp.	2.42	2.23	2.08	1.62
1466	1467	2	3	Pos., Sp.	2.42	2.23	2.08	1.62
1456	1457	4	2	Sp.	2.80	2.58	2.41	1.88
1459	1458	4	2	Pos.	2.80	2.58	2.41	1.88

CENTRALAB

MINIATURE AND SUBMINIATURE SWITCHES

PACKAGED SWITCH HARDWARE
FOR 1400 AND 2500 SERIES SWITCHES

CRL No.	Description	Pkg. 100	CRL No.	Description	Pkg. 100
P-124	¼" metal spacer	$3.00	P-145	7" screw	$39.00
P-125	⅜" metal spacer	3.00	P-146	9" screw	40.00
P-126	½" metal spacer	3.00	P-147	Nut	3.00
P-127	¾" metal spacer	3.00	P-148	Lockwasher	3.00
P-128	1" metal spacer	3.00	P-177	Phenol. spacer wshr.	3.00
P-136	1" screw	18.00	P-181	⅛" steatite spacer	6.00
P-137	1½" screw	18.00	P-187	¼" steatite spacer	6.00
P-138	2" screw	18.00	P-188	⅜" steatite spacer	6.00
P-139	2½" screw	18.00	P-189	½" steatite spacer	6.00
P-149	4¼" screw	23.00	P-190	⅝" steatite spacer	9.00
P-143	5" screw	38.00	P-192	1" steatite spacer	9.00

FOR PA-6000 SERIES MILITARY SWITCHES

P-395	Min. MIL screw	18.00	P-397	Min. MIL lockwasher	$3.00
P-396	Min. MIL nut	3.00	P-398	MIL spacer washer	3.00

FOR PS-100 SERIES SUBMINIATURE SWITCHES

P-515	1⅛" screw	12.00	P-522	1/16" steatite spacer	$5.00
P-516	Nut	3.00	P-523	3/16" steatite spacer	5.00
P-519	Spacer washer	3.00	P-524	5/32" steatite spacer	5.00
P-520	⅛" steatite spacer	5.00	P-527	Lockwasher	3.00
P-521	3/32" steatite spacer	5.00			

MIL-S-3786 STYLE SR03 MINIATURE CERAMIC SWITCHES

Designed to meet MIL-S-3786. Insulated with Grade L-422, or better, steatite, Dow Corning 200 Silicone treated against surface moisture. Breakdown, 1000 VAC rms between critical parts. Coin silver clips and contacts; hot tin-dipped terminals. Adjustable stops or continuous rotation on 30° index. Ceramic sections 1 9/32" dia. x .125" th. Single hole mounting with locating lug at 11/32" radius. Bushing, ⅜"-32NEF-2A threaded, ⅜" lg. from mtg. surface. Shaft ¼" dia. full round, 2¼" lg. from mtg. surface. With nut and lockwasher. Rating: 450 mA at 115 VAC; 8 amps, 6 VDC; 5.5 amps, 12 VDC (make-break resistive load).

SERIES PA-6000 SWITCHES

CRL Number Shorting	CRL Number Non-Short	Poles to Section	No. Sections	No. Poles	No. Positions
PA-6000	PA-6001	1	1	1	2–11
PA-6002	PA-6003	2	1	2	2–5
PA-6004	PA-6005	1	2	2	2–11
PA-6006	PA-6007	3	1	3	2–3
PA-6010*	PA-6011*	4	1	4	2
PA-6012	PA-6013	2	2	4	2–5
PA-6018	PA-6019	3	2	6	2–3
PA-6024*	PA-6025*	4	2	8	2

*Fixed, 2-position stop.

SEPARATE INDEX ASSEMBLY

CRL No. PA-600—Used with PA-60, PA-70 or PA-80 separate sections to assemble special units of 1 to 4 sections; 30° indexing. Rear shaft 2" long.

SEPARATE SECTIONS, 30° INDEXING

Used with PA-600 index assembly. Hot solder-dipped terminals. Coin silver clips and contacts. Switch sections are 1 9/32" dia. and rated 1000 VAC rms breakdown between critical parts. Phenolic units .062" thick; others .125" thick.

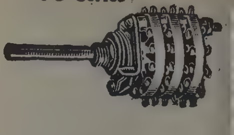
Total Poles	No. Pos.	Phenolic Secs. Short-ing	Phenolic Secs. Non-Short.	Ceramic Secs. Short-ing	Ceramic Secs. Non-Short.
1	2–11	PA-60	PA-61	PA-80	PA-81
2	2–5	PA-62	PA-63	PA-82	PA-83
3	2–3	PA-64	PA-65	PA-84	PA-85
4	2	PA-66	PA-67	PA-86	PA-87

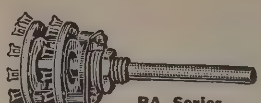
INDUSTRIAL NET PRICES

CRL Number	Net Each 1-24	25-49	50-99	100/Pkg. 100-Up
PA-6000, PA-6001	$5.70	$5.24	$4.90	$3.82
PA-6002, PA-6003	5.83	5.36	5.01	3.91
PA-6004, PA-6005	8.75	8.05	7.53	5.86
PA-6006, PA-6007	5.97	5.49	5.13	4.00
PA-6010, PA-6011	5.61	5.16	4.82	3.76
PA-6012, PA-6013	8.95	8.23	7.70	6.00
PA-6018, PA-6019	9.20	8.46	7.91	6.16
PA-6024, PA-6025	9.00	8.28	7.74	6.03
PA-600	2.60	2.39	2.24	....
PA-60, PA-61	2.91	2.68	2.50	....
PA-62, PA-63	2.98	2.74	2.56	....
PA-64, PA-65	3.08	2.83	2.65	....
PA-66, PA-67	3.21	2.95	2.76	....
PA-80, PA-81	2.91	2.68	2.50	....
PA-82, PA-83	3.02	2.78	2.60	....
PA-84, PA-85	3.14	2.89	2.70	....
PA-86, PA-87	3.25	2.99	2.80	....

NOTE: Items requiring certified test data and government source inspection are special. Prices and information supplied on request.

PS Series





PA Series

MULTIPLE POSITION SWITCHES

Laminated phenolic insulation, type PBE per MIL-P-3115. Voltage breakdown between critical parts 1000 VAC, rms. Bushing ⅜" thd., ⅜" lg. Shaft ¼" dia., 2¼" lg. from mtg. surface. **PA-3000 Series**—18 position. Rated 2.25 amps, 28 VDC; 350 mA, 115 VAC (make-break resistive load). Provides accurate, crisp indexing in both single and multiple-section versions through use of hill-and-dale index. Sections 2 11/64" w. x 2 5/16" h. x 1/16" thick. Positive 20° indexing. **PA-4000 Series**—24 position. Rated 2.75 amps, 28 VDC; 230 mA, 115 VAC. Sections 1¾" w. x 2 5/16" h. x 1/16" thick. Shpg. Wt., 4 oz. per section.

CRL No. PA- Short.	CRL No. PA- Non-Short.	*	No. Pos.	Net Each 1-24	25-49	50-99	100/Pkg. 100-Up
3000	3001	1	2–17	$ 4.80	$ 4.42	$ 4.13	$3.22
3002	3003	2	2–17	7.80	7.18	6.71	5.23
3004	3005	3	2–17	10.72	9.86	9.22	7.18
3006	3007	4	2–17	13.70	12.60	11.78	9.18
4000	4001	1	2–23	4.55	4.19	3.91	3.05
4002	4003	2	2–23	7.24	6.66	6.23	4.85
4004	4005	3	2–23	9.30	8.56	8.00	6.23
4006	4007	4	2–23	11.78	10.84	10.13	7.89

*Number of poles and number of sections.

SERIES PS SUBMINIATURE ROTARY SWITCHES

Deluxe, ceramic insulated rotary switches that are ultra-small. Weigh less than 1 oz. each, yet have the same electrical ratings as switches much heavier and larger. Ideally suited for band switching, transistor circuits, aircraft instruments, etc. Insulation is Dow Corning 200 Silicone treated Grade L-422, or better, steatite; breakdown, 750 VAC rms between critical parts. **Size:** ⅛" thick ceramic sections and ceramic spacers; spacing between front plate and first section, 5/32". All hardware except clips, contacts, and index spring are of cadmium plated steel. **Mounting:** Single hole with optional locating lug on ⅜" radius. Bushing ¼"-32 thread, ¼" long. Shaft ⅛" dia. x 1¼" long. **Rated:** Make and break, resistance load .550 amp at 28 volts DC, 170 milliamps at 115 VAC. **Index:** Positive 30°; fixed stop.

CRL Number *	CRL Number †	Total Poles	No. Pos.	‡	No. Sec.	CRL Number *	CRL Number †	Total Poles	No. Pos.	‡	No. Sec.
PS-100	PS-101	1	11	1	1	PS-112	PS-113	4	2	4	1
PS-102	PS-103	2	11	1	2	PS-114	PS-115	6	5	2	3
PS-104	PS-105	2	5	2	1	PS-116	PS-117	6	3	3	2
PS-106	PS-107	3	11	1	3	PS-118	PS-119	8	2	4	2
PS-108	PS-109	3	3	3	1	PS-120	PS-121	9	3	3	3
PS-110	PS-111	4	5	2	2	PS-122	PS-123	12	2	4	3

*Shorting. †Non-shorting. ‡Poles per section.

SERIES PS SEPARATE SECTIONS (CONTINUED)

Ceramic* CRL No. Short.	Ceramic* CRL No. Non-Short.	Phenolic* CRL No. Short.	Phenolic* CRL No. Non-Short.	Total Poles	No. Pos.	Fixed Stop Indexing
PS-20	PS-21	PS-40	PS-41	1	11	Use P-501 thru P-511
PS-22	PS-23	PS-42	PS-43	2	5	
PS-24	PS-25	PS-44	PS-45	3	3	
PS-26	PS-27	PS-46	PS-47	4	2	

*Breakdown voltage, 750 VAC rms.

SEPARATE INDEX ASSEMBLIES

Designed for maximum of three sections. Includes: Index and shaft assembly; hardware and instructions.

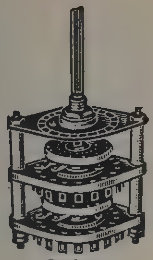
CRL No.	No. of Pos.	CRL No.	No. of Pos.	CRL No.	No. of Pos.	CRL No.	No. of Pos.
P-501	2	P-504	5	P-507	8	P-510	11
P-502	3	P-505	6	P-508	9	P-511	Continuous Rotation
P-503	4	P-506	7	P-509	10		

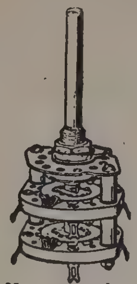
INDUSTRIAL NET PRICES

CRL No. Shorting	CRL No. Non-Shorting	Net Each, Lots of 1-24	25-49	50-99	100/Pkg. 100-Up
PS-100	PS-101	$ 6.23	$ 5.73	$ 5.36	$ 4.17
PS-102	PS-103	9.53	8.77	8.20	6.39
PS-104	PS-105	6.66	6.13	5.73	4.46
PS-106	PS-107	12.59	11.58	10.83	8.44
PS-108	PS-109	6.81	6.27	5.86	4.56
PS-110	PS-111	10.08	9.27	8.67	6.75
PS-112	PS-113	7.25	6.57	6.24	4.86
PS-114	PS-115	13.71	12.12	11.33	8.82
PS-116	PS-117	10.43	9.60	8.97	6.99
PS-118, PS-119		11.18	10.29	9.61	7.49
PS-120, PS-121		14.31	13.17	12.31	9.59
PS-122, PS-123		15.39	14.16	13.24	10.31
PS-20, PS-21		3.02	2.78	2.60	....
PS-22, PS-23		3.35	3.08	2 88	....
PS-24, PS-25		3.50	3.22	3.01	....
PS-26, PS-27		3.76	3.46	3.23	....
PS-40, PS-41		2.03	1.87	1.75	....
PS-42, PS-43		2.24	2.06	1.93	....
PS-44, PS-45		2.84	2.61	2.44	....
PS-46, PS-47		2.92	2.69	2.51	....
P-501 thru P-511		2.81	2.58	2.41	....

CENTRALAB Switches

PSA Series


Series JV-9000


Ham Switch

SERIES PSA SUBMINIATURE ROTARY SWITCHES

Features an index mechanism with adjustable stops. Rugged, 2-ball-starwheel lateral thrust construction for excellent torque control. For use in band-switching, ultra small electronic equipment, transistor circuits, aircraft instruments, etc. Stator and rotor have diallyl phthalate insulation; resistance, 900,000 megs. **Size:** Furnished with diallyl phthalate sections .203″ ± .005″ thick across strut holes, .080″ thick across clip surface-to-surface. Spaced 3/32″ between front plate and clip surface of first section and 5/32″ spacing between sections. **Mounting:** Bushing, 3/8″-32 NEF thread x 3/8″ long; locating lug on 3/8″ radius. Shaft, 1/4″ dia. x 1 3/8″ long from mtg. surface. All hardware plated to resist corrosion; index spring, strut screws and lockwashers stainless steel; clips and rotor contacts, silver-plated brass. **Rated:** Make and break resistive load .550 A at 28 VDC, 170 mA at 115 VAC. **Index:** Positive 30° with adjustable stops.

CRL Number		Total Poles	No. of Positions	Poles per Sec.	No. of Sections
Shorting	Non-Shorting				
PSA-200	PSA-201	1	2–12	1	1
PSA-202	PSA-203	2	2–6	2	1
PSA-204	PSA-205	2	2–12	1	2
PSA-206	PSA-207	3	2–5	3	1
PSA-208	PSA-209	3	2–12	1	3
PSA-210	PSA-211	4	2–6	2	2
PSA-214	PSA-215	5	2–3	5	1
PSA-220	PSA-221	6	2–5	3	2
PSA-222	PSA-223	6	2–6	2	3
PSA-228	PSA-229	9	2–5	3	3
PSA-230	PSA-231	10	2–3	5	2
PSA-238	PSA-239	15	2–3	5	3

DIALLYL PHTHALATE SEPARATE SECTIONS

CRL Number		Total Poles	No. Pos.	CRL Number		Total Poles	No. Pos.
Shtg.	Non-Shtg.			Shtg.	Non-Shtg.		
PS-50	PS-51	1	2–12	PS-54	PS-55	3	2–5
PS-52	PS-53	2	2–6	PS-56	PS-57	5	2–3

INDEX ASSEMBLIES

Includes index, hardware and instructions; PS-20 and PS-40 sections can also be used.

CRL No.	No. Pos.	No. Sec.	CRL No.	No. Pos.	No. Sec.
PSA-512	2–12	1–2	PSA-513	2–12	3–5

INDUSTRIAL NET PRICES

CRL No. PSA-		Net Each			
Shorting	Non-Shorting	1-24	25-49	50-99	100/Pkg. 100-Up
200	201	$ 5.61	$ 5.22	$ 4.86	$ 3.78
202	203	6.09	5.63	5.23	4.07
204	205	8.12	7.49	6.96	5.42
206	207	6.75	6.23	5.78	4.50
208	209	11.75	10.81	10.10	7.87
210	211	8.65	7.98	7.43	5.77
214	215	7.87	7.26	6.74	5.24
220	221	9.79	9.04	8.39	6.53
222	223	12.19	11.21	10.48	8.17
228	229	13.24	12.18	11.39	8.87
230	231	11.59	10.69	9.94	7.72
238	239	16.59	15.26	14.26	11.11
512	....	3.00	2.76	2.58	....
....	513	4.42	4.07	3.80	....
PS-50	PS-51	2.10	1.91	1.79	....
PS-52	PS-53	2.55	2.35	2.19	....
PS-54	PS-55	3.04	2.80	2.61	....
PS-56	PS-57	4.32	3.97	3.72	....

SEPARATE INDEX ASSEMBLIES

Deluxe 60° Types: 2-piece shaft with phenolic rear, metal front; for high voltage operation; use ZZD section for 60°.

CRL No. 60°	Rear Shaft	Suggested No. Sections
P-273	2″	1 to 2
P-274	4 1/4″	3 to 4
P-275	7″	5 to 8

CRL Number Index Assembly	Net Each			
	1-24	25-49	50-99	100/Pkg. 100-Up
P-273	$3.80	$3.50	$3.29	....
P-274	4.65	4.28	4.00	....
P-275	5.80	5.34	4.99	....

SERIES JV-9000 HEAVY-DUTY POWER SWITCHES

Rotary power switch insulated with Grade L-422, or better, steatite. Rated: 9 amps, 110 VAC; 30 amps, 5 VDC; 15 mA, 2500 VAC. Breakdown, 3000 VAC rms between critical parts. Coin silver contacts; 20° indexing adjustable stop. Mtg. bushing 3/8″-32 thread, 3/8″ long. Sections 2 13/16″ dia. Shpg. Wt., 6 oz per section.

SERIES JV-9000 ROTARY SWITCHES

CRL Number		Poles to Section	No. Sections	No. Poles	No. Positions
Shorting	Non-Shorting				
JV-9000	JV-9001	1	1	1	2–17
JV-9002	JV-9003	3	1	3	2–5
JV-9004	JV-9005	1	2	2	2–17
JV-9006	JV-9007	3	2	6	2–5
JV-9008	JV-9009	1	3	3	2–17
JV-9010	JV-9011	3	3	9	2–5
JV-9012	JV-9013	1	4	4	2–17
JV-9014	JV-9015	3	4	12	2–5
JV-9016	JV-9017	1	5	5	2–17
JV-9018	JV-9019	3	5	15	2–5
JV-9020	JV-9021	1	6	6	2–17
JV-9032	JV-9033	2	1	2	2–8
JV-9034	JV-9035	2	2	4	2–8
JV-9036	JV-9037	2	3	6	2–8
JV-9038	JV-9039	2	4	8	2–8

SERIES JV-9000 SEPARATE SECTIONS

CRL Number		Number Poles	Number Positions
Shorting	Non-Shorting		
JV-8	JVN-8	1	2–17
JV-9	JVN-9	3	2–5
JV-10	JVN-10	2	2–8
JV-18*	JVN-18*	1	2–18

*Rotor has 17 fingers making contact with 17 contacts on stator, leaving one contact open. By cutting off unwanted fingers this section can be adapted to special circuits, e.g., one off, nine progressively shorting positions.

SERIES JV-9000 DIAL PLATES, INDEX ASSEMBLY

CRL Nos. P-230, P-231 or P-232—2 3/4″ dia., etched aluminum on black background; 20°; marked 1-5 for P-230, 1-8 for P-232, and 1-17 for P-231.

CRL No. JV-7 Index Assembly—Includes shaft, tie rods, spacers, nuts and lockwashers, and adjustable stop pin.

INDUSTRIAL NET PRICES

CRL No.	Net Each			
	1-24	25-49	50-99	100/Pkg. 100-Up
JV-9000 and JV-9001	$14.85	$13.66	$12.77	$ 9.95
JV-9002 and JV-9003	16.59	15.26	14.26	11.11
JV-9004 and JV-9005	24.75	22.77	21.28	16.58
JV-9006 and JV-9007	28.37	26.10	24.40	19.01
JV-9008 and JV-9009	33.95	31.23	29.20	22.75
JV-9010 and JV-9011	39.20	36.05	33.71	26.26
JV-9012 and JV-9013	46.24	42.54	39.77	30.98
JV-9014 and JV-9015	50.98	46.90	43.84	34.16
JV-9016 and JV-9017	54.90	50.50	47.21	36.78
JV-9018 and JV-9019	62.95	57.91	54.14	42.17
JV-9020 and JV-9021	63.90	58.79	54.95	42.81
JV-9032 and JV-9033	16.13	15.00	14.01	10.92
JV-9034 and JV-9035	27.19	25.01	23.38	18.22
JV-9036 and JV-9037	38.59	35.50	33.19	25.86
JV-9038 and JV-9039	49.50	45.54	42.57	33.17
JV-8	11.60	10.67	9.98	....
JVN-8	11.60	10.67	9.98	....
JV-9 and JVN-9	13.52	12.44	11.62	....
JV-10 and JVN-10	11.54	10.58	9.93	....
JV-18 and JVN-18	12.02	11.06	10.33	....
JV-7 Index	7.68	7.06	6.60	....
P-230 thru P-232	.27	.25	.23	....

STEATITE HAM-TYPE SWITCHES

Heavy-duty Grade L-422, or better, steatite insulation for ham applications. Available in 60° index only. All metal parts except clips and contacts are cadmium plated steel; all units have phenolic shaft through switch sections. Positive index with adjustable stop; 60° units have 2 to 6 active positions. Convenient single-hole mounting: 3/8″-32 thread bushing 3/8″ long. Shaft 1/4″ dia., 2 1/4″ long, full round. Rated: 350 milliamps at 115 VAC; 5 milliamps at 1500 VAC; 2.25 amps at 28 VDC, will handle 15 watts; for tubes operating at voltages up to 1 kV and inputs to 150 watts. Unit complete includes mounting nut and lockwasher. Shipping Weight, 4 oz. per section.

NON-SHORTING HAM SWITCHES

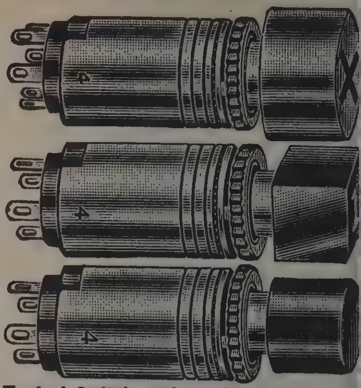
CRL No. 60°	No. Poles*	Net Each, Lots of			
		1-24	25-49	50-99	100/Pkg. 100-Up
2550	1	$ 5.86	$ 5.39	$ 5.04	$ 3.93
2551	2	8.12	7.47	6.98	5.44
2552	3	11.19	10.29	9.62	7.50
2553	4	12.55	11.55	10.79	8.49
2554	5	15.05	13.85	12.94	10.08
ZZD†	1	1.75	1.62	1.50	....

*One pole per section. †Separate section; use with "P" Series index assemblies.

DIALIGHT Lighted Pushbutton Switches & Indicator Lights

SINGLE-HOLE MOUNTING PUSHBUTTON SWITCHES AND MATCHING INDICATOR LIGHTS

Convenient, modular design allows assembly of an illuminated switch to meet your particular requirement. **Three Switch Assemblies:** Choice of NO, NC or 2-Circuit arrangements in two styles: One to accommodate screw-in type caps; another for friction-fit caps. Switch contacts rated 3 amps resistive at 125 VAC or 30 VDC. UL Listed. **Caps:** Choice of screw-in and friction fit (rotatable or keyed) styles in ½″, ⅝″ or ¾″ sizes, round or square shape, and a choice of colors. **Matching Indicator Lights:** Available in two sizes to match your indicating switches. Simply select the indicator base assembly size desired, and add the cap of your choice (the same caps used with switches).



Typical Switches (Assembled, with Cap

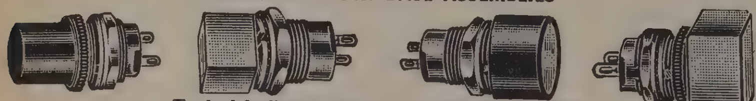
SWITCH BASE ASSEMBLIES

Single-hole mounting; fit panels up to 3/16″ thick. Size, .650″ dia. x 1 15/32″ lg.

Switch Circuit	For Friction-Fit Caps Either ½″ or ¾″ Cap Size	For Screw-In Caps Only ½″ mtg.	For Screw-In Caps Only 15/32″ mtg.	Net Each, Lots of 1-9	10-24	25-99*
SPST-NO	513-0101-604	513-0105-604	513-0104-604	$4.95	$4.24	$3.91
SPST-NC	513-0201-604	513-0205-604	513-0204-604	4.95	4.24	3.91
2-Circuit*	513-0301-604	513-0305-604	513-0304-604	5.47	4.68	4.28

*One circuit NO, one circuit NC.

INDICATOR LIGHT BASE ASSEMBLIES



Typical Indicator Lights (Assembled, with Cap)

Accommodate T-1¾ incandescent lamp from 1.35 to 28 V. Accept friction-fit caps, keyed or rotatable, ½″ or ¾″ size. Length, 27/32″ max.

Dialco Number	Description	Net Each, Lots of 1-9	10-24	25-99*
183-9730-14-602	For 15/32″ hole, front mounting (.549″ dia.)	$1.76	$1.46	$1.33
183-9830-14-604	For ½″ hole, front or rear mount (.560″ dia.)	1.76	1.46	1.33

COLOR OF LENS FACE

Indicated by last figure in Dialco number. For simplicity, all numbers listed use suffix **"1"** to indicate the lens face is **Red.** When a color other than red is required, change the last figure per following list:

Last Figure in No.	Lens Face Color
1	Red (as listed)
2	Green
3	Amber (yellow)
4	Blue
5	White (translucent)
6	Light yellow
8	Ivory

Examples: 183-1472 (Green)
300-1874 (Blue)

CAPS FOR SWITCH BASE ASSEMBLIES OR INDICATOR LIGHT

Friction-fit caps are available in round or square shapes; choice of keyed (non-rotatable) or rotatable style; ½″ or ¾″ size. Screw-in caps fit only the switch base assemblies designated for them; come only in ½″ round configuration. **Colors:** All items listed are red as indicated by **1,** the last digit in the ordering number (e.g., 183-1471). **For other colors, see color table;** same prices. Legends may be hot-stamped or engraved; pricing on request.

½″ FRICTION-FIT AND SCREW-IN CAPS

Description	Shape	Friction Fit Caps Rotatable Number	Friction Fit Caps Keyed Number (Non-Rotatable)	Screw-In Cap Number	Net Each, Lots of 1-9	10-24	25-99*
Solid Color, Translucent Face and Sides	Round	183-1471	186-1471	192-1471	$0.90	$0.80	$0.72
	Square	185-1871	184-1871	....	.90	.80	.72
Translucent Colored Face, Black Opaque Sides	Round	183-5071	186-5071	192-5071	.90	.80	.72
	Square	185-5071	184-5071	....	.90	.80	.72
Translucent Colored Face, Gray Opaque Sides	Round	183-5171	186-5171	192-5171	.90	.80	.72
	Square	185-5171	184-5171	....	.90	.80	.72

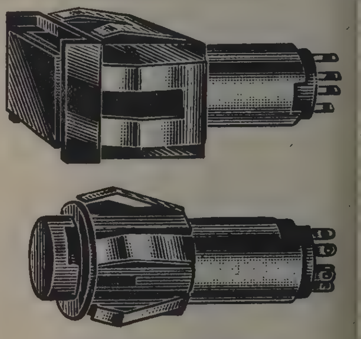
¾″ FRICTION-FIT CAPS

Description	Shape	Rotatable Number	Keyed Number (Non-Rotatable)	Screw-In Cap Number	1-9	10-24	25-99*
Solid Color, Translucent Face and Sides	Round	191-1471	188-1471	....	$1.25	$1.13	$1.03
	Square	190-1871	187-1871	....	1.25	1.13	1.03
Translucent Colored Face, Black Opaque Sides	Round	191-5071	188-5071	....	1.25	1.13	1.03
	Square	190-5071	187-5071	....	1.25	1.13	1.03
Translucent Colored Face, Gray Opaque Sides	Round	191-5171	188-5171	....	1.25	1.13	1.03
	Square	190-5171	187-5171	....	1.25	1.13	1.03

SNAP-IN MOUNTING PUSHBUTTON SWITCHES AND MATCHING INDICATOR LIGHTS

SWITCH BASE ASSEMBLIES

Snap-in mounting for panels up to 3/16″ thick. Includes bezel, clip and spanner ring. Momentary non-snap action switches have contacts rated 3 amps resistive at 125 VAC or 30 VDC. Life at rated load, 100,000 operations. UL listed. Suffix **001** in Dialco number indicates black bezel; to specify gray bezel, change 001 to **002** (e.g., 513-0106-**002**). Other bezel colors available on special order. Rectangular bezel units interchangeable with most 4-lamp displays.



Typical Snap-In Switches (Assembled, with Cap)

Switch Circuit	For ⅝″ Sq. Cap	For ⅝″ Rnd. Cap	For ¾″ x 1″ Cap Less Barrier	For ¾″ x 1″ Cap With Barrier	Net Each, Lots of 1-9	10-24	25-99*
SPST-NO	513-0106-001	513-0107-001	513-0109-001	513-0110-001	$5.96	$5.09	$4.70
SPST-NC	513-0206-001	513-0207-001	513-0209-001	513-0210-001	5.96	5.09	4.70
2-Circuit*	513-0306-001	513-0307-001	513-0309-001	513-0310-001	6.49	5.52	5.10

*One circuit NO, one circuit NC.

INDICATOR LIGHT BASE ASSEMBLIES

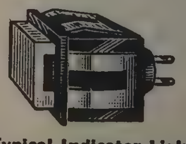
Accommodate T-1¾ incandescent lamp in a range of voltages to 28 V.

Bezel Color	For 300 Series ⅝″ Sq. Cap	For 301 Series ⅝″ Rnd. Cap	For 303 Series ¾″ x 1″ Cap Less Barrier	For 303 Series ¾″ x 1″ Cap With Barrier	Net Each, Lots of 1-9	10-24	25-99*
Black	533-0601	533-0701	533-0901	533-1001	$2.64	$2.27	$2.03
Gray	533-0602	533-0702	533-0902	533-1002	2.64	2.27	2.03

CAPS FOR INDICATOR LIGHT OR SWITCH BASE ASSEMBLIES

Items listed are red as indicated by **1,** the last digit in the ordering number (e.g., 300-1871). Also available in green, amber (yellow), blue, white, and light yellow. **To order, see color table;** same prices.

Dialco Number	Size	Net Each, Lots of 1-9	10-24	25-99*	Dialco Number	Size	Net Each, Lots of 1-9	10-24	25-99*
300-1871	⅝″ sq.	$1.25	$1.13	$1.03	303-1871	¾″ x 1″ rect.	$1.40	$1.25	$1.13
301-1471	⅝″ rnd.	1.25	1.13	1.03					



Typical Indicator Light (Assembled, with Cap)

Dialco Model 506-1500 Spanner Wrench—For snap-in mounting switches. Permits fastening bezel and clip to switch or matching indicator light base. Net Each. . **$7.56**

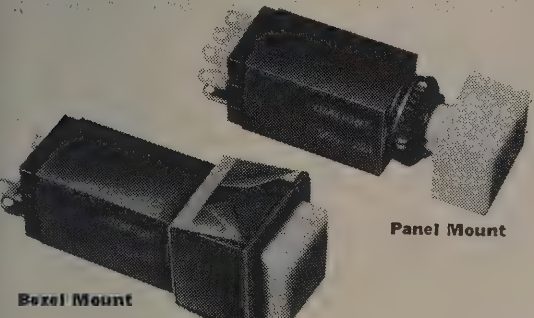
★PRICES ON QUANTITIES OF 100-249, 250-499, 500-999 AND HIGHER ON REQUEST

DIALIGHT ILLUMINATED PUSHBUTTON SWITCHES

DIALCO®

SERIES 554 ILLUMINATED PUSHBUTTON SWITCHES

The 554 Series of illuminated pushbutton switches offers a wide variety of panel and bezel mounting switches with momentary and alternate action configurations in SPDT and DPDT types. Switches are available in snap action with silver contacts for currents from 0.5 to 7 amps, snap action with gold contacts for currents from 0.015 to 1 amp, and in wiping action with gold contacts for currents from 0.001 to 0.05 amp. Matching indicators are also available. All project 2.08″ behind the panel. Series accepts midget flange base lamps from 5 to 28 volts, with lamps replaceable from front of panel. Panel mounting types mount in panels up to ⅛″ thick by means of knurled locknut. Bezel mounting types snap into panel cutout without mounting hardware and can be used with or without end and center barriers. Button caps must be ordered separately and are available in a wide variety of shapes, sizes and colors. An additional variety of color filters, legends and lenses is available. Terminals are solder/Quick-Connect or printed circuit types.



PANEL MOUNT SWITCHES

Dialight No.	Contacts	Action	Terminals	Net Each, Lots of		
				1-9	10-24	25-99
SNAP ACTION WITH SILVER CONTACTS						
554-1121	SPDT	Mom.	Sol/QC	$2.88	$2.72	$2.31
554-1122	SPDT	Mom.	PC	2.88	2.72	2.31
554-1131	SPDT	Alt.	Sol/QC	3.32	3.13	2.66
554-1132	SPDT	Alt.	PC	3.32	3.13	2.66
554-1221	DPDT	Mom.	Sol/QC	3.41	3.21	2.73
554-1222	DPDT	Mom.	PC	3.41	3.21	2.73
554-1231	DPDT	Alt.	Sol/QC	3.93	3.71	3.15
554-1232	DPDT	Alt.	PC	3.93	3.71	3.15
SNAP ACTION TYPE WITH GOLD CONTACTS						
554-2121	SPDT	Mom.	Sol/QC	$3.32	$3.13	$2.66
554-2122	SPDT	Mom.	PC	3.32	3.13	2.66
554-2131	SPDT	Alt.	Sol/QC	3.85	3.62	3.08
554-2132	SPDT	Alt.	PC	3.85	3.62	3.08
554-2221	DPDT	Mom.	Sol/QC	3.93	3.71	3.15
554-2222	DPDT	Mom.	PC	3.93	3.71	3.15
554-2231	DPDT	Alt.	Sol/QC	4.55	4.29	3.64
554-2232	DPDT	Alt.	PC	4.55	4.29	3.64
WIPING ACTION TYPE WITH GOLD CONTACTS						
554-3121	SPDT	Mom.	Sol/QC	$2.88	$2.72	$2.31
554-3122	SPDT	Mom.	PC	2.88	2.72	2.31
554-3131	SPDT	Alt.	Sol/QC	3.32	3.13	2.66
554-3132	SPDT	Alt.	PC	3.32	3.13	2.66
554-3221	DPDT	Mom.	Sol/QC	3.41	3.21	2.73
554-3222	DPDT	Mom.	PC	3.41	3.21	2.73
554-3231	DPDT	Alt.	Sol/QC	3.93	3.71	3.15
554-3232	DPDT	Alt.	PC	3.93	3.71	3.15
MATCHING INDICATORS						
554-0001	....	....	Sol/QC	$1.58	$1.48	$1.26
554-0002	....	....	PC	1.58	1.48	1.26

BEZEL MOUNT SWITCHES

Dialight No.	Contacts	Action	Cap Size, Ins.	Net Each, Lots of		
				1-9	10-24	25-99
SNAP ACTION TYPE WITH SILVER CONTACTS						
554-1121-111	SPDT	Mom.	½ x ½	$3.32	$3.13	$2.66
554-1121-211	SPDT	Mom.	⅝ x ⅝	3.32	3.13	2.66
554-1121-311	SPDT	Mom.	⅝ x ¾	3.32	3.13	2.66
554-1121-411	SPDT	Mom.	¾ x ¾	3.32	3.13	2.66
554-1121-511	SPDT	Mom.	¾ x 1	3.32	3.13	2.66
554-1131-111	SPDT	Alt.	½ x ½	3.76	3.54	3.01
554-1131-211	SPDT	Alt.	⅝ x ⅝	3.76	3.54	3.01
554-1131-311	SPDT	Alt.	⅝ x ¾	3.76	3.54	3.01
554-1131-411	SPDT	Alt.	¾ x ¾	3.76	3.54	3.01
554-1131-511	SPDT	Alt.	¾ x 1	3.76	3.54	3.01
554-1221-111	DPDT	Mom.	½ x ½	3.85	3.62	3.08
554-1221-211	DPDT	Mom.	⅝ x ⅝	3.85	3.62	3.08
554-1221-311	DPDT	Mom.	⅝ x ¾	3.85	3.62	3.08
554-1221-411	DPDT	Mom.	¾ x ¾	3.85	3.62	3.08
554-1221-511	DPDT	Mom.	¾ x 1	3.85	3.62	3.08
554-1231-111	DPDT	Alt.	½ x ½	4.37	4.12	3.50
554-1231-211	DPDT	Alt.	⅝ x ⅝	4.37	4.12	3.50
554-1231-311	DPDT	Alt.	⅝ x ¾	4.37	4.12	3.50
554-1231-411	DPDT	Alt.	¾ x ¾	4.37	4.12	3.50
554-1231-511	DPDT	Alt.	¾ x 1	4.37	4.12	3.50
SNAP ACTION TYPE WITH GOLD CONTACTS						
554-2121-111	SPDT	Mom.	½ x ½	$3.76	$3.54	$3.01
554-2121-211	SPDT	Mom.	⅝ x ⅝	3.76	3.54	3.01
554-2121-311	SPDT	Mom.	⅝ x ¾	3.76	3.54	3.01
554-2121-411	SPDT	Mom.	¾ x ¾	3.76	3.54	3.01
554-2121-511	SPDT	Mom.	¾ x 1	3.76	3.54	3.01
554-2131-111	SPDT	Alt.	½ x ½	4.29	4.03	3.43
554-2131-211	SPDT	Alt.	⅝ x ⅝	4.29	4.03	3.43
554-2131-311	SPDT	Alt.	⅝ x ¾	4.29	4.03	3.43
554-2131-411	SPDT	Alt.	¾ x ¾	4.29	4.03	3.43
554-2131-511	SPDT	Alt.	¾ x 1	4.29	4.03	3.43
554-2221-111	DPDT	Mom.	½ x ½	4.37	4.12	3.50
554-2221-211	DPDT	Mom.	⅝ x ⅝	4.37	4.12	3.50
554-2221-311	DPDT	Mom.	⅝ x ¾	4.37	4.12	3.50
554-2221-411	DPDT	Mom.	¾ x ¾	4.37	4.12	3.50
554-2221-511	DPDT	Mom.	¾ x 1	4.37	4.12	3.50
554-2231-111	DPDT	Alt.	½ x ½	4.99	4.70	3.99
554-2231-211	DPDT	Alt.	⅝ x ⅝	4.99	4.70	3.99
554-2231-311	DPDT	Alt.	⅝ x ¾	4.99	4.70	3.99
554-2231-411	DPDT	Alt.	¾ x ¾	4.99	4.70	3.99
554-2231-511	DPDT	Alt.	¾ x 1	4.99	4.70	3.99
WIPING ACTION TYPE WITH GOLD CONTACTS						
554-3121-111	SPDT	Mom.	½ x ½	$3.32	$3.13	$2.66
554-3121-211	SPDT	Mom.	⅝ x ⅝	3.32	3.13	2.66
554-3121-311	SPDT	Mom.	⅝ x ¾	3.32	3.13	2.66
554-3121-411	SPDT	Mom.	¾ x ¾	3.32	3.13	2.66
554-3121-511	SPDT	Mom.	¾ x 1	3.32	3.13	2.66
554-3131-111	SPDT	Alt.	½ x ½	3.76	3.54	3.01
554-3131-211	SPDT	Alt.	⅝ x ⅝	3.76	3.54	3.01
554-3131-311	SPDT	Alt.	⅝ x ¾	3.76	3.54	3.01
554-3131-411	SPDT	Alt.	¾ x ¾	3.76	3.54	3.01
554-3131-511	SPDT	Alt.	¾ x 1	3.76	3.54	3.01
554-3221-111	DPDT	Mom.	½ x ½	3.85	3.62	3.08
554-3221-211	DPDT	Mom.	⅝ x ⅝	3.85	3.62	3.08
554-3221-311	DPDT	Mom.	⅝ x ¾	3.85	3.62	3.08
554-3221-411	DPDT	Mom.	¾ x ¾	3.85	3.62	3.08
554-3221-511	DPDT	Mom.	¾ x 1	3.85	3.62	3.08
554-3231-111	DPDT	Alt.	½ x ½	4.37	4.12	3.50
554-3231-211	DPDT	Alt.	⅝ x ⅝	4.37	4.12	3.50
554-3231-311	DPDT	Alt.	⅝ x ¾	4.37	4.12	3.50
554-3231-411	DPDT	Alt.	¾ x ¾	4.37	4.12	3.50
554-3231-511	DPDT	Alt.	¾ x 1	4.37	4.12	3.50
MATCHING INDICATORS						
554-0001-111	....	....	½ x ½	$2.02	$1.89	$1.61
554-0001-211	....	....	⅝ x ⅝	2.02	1.89	1.61
554-0001-311	....	....	⅝ x ¾	2.02	1.89	1.61
554-0001-411	....	....	¾ x ¾	2.02	1.89	1.61
554-0001-511	....	....	¾ x 1	2.02	1.89	1.61

SERIES 554 DUAL LAMP SWITCHES

Identical to the above, except that use of two lamps allows split screen illumination of the pushbutton cap. Order caps separately; select from the 330 and 331 Series.

Dialight No.	Contacts	Action	Terminals	Net Each, Lots of		
				1-9	10-24	25-99
SILVER CONTACTS						
554-5121-411	SPDT	Mom.	Sol/QC	$4.50	$4.25	$3.87
554-5131-411	SPDT	Alt.	Sol/QC	4.75	4.58	4.33
554-5122-411	SPDT	Mom.	PC	4.50	4.25	3.87
554-5132-411	SPDT	Alt.	PC	4.75	4.58	4.33
554-5221-411	DPDT	Mom.	Sol/QC	5.25	5.05	4.75
554-5231-411	DPDT	Alt.	Sol/QC	5.60	5.42	5.15
554-5222-411	DPDT	Mom.	PC	5.25	5.05	4.75
554-5232-411	DPDT	Alt.	PC	5.60	5.42	5.15

Dialight No.	Contacts	Action	Terminals	Net Each, Lots of		
				1-9	10-24	25-99
GOLD CONTACTS						
554-6121-411	SPDT	Mom.	Sol/QC	$4.90	$4.63	$4.23
554-6131-411	SPDT	Alt.	Sol/QC	5.15	4.96	4.68
554-6122-411	SPDT	Mom.	PC	4.90	4.63	4.23
554-6132-411	SPDT	Alt.	PC	5.15	4.96	4.68
554-6221-411	DPDT	Mom.	Sol/QC	5.95	5.76	5.45
554-6231-411	DPDT	Alt.	Sol/QC	6.40	6.17	5.83
554-6222-411	DPDT	Mom.	PC	5.95	5.76	5.45
554-6232-411	DPDT	Alt.	PC	6.40	6.17	5.83
MATCHING INDICATORS						
554-4001-411	....	....	Sol/QC	$2.75	$2.65	$2.50
554-4002-411	....	....	PC	2.75	2.65	2.50

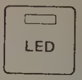
SEE NEXT PAGE FOR MATCHING PUSHBUTTON CAPS

DIALIGHT Pushbutton Caps

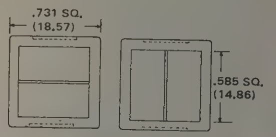
DIALCO®

SERIES 554 PUSHBUTTON CAPS

Numbers listed are stock items, many variations are available on special order. Series 324 thru 328 are available with engraved or hot-stamped legends and with colored translucent caps or white translucent caps combined with colored filters. Series 329 is available with legends in film positives or negatives (visible or hidden), engraved positives (visible or hidden) or replaceable legends which can be custom made by the user.



Series 332



Series 331

Dialight Number	Size, Ins.	Legend	Filter Color	Frame Color	Lens Color	Net Each, Lots of 1-9	10-24	25-99
324-0061	½ x ½	†	Red	......	White*	$0.75	$0.60	$0.55
324-0071	½ x ½	†	......	......	Red*	.60	.50	.45
325-0061	⅝ x ⅝	†	Red	......	White*	.75	.60	.55
325-0071	⅝ x ⅝	†	......	......	Red*	.60	.50	.45
326-0061	⅝ x ¾	†	Red	......	White*	.75	.60	.55
326-0071	⅝ x ¾	†	......	......	Red*	.60	.50	.45
327-0061	¾ x ¾	†	Red	......	White*	.75	.60	.55
327-0071	¾ x ¾	†	......	......	Red*	.75	.60	.55
328-0061	¾ x 1	†	Red	......	White*	.75	.60	.55
328-0071	¾ x 1	†	......	......	Red*	.75	.60	.55
329-0101-137	¾ x 1	Film pos. visible	Red	Black	Clear	2.24	1.88	1.65
329-0201-137	¾ x 1	Film neg. visible	Red	Black	Clear	2.24	1.88	1.65
329-0301-139	¾ x 1	Film pos. hidden	Red	Black	Gray	2.24	1.88	1.65
329-0401-139	¾ x 1	Film neg. hidden	Red	Black	Gray	2.24	1.88	1.65
329-0501-137	¾ x 1	Engraved pos. visible	Red	Black	Clear	1.55	1.34	1.17
329-0601-139	¾ x 1	Engraved pos. hidden	Red	Black	Gray	1.55	1.34	1.17
329-0701-137	¾ x 1	Replaceable	Red	Black	Clear	1.55	1.34	1.17

*Translucent. †Engraving or hot stamping available.

Rectangular Cap

Square Cap

SERIES 330 AND 331 CAPS FOR SERIES 554 DUAL LAMP SWITCHES

Dual-lamp pushbutton caps accommodate two T-1¾ flange-base bulbs. The pushbutton cap is offered in ¾" square size and provides both horizontal (Series 330) and vertical (Series 331) split screens to maximize display and legend presentations. The dua lamp cap is accommodated by the dual-lamp type Series 55 pushbutton switches.

HOW TO ORDER

330 or 331 — 0 2 2 1 — 1 5 5

0 Ⓐ, 2 Ⓑ, 2 Ⓒ, 1 Ⓓ, 1 Ⓔ, 5 Ⓕ, 5 Ⓖ

Ⓐ **Legend**
- 0—None
- 1—Visible film positive
- 2—Visible film negative
- 3—Hidden film positive
- 4—Hidden film negative
- 5—Engraved, black fill
- 6—Engraved, white fill

Ⓑ **Display**
- 1—Split screen (barrier visible), translucent lenses (all colors), no color filters
- 2—Split screen (barrier visible), translucent lenses (white only), with color filters
- 3—Film legend, transparent lens (all colors), no color filters
- 4—Film legend, transparent lens (clear or gray only), with color filters
- 5—Full screen, translucent lens (all colors), no color filters
- 6—Full screen, translucent lens (white only), with color filters

Ⓒ **Filter Color Zone 1**
- 0—None
- 1—Red
- 2—Green
- 3—Yellow
- 4—Blue

Ⓓ **Filter Color Zone 2**
- 0—None
- 1—Red
- 2—Green
- 3—Yellow
- 4—Blue

Ⓔ **Frame Color**
- 1—Black

Ⓕ **Lens Color Zone 1**
- 1—Red
- 2—Green
- 3—Yellow (amber)
- 4—Blue
- 5—White
- 6—Yellow (light)
- 7—Clear
- 9—Gray

Ⓖ **Lens Color Zone 2**
- 1—Red
- 2—Green
- 3—Yellow (amber)
- 4—Blue
- 5—White
- 6—Yellow (light)
- 7—Clear
- 9—Gray

SERIES 330 PRICING

Dialight No.*	Net Each, Lots of 1-9	10-24	25-99	100-249	250-499	500-999	1000-2499
330-0100-1xx	$1.65	$1.60	$1.49	$1.38	$1.27	$1.16	$1.10
330-02xx-155	1.85	1.79	1.67	1.55	1.43	1.31	1.25
330-0500-1xx	1.45	1.40	1.29	1.18	1.07	.96	.90
330-06xx-155	1.65	1.60	1.49	1.38	1.27	1.16	1.10
330-1300-1xx	2.35	2.26	2.08	1.90	1.72	1.54	1.45
330-14xx-1xx	2.55	2.46	2.27	2.08	1.89	1.70	1.60
330-2300-1xx	2.35	2.26	2.08	1.90	1.72	1.54	1.45
330-24xx-1xx	2.55	2.46	2.27	2.08	1.89	1.70	1.60
330-3300-199	2.35	2.26	2.08	1.90	1.72	1.54	1.45
330-34xx-199	2.55	2.46	2.27	2.08	1.89	1.70	1.60
330-4300-199	2.35	2.26	2.08	1.90	1.72	1.54	1.45
330-44xx-199	2.55	2.46	2.27	2.08	1.89	1.70	1.60

SERIES 331 PRICING

Dialight No.*	Net Each, Lots of 1-9	10-24	25-99	100-249	250-499	500-999	1000-2499
331-0100-1xx	$1.65	$1.60	$1.49	$1.38	$1.27	$1.16	$1.10
331-02xx-155	1.85	1.79	1.67	1.55	1.43	1.31	1.25
331-0500-1xx	1.45	1.40	1.29	1.18	1.07	.96	.90
331-06xx-155	1.65	1.60	1.49	1.38	1.27	1.16	1.10
331-1300-1xx	2.35	2.26	2.08	1.90	1.72	1.54	1.45
331-14xx-1xx	2.55	2.46	2.27	2.08	1.89	1.70	1.60
331-2300-1xx	2.35	2.26	2.08	1.90	1.72	1.54	1.45
331-24xx-1xx	2.55	2.46	2.27	2.08	1.89	1.70	1.60
331-3300-199	2.35	2.26	2.08	1.90	1.72	1.54	1.45
331-34xx-199	2.55	2.46	2.27	2.08	1.89	1.70	1.60
331-4300-199	2.35	2.26	2.08	1.90	1.72	1.54	1.45
331-44xx-199	2.55	2.46	2.27	2.08	1.89	1.70	1.60

*Replace X's in Dialight Number with appropriate designators for colors of lens and filters desired.

SERIES 332 LED CAPS FOR SERIES 554 DUAL LAMP SWITCHES

A rectangular LED, flush-mounted, is an integral part of the Series 332 pushbutton cap. Also included is a current-limiting resistor allowing operation at a nominal current of 15 mA at 5 VDC. The rectangular shaped LED provides a large area of high illumination. The cap is ⅝" square with finger tip grips for front of panel removal. The Series 332 cap can be used with panel or bezel mounted switches and matching indicators.

HOW TO ORDER

332 — 00 1 1

00 Ⓐ, 1 Ⓑ, 1 Ⓒ

Ⓐ **Legend**
- 00—None
- 63—Engraved, black fill
- 64—Engraved, white fill
- 75—Hot stamped, black
- 76—Hot stamped, white fill

Ⓑ **LED Color**
- 1—Red
- 2—Green
- 3—Yellow

Ⓒ **Cap Color**
- 0—Black
- 1—Red
- 2—Green
- 3—Yellow (amber)
- 4—Blue
- 5—White
- 6—Light Yellow

Dialight No. 332 Cap—Any configuration. Net Each, Lots of: 1-9............**$2.90**
10-24............**$2.65**; 25-99............**$2.50**; 100-249............**2.20**
250-499............**$2.10**; 500-999............**$2.00**; 1000-2499............**1.90**

DIALIGHT MINIATURE ILLUMINATED PUSHBUTTON SWITCHES

DIALCO®

SERIES 913 PUSHBUTTON SWITCHES

The 913 Series includes non-illuminated switches and switches illuminated with non-replaceable neon lamps or LED's. The neon type is available with standard NE-2E lamp for operation on 105–125 VAC or VDC or the high-brightness NE-2H for operation on 110–125 VAC. The LED types are intended to operate from 5 VDC, and include a series resistor. The switch mechanism is the momentary type and gold-plated contacts rated at 0.1 amp at 30 VDC or 125 VAC. Switches are available with legends on special order. Switches mount in ⅜″ dia. hole.

NEON ILLUMINATED SWITCHES

Dialight No.*	Form	Lamp	Resistor, Ohms	Net Each, Lots of 1-9	10-24	25-99
913-1151-1631-525	NO	NE-2E	None	$3.51	$3.13	$2.88
913-1153-1631-525	NO	NE-2E	100K	4.20	3.76	3.45
913-1154-1631-525	NO	NE-2H	None	3.51	3.13	2.88
913-1156-1631-525	NO	NE-2H	33K	4.20	3.76	3.45
913-1425-1631-525	NC	NE-2E	None	3.51	3.13	2.88
913-1427-1631-525	NC	NE-2E	100K	4.20	3.76	3.45
913-1428-1631-525	NC	NE-2H	None	3.51	3.13	2.88
913-1430-1631-525	NC	NE-2H	33K	4.20	3.76	3.45
913-1431-1631-525	NO/NC	NE-2E	None	3.82	3.41	3.14
913-1433-1631-525	NO/NC	NE-2E	100K	4.54	4.05	3.70
913-1434-1631-525	NO/NC	NE-2H	None	3.82	3.41	3.14
913-1436-1631-525	NO/NC	NE-2H	33K	4.54	4.05	3.70

NON-ILLUMINATED SWITCHES

913-1227-1570-525	NO	None	None	$2.79	$2.52	$2.31
913-1442-1570-525	NC	None	None	2.79	2.52	2.31
913-1443-1570-525	NO/NC	None	None	3.18	2.85	2.62

*Switches listed have red pushbutton caps; to order other colors, change last digit in third code block to **3** for yellow (amber), **5** for white, or **7** for clear.

For non-illuminated switches, numbers listed are for black cap; to order other colors, change last digit in third code block from **0** to **1** for red, **2** for green, **3** for amber, **4** for blue, **5** for white, or **6** for yellow.

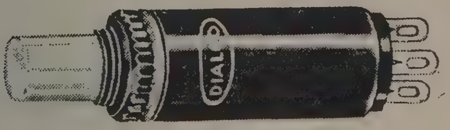
LED ILLUMINATED SWITCHES

Dialight No.#	LED Color	Lens Color	Form	Net Each, Lots of 1-9	10-24	25-99
913-1551-1631-525	Red	Red	NO	$4.73	$4.41	$3.91
913-1552-1631-525	Red	Red	NC	4.73	4.41	3.91
913-1553-1631-525	Red	Red	NO/NC	4.99	4.64	4.12
913-1551-1635-525	Red	White	NO	4.73	4.41	3.91
913-1552-1635-525	Red	White	NC	4.73	4.41	3.91
913-1553-1635-525	Red	White	NO/NC	4.99	4.64	4.12
913-1551-1637-525	Red	Clear	NO	4.73	4.41	3.91
913-1552-1637-525	Red	Clear	NC	4.73	4.41	3.91
913-1553-1637-525	Red	Clear	NO/NC	4.99	4.64	4.12
913-1601-1632-525	Green	Green	NO	5.21	4.85	4.31
913-1602-1632-525	Green	Green	NC	5.21	4.85	4.31
913-1603-1632-525	Green	Green	NO/NC	5.48	5.10	4.53
913-1601-1635-525	Green	White	NO	5.21	4.85	4.31
913-1602-1635-525	Green	White	NC	5.21	4.85	4.31
913-1603-1635-525	Green	White	NO/NC	5.48	5.10	4.53
913-1601-1637-525	Green	Clear	NO	5.21	4.85	4.31
913-1602-1637-525	Green	Clear	NC	5.21	4.85	4.31
913-1603-1637-525	Green	Clear	NO/NC	5.48	5.10	4.53
913-1604-1633-525	Yellow	Yellow	NO	5.21	4.85	4.31
913-1605-1633-525	Yellow	Yellow	NC	5.21	4.85	4.31
913-1606-1633-525	Yellow	Yellow	NO/NC	5.48	5.10	4.53
913-1604-1635-525	Yellow	White	NO	5.21	4.85	4.31
913-1605-1635-525	Yellow	White	NC	5.21	4.85	4.31
913-1606-1635-525	Yellow	White	NO/NC	5.48	5.10	4.53
913-1604-1637-525	Yellow	Clear	NO	5.21	4.85	4.31
913-1605-1637-525	Yellow	Clear	NC	5.21	4.85	4.31
913-1606-1637-525	Yellow	Clear	NO/NC	5.48	5.10	4.53

#Switches listed have black anodize finish; to order clear anodize finish, change first digit in fourth code block from **5** to **6**. Switches listed are for ⅛″ panel; to order switches for 3/16″ panel, change second digit in fourth code block from **2** to **3**. Switches listed have solder lug terminals; to order switches with PC terminals, change last digit in fourth code block from **5** to **9**.

SERIES 922 MINIATURE ILLUMINATED PUSHBUTTON SWITCHES

Miniature switches with incandescent lamp mount from the rear in ⅜″ dia. panel hole. Contacts are gold-plated and rated at 0.1 amp at 30 VDC or 125 VAC. The action is momentary. Accommodates T-1¾ midget flanged base lamps up to 28 VDC which are replaceable from the front when cap is removed.



Dialight No.*	Form	Net Each, Lots of 1-9	10-24	25-99
922-1524-525	Normally Open	$4.38	$3.92	$3.59
922-1525-525	Normally Closed	4.38	3.92	3.59
922-1526-525	Two Circuit	4.81	4.29	3.93

*Switches listed have black anodize locknut; to order clear anodize locknut, change first digit in third digit group to **6**. Switches listed have solder terminals; to order PC terminals, change last digit to **9**.

PUSHBUTTON CAPS

Transparent Color	Fresnel Lens	Smooth Lens	Net Each, Lots of 1-9	10-24	25-99
Red	908-1631	908-1531	$1.07	$0.85	$0.73
Green	908-1632	908-1532	1.07	.85	.73
Yellow (Amber)	908-1633	908-1533	1.07	.85	.73
Blue	908-1634	908-1534	1.07	.85	.73
White*	908-1635	908-1535	1.07	.85	.73
Lt. Yellow	908-1636	908-1536	1.07	.85	.73
Clear	908-1637	908-1537	1.07	.85	.73

*Translucent.

WE CAN QUOTE ON NEEDS FOR MRO, R&D, AND PRODUCTION QUANTITIES

IN BOTH THE SEMICONDUCTOR AND ELECTROMECHANICAL MARKETS.

DIALIGHT MINIATURE ROCKER AND TOGGLE SWITCHES

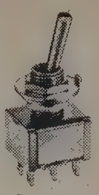
DIALCO®

SPECIFICATIONS

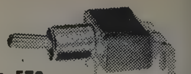
Contact Ratings: 5 amps at 120 VAC/28 VDC or 2 amps at 250 VAC resistive. **Electrical Life:** 100,000 operations at rated load for Type 1 switching function (On-None-On); 40,000 operations at rated load for all other switching functions. **Contact Resistance:** 10 milliohms initial at 2–4 VDC and 100 milliamperes for all contact materials. **Insulation Resistance:** 1000 megohms minimum at 500 VDC. **Dielectric Withstanding Voltage:** 2150 VAC.

MATERIALS

Case: High temperature UL approved material. **Housing:** Stainless steel. **Actuator:** Chrome plated brass (nylon for Series 572). **Bushing:** Nickel plated brass. **End Terminals:** Copper, nickel, tin alloy with silver contacts or brass gold plated. **Center Terminal:** Brass or zinc, silver or gold plated. **Mounting Bracket Series 572:** Stainless steel.


Series 571

Series 572
Lever


Series 573

Series 572
Rocker

HOW TO ORDER

571 —	1	2	1	1 —	01	01 —	01	1
	A	B	C	D	E	F	G	H

SERIES 571

Ⓐ **Number of Poles**
- 1—Single
- 2—Double

Ⓑ **Switching Function**
- ■1—On-None-On
- 2—On-Off-On
- 3—(On)-Off-(On)
- 4—On-Off-(On)
- 5—On-None-(On)
- 6—None-On-(On)
- 7—On-On-On*
- 8—On-On-(On)*
- 9—(On)-On-(On)*

( ) Momentary. *External wire jumpers 2-pole switches only.

Ⓒ **Contact Rating**
- 1—0.4 VA max. at 20V AC/DC
- ■2—5 A at 120 VAC and 28 VDC or 2 A at 250 VAC
- 3—5 A at 120 VAC and 28 VDC or 0.4 VA max. at 250V AC/DC

Ⓓ **Terminal Type**
- ■1—Solder
- 2—Printed circuit
- 4—Wire wrap, .750″ long with epoxy seal
- 7—Wire wrap, 1.062″ long with epoxy seal
- 8—Solder with epoxy seal
- 9—P.C. with epoxy seal

Ⓔ **Actuator Toggle**
- ■01—Standard .410″
- 02—Standard .410″, pinned
- 03—Short .200″
- 04—Short .200″, pinned
- 05—Flatted .840″
- 06—Flatted .450″
- 08—Long .840″
- 09—Long .840″, pinned
- 10—Long .640″
- 11—Long .640″, pinned
- 12—Long .550″
- 13—Long .550″, pinned

Ⓕ **Actuator Finish**
- ■01—Chrome
- 02—Satin chrome

Ⓖ **Mounting Bushing**
- ■01—¼-40 NS x .350″ w/keyway
- 03—¼-40 NS x .280″ w/keyway
- 04—Non-threaded .280″ w/keyway
- 05—¼-40 NS x .296″ flatted
- 08—1/ -40 NS x .378″ flatted
- 09—Metric M6 x 0.75 thd. x 8.9 mm w/keyway

Ⓗ **Hardware**
- 0—None
- 1—Two white nickel plated nuts, plated locking ring and lock washer

SERIES 572

Ⓐ **Number of Poles**
- Single
- 2—Double

Ⓑ Same as above.

Ⓒ Same as above.

Ⓓ Same as above.

Ⓔ **Actuator**
- 01—Rocker, .365″ x .648″
- 02—Rocker, .595″ x 1.036″
- 05—Lever, .365″ x .740″
- 06—Lever, .595″ x 1.174″

Ⓕ **Actuator Finish**
- 03—White
- ■04—Black
- 05—Red
- 06—Orange
- 07—Yellow
- 08—Green
- 09—Blue
- 10—Brown
- 11—Gray

Ⓖ **Mounting**
- ■01—Sub-panel, bracket mount

Ⓗ **Hardware**
- 1—Kit for 1/16″ panels (two each of screws, standoffs, lockwashers and nuts)
- 2—Kit for 3/32″ panels (two each of screws, standoffs, lockwashers and nuts)
- ■3—Kit for ⅛″ panel (two each of screws, standoffs, lockwashers and nuts)

SERIES 573

Ⓐ **Number of Poles**
- 1—Single
- 2—Double

Ⓑ Same as above.

Ⓒ Same as above.
■1

Ⓓ **Terminal Type**
- ■3—P.C. terminals bent at 90° inline, .150″ ctrs. (actuator moves horizontally)
- 9—Same as 3 with epoxy sealing

Ⓔ **Actuator Toggle**
- ■01—Standard .480″
- 02—Standard .480″ pinned
- 03—Short .270″
- 04—Short .270″, pinned
- 05—Flatted .910″
- 06—Flatted .520″
- 08—Long .910″
- 09—Long .910″, pinned
- 10—Long .710″
- 11—Long .710″, pinned
- 12—Long .620″
- 13—Long .620″, pinned

Ⓕ **Actuator Finish**
- ■01—Chrome
- 02—Satin chrome

Ⓖ **Mounting Bushing**
- ■10—Non-threaded .280″
- 20—¼-40 NS x .280″ w/keyway
- 40—¼-40 NS x .350″ w/keyway

Ⓗ **Hardware**
- ■0—None
- 1—Two white nickel plated nuts, plated locking ring and lock washer

■Commonly ordered options. Readily available from distributors.

BASIC SWITCH PRICING

Dialight Type	Suffixes A and B	Net Each, Lots of 1-24	25-99	100-499	500-999	1000-4999	5000-9999
571 572 573	-11	$1.75	$1.20	$1.05	$0.93	$0.87	$0.83
	-12/-16	2.05	1.40	1.23	1.08	1.01	.96
	-21	2.35	1.63	1.44	1.28	1.20	1.16
	-22/-26	2.75	1.90	1.68	1.48	1.39	1.32
	-27	3.05	2.10	1.85	1.63	1.53	1.45
	-28, -29	3.35	2.30	2.03	1.78	1.67	1.58

EXTRA COST ADDERS FOR ACTUATOR OPTIONS

Dialight Type	Actuator Suffix	Net Each, Lots of 1-24	25-99	100-499	500-999	1000-4999	5000-9999
571	02, 04, 05, 07, 09, 11, 13	$0.50	$0.50	$0.50	$0.50	$0.35	$0.35
572	01, 02, 05, 06	.35	.35	.35	.35	.25	.25
573	02, 04, 05, 06, 09, 11, 13	.50	.50	.50	.50	.35	.35

EXTRA COST ADDERS FOR CONTACT RATING AND TERMINAL TYPE OPTIONS

Terminal Type Suffix	Net per Pole, Switch Quantities of — Rating 1: 1-999	Rating 1: 1000-10,000	Rating 2: 1-999	Rating 2: 1000-10,000	Rating 3: 1-999	Rating 3: 1000-10,000
SERIES 571 AND 572						
1	$0.10	$0.08	....	....	$0.25	$0.20
2	.15	.10	$0.10	$0.08	.35	.30
4	.20	.15	.25	.20	.40	.30
7	.20	.15	.25	.20	.40	.30
8	.20	.16	.10	.08	.35	.28
9	.25	.18	.20	.16	.45	.38
SERIES 573						
3	$0.25	$0.20	$0.25	$0.20	$0.40	$0.30
9	.35	.28	.35	.28	.50	.38

DIGITRAN® DIGITAL SWITCHES and DATA ENTRY DEVICES

SERIES 300

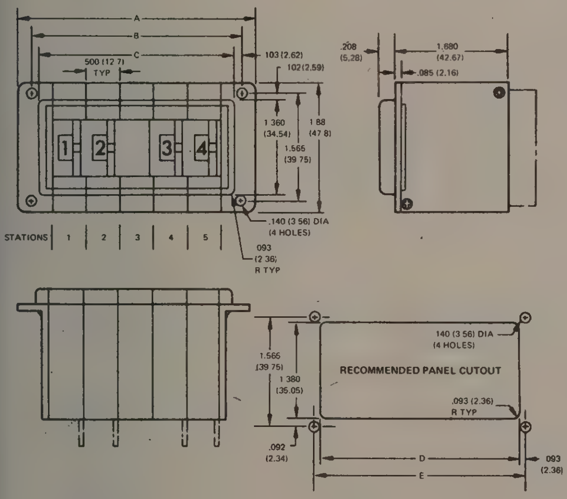
DIGISWITCH®

8, 10, 12, 16 DIAL POSITIONS
QPL approved to MIL-S-22710/11

This one module shown is our standard, general purpose unit. When grouped together with end brackets, the assembly is installed through a cut-out from the rear of the panel. Simple mounting screws are required. Note that the DIGISWITCH, which is the largest of all our switches, can be supplied with up to 16 dial positions.

SPECIFICATIONS

Operating Force	7 to 10 ounces
Rated Electrical Loads	28 volts A.C. or 28 volts D.C. at 125 milliamps. Non-switching load 3 amps max.
Initial Contact Resistance	0.1 ohms max.
Insulation Resistance	1000 megohms
Dielectric Strength	1000 volts RMS
Vibration	MIL-STD-202 method 204, test condition B 15G
Shock	MIL-STD-202, method 213, test condition 1 100G
Life	Over 1,000,000 detent operations
Operating Temperature	—65°C to +85°C
Weight	¾ ounce per module (approx.)
Standard Color	Glossy black case, end brackets, wheel and dial with white dial characters
Dial Character Height	0.235 (8-10 or 12 position)
QPL approved to	MIL-S-22710/11

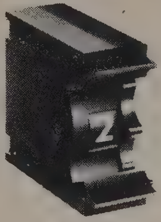

A
B
C
500 (12 7)
TYP
103 (2.62)
102 (2.59)
1 360
(34.54)
1 88
(47 8)
1.566
(39 75)
.208
(5.28)
1.680
(42.67)
.085 (2.16)
1
2
3
4
STATIONS
1
2
3
4
5
.140 (3 56) DIA
(4 HOLES)
093
(2 36)
R TYP
1.566
(39 75)
1 380
(35.05)
140 (3 56) DIA
(4 HOLES)
RECOMMENDED PANEL CUTOUT
.093 (2.36)
R TYP
.092
(2.34)
D
E
093
(2.36)

Number of .5"(12.7) Stations	A	B	C	D	E
1	1.41(35.8)	1.08(27.3)	.87(22.1)	.89(22.6)	1.08(27.3)
2	1.91(48.5)	1.58(40.0)	1.37(34.8)	1.39(35.3)	1.58(40.0)
3	2.41(61.2)	2.08(52.7)	1.87(47.5)	1.89(48.0)	2.08(52.7)
4	2.91(73.9)	2.58(65.4)	2.37(60.2)	2.39(60.7)	2.58(65.4)
5	3.41(86.6)	3.08(78.1)	2.87(72.9)	2.89(73.4)	3.08(78.1)
6	3.91(99.3)	3.58(90.8)	3.37(85.6)	3.39(86.1)	3.58(90.8)
7	4.41(112.0)	4.08(103.5)	3.87(98.3)	3.89(98.8)	4.08(103.5)
8	4.91(124.7)	4.58(116.2)	4.37(111.0)	4.39(111.5)	4.58(116.2)
9	5.41(137.4)	5.08(128.9)	4.87(123.7)	4.89(124.2)	5.08(128.9)
10	5.91(150.1)	5.58(141.6)	5.37(136.4)	5.39(136.9)	5.58(141.6)

SERIES 8000

MINISWITCH®

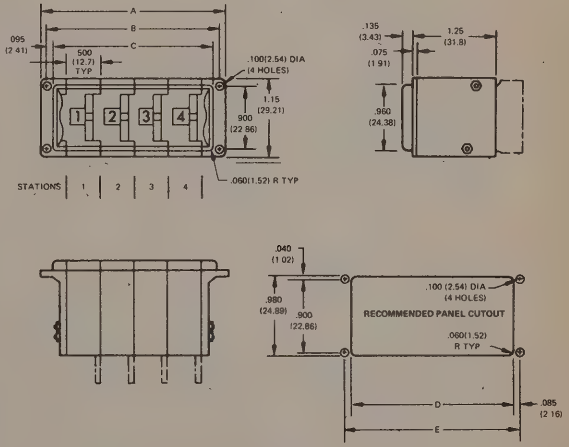
8, 10, 16 DIAL POSITIONS



This switch is a miniaturized version of the Series 300 DIGISWITCH. It is mounted from the rear of the panel with four mounting screws and, like the DIGISWITCH, can be grouped with end mounting brackets into as many switching units in a row as desired. Like most of our thumbwheel switches, the MINISWITCH will give you over 1,000,000 reliable detent operations.

SPECIFICATIONS

Operating Force	6 to 11 ounces
Rated Electrical Loads	115 volts A.C. or 28 volts D.C. at 125 milliamps. Non-switching load 3 amps max.
Initial Contact Resistance	0.1 ohms max.
Insulation Resistance	1000 megohms
Dielectric Strength	750 volts RMS
Vibration	MIL-STD-202 method 204, test condition B 15G
Shock	MIL-STD-202, method 213, test condition 1 100G
Life	Over 1,000,000 detent operations
Operating Temperature	—65°C to +85°C
Weight	⅓ ounce per module (approx.)
Standard Color	Non-glare matte black case, end brackets, wheel and dial with white dial characters
Dial Character Height	0.200 (8 or 10 position)
Designed to meet	MIL-S-22710/19


A
B
C
095
(2 41)
500
(12.7)
TYP
.100(2.54) DIA
(4 HOLES)
1.15
(29.21)
900
(22 86)
1
2
3
4
STATIONS
1
2
3
4
.060(1.52) R TYP
.135
(3.43)
1.25
(31.8)
.075
(1.91)
.960
(24.38)
.040
(1 02)
.980
(24.89)
.900
(22.86)
.100 (2.54) DIA
(4 HOLES)
RECOMMENDED PANEL CUTOUT
.060(1.52)
R TYP
D
E
.085
(2 16)

Number of 5"(12 7) Stations	A	B	C	D	E
1	1.26(32 0)	1.09(27 7)	90(22 9)	92(23 4)	1 09(27 7)
2	1.76(44.7)	1 59(40.4)	1.40(35.6)	1.42(36 1)	1 59(40 4)
3	2 26(57 4)	2.09(53.1)	1 90(48.3)	1.92(48 8)	2 09(53.1)
4	2.76(70.1)	2 59(65.8)	2 40(61 0)	2 42(61.5)	2 59(65.8)
5	3.26(82 8)	3.09(78.5)	2.90(73.7)	2 92(74.2)	3 09(78.5)
6	3.76(95.5)	3.59(91 2)	3 40(86 4)	3.42(86 9)	3 59(91 2)
7	4 26(108 2)	4 09(103 9)	3 90(99.1)	3 92(99 6)	4.09(103 9)
8	4 76(120 9)	4.59(116 6)	4.40(111.8)	4.42(112.3)	4 59(116.6)
9	5 26(133.6)	5 09(129.3)	4.90(124.5)	4.92(125 0)	5 09(129.3)
10	5.76(146.3)	5.59(142.0)	5.40(137.2)	5.42(137 7)	5 59(142.0)

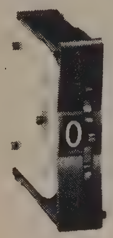
CURRENT PRICES WILL APPLY ON ALL LINES

DIGITAL SWITCHES and DATA ENTRY DEVICES DIGITRAN

SERIES 23000

"SNAP-IN" SLIMSWITCH

10 DIAL POSITIONS



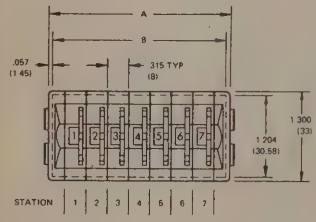
Our newest addition to the MINISWITCH line. Series 23000 is the economy leader of the digital switch industry. They cost less to buy, less to assemble, less to install. They conserve panel space, too. Using our unique assembly strap, switch assemblies are quickly and easily put together without using tools.

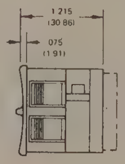
SNAP-IN panel mounting eliminates the need for installation hardware and tools and allows you to relax panel cut out tolerances. The molded-on bezels cover irregular panel cut outs, chipped paint and surface abrasions.

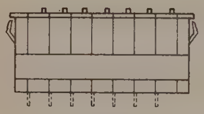
Switch module width is only .315″ (8mm) so you can put more switches into a given space with better readability. That's why we call the Series 23000-the SLIMSWITCH.

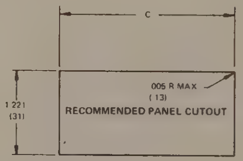
SPECIFICATIONS

Operating Force	4 to 8 ounces
Rated Electrical Loads	28 volts A.C. or 28 volts D.C. at 50 milliamps resistive, at 25°C (77°F). Non-switching current limit: 2 amps
Initial Contact Resistance	0.1 ohms max.
Insulation Resistance	1000 megohms
Dielectric Strength	500 volts RMS
Vibration	.5 G's 70-2000 cps; .06 in. double amplitude, 10-70 cps
Shock	100 G's, 6 millisecond duration, sawtooth.
Life	Over 1,000,000 detent operations at 25°C (77°F)
Operating Temperature	−20°C to 65°C
Standard Color	Case, wheel and end brackets, black or Grey semi-matte as molded. Dial markings, white on black or black on Grey hot-stamped per detail specifications.
Dial Character Height	0.170″







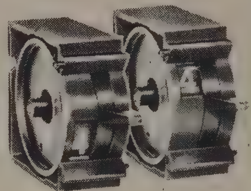


NUMBER OF MODULES	A	B	C
1	.745 (19)	.649 (16.5)	.669 (17)
2	1.060 (27)	.964 (24.5)	.984 (25)
3	1.375 (35)	1.279 (32.5)	1.299 (33)
4	1.690 (43)	1.594 (40.5)	1.614 (41)
5	2.005 (51)	1.909 (48.5)	1.929 (49)
6	2.320 (59)	2.224 (56.5)	2.244 (57)
7	2.635 (67)	2.539 (64.5)	2.559 (65)
8	2.950 (75)	2.854 (72.5)	2.874 (73)
9	3.265 (83)	3.169 (80.5)	3.189 (81)
10	3.580 (91)	3.484 (88.5)	3.504 (89)
N	N x .315 + .430 N x (8) + (11)	N x .315 + .334 N x (8) + (8.5)	N x .315 + .354 N x (8) + (9)

SERIES 28000

MINILEVER®

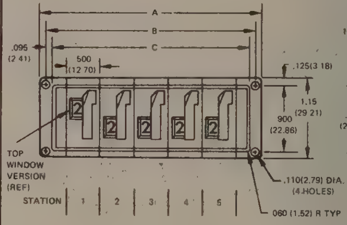
10, 12 DIAL POSITIONS

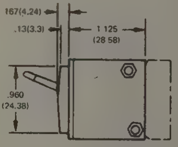


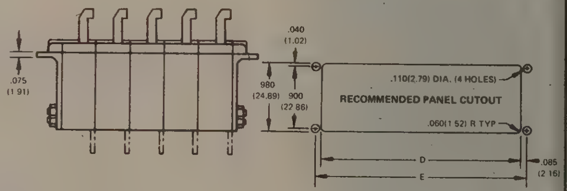
The MINILEVER is a comparatively new innovation to thumbwheel switches. Each module is actuated by a geared type lever. By moving the lever in either direction, you can instantly position the digits from zero (0) to ten (10), or zero (0) to twelve (12). For instance, they have been used on credit checking machines. The operator can set up the customers' credit card number rapidly, then push a button and check the customers' credit. He can then instantly reset all digits back to zero with one sweep of the hand. We also have a special version where the reset of all digits back to zero is done with one separate lever. A great switch for peripheral computer equipment.

SPECIFICATIONS

Operating Force	4 to 8 ounces
Rated Electrical Loads	28V (D.C.), 50 m.a. per common terminal. Non-switching current limit: one amp. All specs applicable after life at rated load.
Initial Contact Resistance	0.1 ohms max.
Insulation Resistance	1000 megohms
Dielectric Strength	500 volts RMS
Vibration	MIL-STD-202 method 204, test condition B 15G
Shock	MIL-STD-202, method 213, test condition 1 50G
Life	Over 1,000,000 detent operations
Operating Temperature	—40°C to +71°C
Weight	½ ounce per module (approx.)
Standard Color	Case, end brackets, detent lever: Non-glare black. Dial: Satin black. Dial Markings: White.
Dial Character Height	0.200 (10 or 12 position)







Number of .5″ (12.7) Stations	A ±.03(7.62)	B	C	D	E
1	1.26(32.0)	1.09(27.7)	.90(22.9)	.92(23.4)	1.09(27.7)
2	1.76(44.7)	1.59(40.4)	1.40(35.6)	1.42(36.1)	1.59(40.4)
3	2.26(57.4)	2.09(53.1)	1.90(48.3)	1.92(48.8)	2.09(53.1)
4	2.76(70.1)	2.59(65.8)	2.40(61.0)	2.42(61.5)	2.59(65.8)
5	3.26(82.8)	3.09(78.5)	2.90(73.7)	2.92(74.2)	3.09(78.5)
6	3.76(95.5)	3.59(91.2)	3.40(86.4)	3.42(86.9)	3.59(91.2)
7	4.26(108.2)	4.09(103.9)	3.90(99.1)	3.92(99.6)	4.09(103.9)
8	4.76(120.9)	4.59(116.6)	4.40(111.8)	4.42(112.3)	4.59(116.6)
9	5.26(133.6)	5.09(129.3)	4.90(124.5)	4.92(125.0)	5.09(129.3)
10	5.76(146.3)	5.59(142.0)	5.40(137.2)	5.42(137.7)	5.59(142.0)
11	6.26(159.0)	6.09(154.7)	5.90(149.9)	5.92(150.4)	6.09(154.7)

DIGITRAN® DIGITAL SWITCHES and DATA ENTRY DEVICES

SERIES 29000

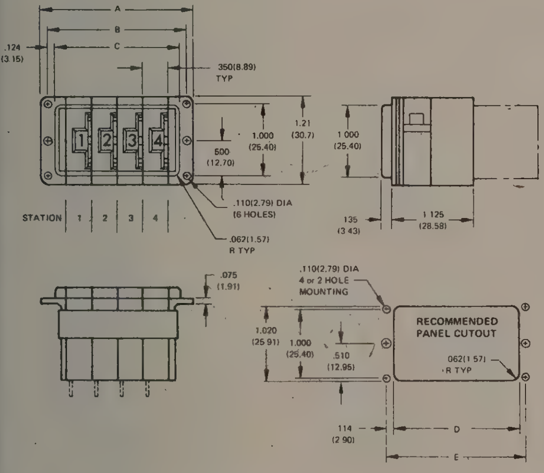
ECONOMY MINISWITCH®

10, 12 DIAL POSITIONS

Here is our new little money saver. Although slightly derated electrically from our Series 8000 MINISWITCH, certain mechanical and material changes have reduced the selling price considerably without reducing quality. If you have an application where the ultimate in low cost is mandatory, this is the switch. This switch is also sealed against normal exposure to dust and other dry contaminants.

SPECIFICATIONS

Operating Force	4 to 8 ounces
Rated Electrical Loads	28 Vac or 28 Vdc at 50 m.a. at 25°C (77°F). Non-switching load 2 amp max.
Initial Contact Resistance	0.1 ohms max.
Insulation Resistance	1000 megohms
Dielectric Strength	500 volts RMS
Vibration	15 G's 70-2000 cps; .06 in. double amplitude, 10-70 cps
Shock	100 G's, 6 millisecond duration, sawtooth.
Life	Over 1,000,000 detent operations at 25°C (77°F)
Operating Temperature	0°C to +65°C
Weight	¼ ounce per module (approx.)
Standard Color	Beige case and end brackets with black dial characters. Black case with white dial characters on special order.
Dial Character Height	0.200″

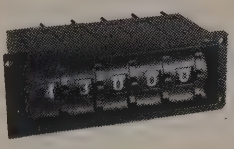

A
B
C
.124
(3.15)
350(8.89)
TYP
1
2
3
4
500
(12.70)
1.000
(25.40)
1.21
(30.7)
1 000
(25.40)
.110(2.79) DIA
(6 HOLES)
STATION
1
2
3
4
.062(1.57)
R TYP
135
(3 43)
1 125
(28.58)
.075
(1.91)
.110(2.79) DIA
4 or 2 HOLE
MOUNTING
1.020
(25 91)
1.000
(25.40)
.510
(12.95)
RECOMMENDED
PANEL CUTOUT
062(1 57)
R TYP
114
(2 90)
D
E

NUMBER OF .35″(8.9) STATIONS	A	B	C	D	E
1	1.10(27.9)	.91(23.1)	66(16.8)	.68(17.3)	.91(23.1)
2	1.45(36.8)	1.26(32.0)	1.01(25.7)	1.03(26.2)	1.26(32.0)
3	1.80(45.7)	1.61(40.9)	1.36(34.6)	1.38(35.1)	1.61(40.9)
4	2.15(54.6)	1.96(49.8)	1.71(43 5)	1.73(44.0)	1.96(49.8)
5	2.50(63.5)	2.31(58.7)	2.06(52 4)	2.08(52.9)	2.31(58.7)
6	2.85(72.4)	2.66(67.6)	2.41(61.3)	2.43(61.8)	2.66(67.6)
7	3.20(81.3)	3.01(76.5)	2.76(70.2)	2.78(70.7)	3.01(76.5)
8	3.55(90.2)	3.36(85.3)	3.11(79.0)	3.13(79.6)	3.36(85.3)
9	3.90(99.1)	3.71(94.2)	3.46(87.9)	3.48(88.4)	3.71(94.2)
10	4.25(108.0)	4.06(103.1)	3.81(96.8)	3.83(97.3)	4.06(103.1)

SERIES 43000

MINISWITCH®

WITH OPTIONAL LED LIGHTING



DIGITRAN regains its position as the leader with the introduction of the new Series 43000. Interchangeable with most .500″ wide switches in the field, it features snap-together construction, a minimum number of parts, optional pin terminals, and a great new optional led lighting. Available in single pole outputs, as well as most popular codes from BCD to complement of nines complement. Lighting color options available are red or clear with 5, 14, and 28 volt dropping resistors. Rear-mounted.

SPECIFICATIONS

Mechanical and Electrical

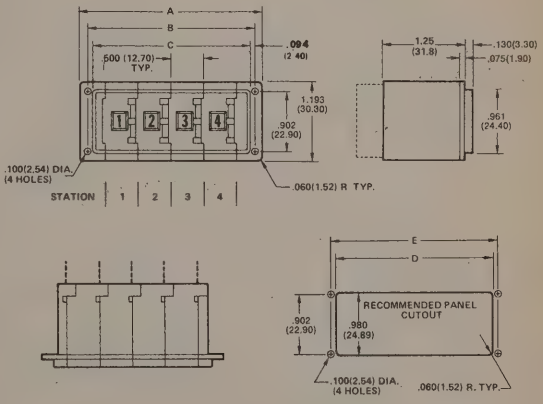
Operating Force	4 to 10 ounces
Life	Over 1,000,000 detent operations at 25°C.
Weight	¼ ounce per module (approx.)
Dial Character Height	0.200″
Standard Finish and Colors	Bezel: Molded matte black; Case and Wheel: Black; Dial: Matte black background with translucent white characters
Rated Electrical Loads	125 milliamps at 28 VAC or 28 VDC. Non-switching load 2 amps.
Contact Resistance	0.100 ohms max. initial, 0.200 ohms max. after life test.
Insulation Resistance	1000 megohms min.
Dielectric Withstanding	500 VRMS

Lighting (optional)

Internal LED Standard Colors	Clear and Red

Environmental

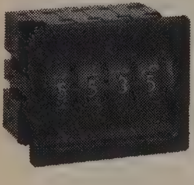
Operating Temperature	–20°C to +65°C (–4°F to +149°F)
Storage Temperature	–40°C to +85°C (–40°F to +185°F)
Moisture Resistance	1 megohms min. insulation resistance after 10-day soak at 90%-95% relative humidity.


A
B
C
.094
(2 40)
.500 (12.70)
TYP.
1
2
3
4
1.193
(30.30)
.902
(22.90)
.100(2.54) DIA.
(4 HOLES)
STATION
1
2
3
4
.060(1.52) R TYP.
1.25
(31.8)
.130(3.30)
.075(1.90)
.961
(24.40)
E
D
RECOMMENDED PANEL
CUTOUT
.902
(22.90)
.980
(24.89)
.100(2.54) DIA.
(4 HOLES)
.060(1.52) R. TYP.

NO. OF MODULES	A	B	C	D	E
1	1.26 (32.0)	1.09 (27.7)	.90 (22.9)	.92 (23.4)	1.09 (27.7)
2	1.76 (44.7)	1.59 (40.4)	1.40 (35.6)	1.42 (36.1)	1.59 (40.4)
3	2.26 (57.4)	2.09 (53.1)	1.90 (48.3)	1.92 (48.8)	2.09 (53.1)
4	2.76 (70.1)	2.59 (65.8)	2.40 (61.0)	2.42 (61.5)	2.59 (65.8)
5	3.26 (82.8)	3.09 (78.5)	2.90 (73.7)	2.92 (74.2)	3.09 (78.5)
6	3.76 (95.5)	3.59 (91.2)	3.40 (86.4)	3.42 (86.9)	3.59 (91.2)
7	4.26 (108.2)	4.09 (103.9)	3.90 (99.1)	3.92 (99.6)	4.09 (103.9)
8	4.76 (120.9)	4.59 (116.6)	4.40 (111.8)	4.42 (112.3)	4.59 (116.6)
9	5.26 (133.6)	5.09 (129.3)	4.90 (124.5)	4.92 (125.0)	5.09 (129.3)
10	5.76 (146.3)	5.59 (142.0)	5.40 (137.2)	5.42 (137.7)	5.59 (142.0)

CURRENT PRICES WILL APPLY ON ALL LINES

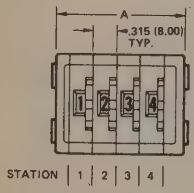
SERIES 44000
MINISWITCH®
WITH OPTIONAL LED LIGHTING

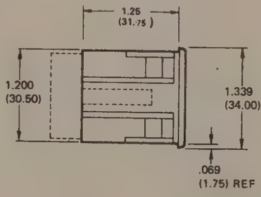


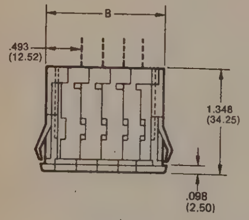
For those who want a front mount switch, the series 44000 fills the need. Interchangeable with most other 8MM (.315″) wide switches, the series 44000 front mount switch features the same simplicity of construction as the series 43000. In addition, it features snap-in panel mounting for low cost, rapid assembly. Like the series 43000 it is available in single pole, as well as coded outputs. Lighting options are available in red or clear and with 5, 14, and 28 volt dropping resistors.

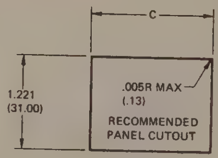
SPECIFICATIONS

Mechanical and Electrical	
Operating Force	4 to 10 ounces
Life	Over 1,000,000 detent operations at 25°C.
Weight	¼ ounce per module (approx.)
Dial Character Height	0.200″
Standard Finish and Colors	Bezel: Molded matte black; Case and Wheel: Black; Dial: Matte black background with translucent white characters
Rated Electrical Loads	125 milliamps at 28 VAC or 28 VDC. Non-switching load 2 amps.
Contact Resistance	0.100 ohms max. initial, 0.200 ohms max. after life test.
Insulation Resistance	1000 megohms min.
Dielectric Withstanding	500 VRMS
Lighting (optional)	
Internal LED Standard Colors	Clear and Red
Environmental	
Operating Temperature	−20°C to +65°C (−4°F to +149°F)
Storage Temperature	−40°C to +85°C (−40°F to +185°F)
Moisture Resistance	1 megohms min. insulation resistance after 10-day soak at 90%-95% relative humidity.



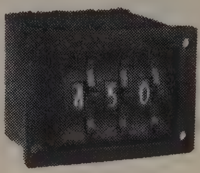






NO. OF MODULES	A	B (REAR DIM.)	C
1	.728 (18.5)	.630 (16.00)	.669 (17.00)
2	1.043 (26.5)	.945 (24.00)	.984 (25.00)
3	1.358 (34.5)	1.260 (32.00)	1.299 (33.00)
4	1.673 (42.5)	1.575 (40.00)	1.614 (41.00)
5	1.988 (50.5)	1.890 (48.00)	1.929 (49.00)
6	2.303 (58.5)	2.205 (56.00)	2.244 (57.00)
7	2.618 (66.5)	2.520 (64.00)	2.559 (65.00)
8	2.933 (74.5)	2.835 (72.00)	2.874 (73.00)
9	3.248 (82.5)	3.150 (80.00)	3.189 (81.00)
10	3.563 (90.5)	3.465 (88.00)	3.504 (89.00)

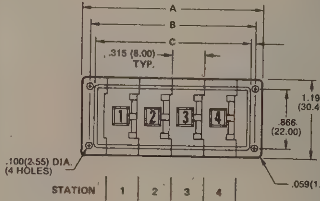
SERIES 45000
MINISWITCH®
WITH OPTIONAL LED LIGHTING

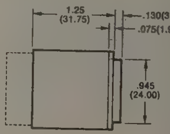


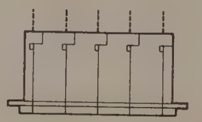
For those who want the clean appearance of a rear-mounted switch, as well as the panel saving 8mm (.315″) wide spacing, the series 45000 fills both needs. It features the same simplistic design and snap-together construction as the 43000 and 44000. It features the same options in code outputs, pin options, and led lighting options to give you almost limitless design parameters. Another great new switch from DIGITRAN.

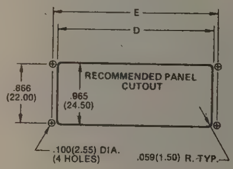
SPECIFICATIONS

Mechanical and Electrical	
Operating Force	4 to 10 ounces
Life	Over 1,000,000 detent operations at 25°C.
Weight	¼ ounce per module (approx.)
Dial Character Height	0.200″
Standard Finish and Colors	Bezel: Molded matte black; Case and Wheel: Black; Dial: Matte black background with translucent white characters
Rated Electrical Loads	125 milliamps at 28 VAC or 28 VDC. Non-switching load 2 amps.
Contact Resistance	0.100 ohms max. initial, 0.200 ohms max. after life test.
Insulation Resistance	1000 megohms min.
Dielectric Withstanding	500 VRMS
Lighting (optional)	
Internal LED Standard Colors	Clear and Red
Environmental	
Operating Temperature	−20°C to +65°C (−4°F to +149°F)
Storage Temperature	−40°C to +85°C (−40°F to +185°F)
Moisture Resistance	1 megohms min. insulation resistance after 10-day soak at 90%-95% relative humidity.







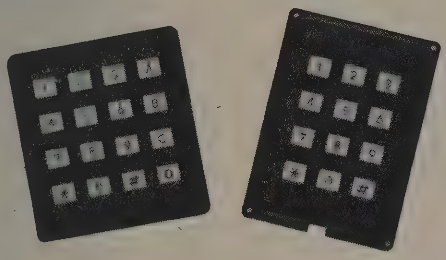


NO. OF MODULES	A	B	C	D	E
1	1.02 (26.0)	.827 (21.0)	.591 (15.0)	.610 (15.5)	.827 (21.0)
2	1.34 (34.0)	1.142 (29.0)	.906 (23.0)	.925 (23.5)	1.142 (29.0)
3	1.65 (42.0)	1.457 (37.0)	1.220 (31.0)	1.240 (31.5)	1.457 (37.0)
4	1.97 (50.0)	1.772 (45.0)	1.535 (39.0)	1.555 (39.5)	1.772 (45.0)
5	2.28 (58.0)	2.087 (53.0)	1.850 (47.0)	1.870 (47.5)	2.087 (53.0)
6	2.60 (66.0)	2.402 (61.0)	2.165 (55.0)	2.185 (55.5)	2.402 (61.0)
7	2.91 (74.0)	2.717 (69.0)	2.480 (63.0)	2.500 (63.5)	2.717 (69.0)
8	3.23 (82.0)	3.031 (77.0)	2.795 (71.0)	2.815 (71.5)	3.031 (77.0)
9	3.54 (90.0)	3.346 (85.0)	3.110 (79.0)	3.130 (79.5)	3.346 (85.0)
10	3.86 (98.0)	3.661 (93.0)	3.425 (87.0)	3.445 (87.5)	3.661 (93.0)

SERIES KL

MINIKEY

LOW PROFILE KEYBOARDS
12 OR 16 KEY MATRIX



LOW PROFILE. . .
MINIKEYS are less than 5/16" high from the top of the key to the rear suface, yet key stroke is almost 1/16".

TACTILE FEEL. . .
Key operation is positive, natural and quiet. . .the ideal "tactile feel" for keyboards of this type.

RELIABILITY. . .
MINIKEYS are made to last over 1,000,000 operations per key, (MTBF) when switching a 50 milliamp resistive load at 28VDC. Precious metal contacts ensure contact closure and reliable performance in "dry circuits" and "logic circuits".

VERSATILITY. . .
MINIKEYS may be used just about anywhere Key operated data entry is required.

● Front or real of panel mounting versions available. ● Frame and key colors may be specified by the user, at extra cost. ● Special key legends may be specified by the user, at additional cost. ● Two basic frame designs provide the user with a maximum of 12 Keys in a 3 x 4 Key matrix or 16 Keys in a 4 x 4 Key matrix. ● Electrical terminations with Pin terminations are standard. Special terminations provided at additional cost. ● Touch Tone* versions available. ● A moisture barrier protects the contacts.

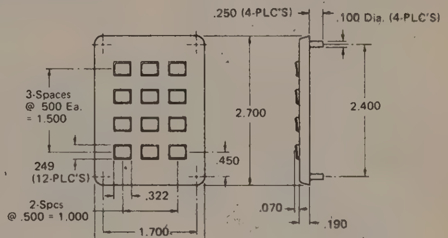
SPECIFICATIONS

Electrical Data	
Contact rating	50 ma @ 28VDC resistive
Contact resistance	500 milliohms max @ .2 ma @ 17VDC
Insulation resistance	250 megohms min.
Dielectric Strength	250 VAC min @ 60Hz
Contact bounce	3 milliseconds, max.
Operating life	1,000,000 operations per Key, MTBF, @ 28VDC, 50 milliamp resistive load
Mechanical Data	
Terminations	Per detailed specifications
Key actuation force	90 ±30 grams
Key travel	.050" nominal
Key overtravel	30% of Key travel, nominal
Materials & Finishes	
Keytops	2-shot molded ABS with white keys and black legends are standard.
Housing	Molded ABS, black with textured finish is standard.
Environmental Data	
Operating temperature	+32°F, (0°C) to +131°F, (+55°F)
Storage temperature	–40°F, (-40°C) to +160°F, (+71°C)
Relative humidity	0 to 95% (Non-condensing)

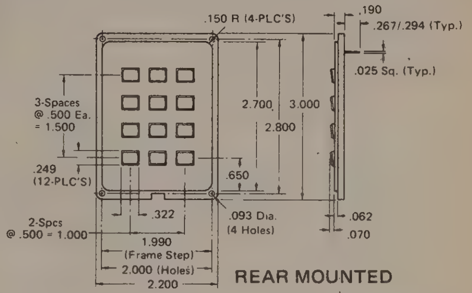
*Touch Tone is a registered Trademark of A T & T.

LINE DRAWINGS

12 KEY MATRIX

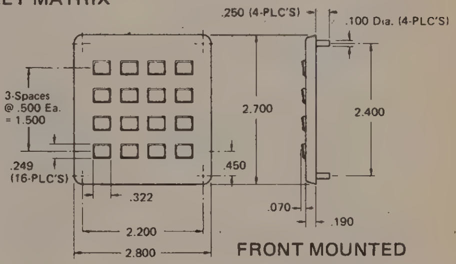

.250 (4-PLC'S)
.100 Dia. (4-PLC'S)
3-Spaces @ .500 Ea. = 1.500
2.700
2.400
.450
.249 (12-PLC'S)
.322
2-Spcs @ .500 = 1.000
.070
.190
1.700
2.000

FRONT MOUNTED

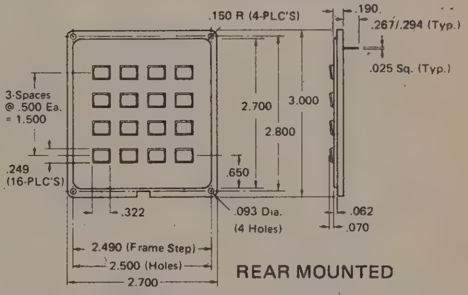

.150 R (4-PLC'S)
.190
.267/.294 (Typ.)
.025 Sq. (Typ.)
3-Spaces @ .500 Ea. = 1.500
2.700
3.000
2.800
.249 (12-PLC'S)
.650
.322
.093 Dia. (4 Holes)
.062
.070
2-Spcs @ .500 = 1.000
1.990 (Frame Step)
2.000 (Holes)
2.200

REAR MOUNTED

16 KEY MATRIX


.250 (4-PLC'S)
.100 Dia. (4-PLC'S)
3-Spaces @ .500 Ea. = 1.500
2.700
2.400
.249 (16-PLC'S)
.450
.322
.070
.190
2.200
2.800

FRONT MOUNTED


.150 R (4-PLC'S)
.190
.267/.294 (Typ.)
.025 Sq. (Typ.)
3-Spaces @ .500 Ea. = 1.500
2.700
3.000
2.800
.249 (16-PLC'S)
.650
.322
.093 Dia. (4 Holes)
.062
.070
2.490 (Frame Step)
2.500 (Holes)
2.700

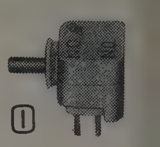
REAR MOUNTED

CONSULT THE FACTORY, OUR LOCAL SALES OFFICE OR DISTRIBUTOR FOR SPECIFIC PRICING AND OUR LIBERAL QUANTITY DISCOUNTS.

THE DIGITRAN® COMPANY

A Division of Becton, Dickinson and Company BD

Grayhill® Pushbutton Switches



SERIES 2000 SNAP ACTION (FIG. A)

Momentary contact design; solder terminals or "Faston" terminal to accommodate ¼" push-on termination (7-21 and 7-22). Extremely fast make-and-break; audible click produced by snap action mechanism. Fine silver fixed and moving contacts. **Total Button Travel:** .065" approx. **Rated:** 10 amps at 115 VAC resistive for 25,000 operations. **Mounting:** 15/32-UNS-2A thread .454" long. Fits 31/64" dia. hole. **Size:** .880" O.D.; 1.176" behind panel; 1.903" overall; No. 7-26, 1.239" behind panel; 1.966" overall.

Grayhill Number	Description	Net Ea., Lots 1-49	50-99
2201	SPST-NO, red button	**$4.00**	**$3.40**
7-7	SPST-NO, black button	**4.00**	**3.40**
2202	SPST-NC, black button	**4.00**	**3.40**
7-8	SPST-NC, red button	**4.00**	**3.40**

SERIES 4000 WIPING CONTACT (FIG. B)

Available in standard contact action or positive feel contact action (10-100, 10-101); detent system is independent of contact system. Silver-plated beryllium copper contact solder terminals; tinned music wire spring. **Total Button Travel:** .140" ±.032" (4001, 10-9, 10-100); .110"+.020"-.010" (4002, 10-10, 10-101). **Rated:** 1 amp at 115 VAC resistive for 100,000 operations. **Mounting:** 15/32-32 UNS-2A thread, .375" long. Fits 31/64" dia. hole. **Size:** .800" O.D.; .965" behind panel; 1.50" overall.

4001	SPST-NO, red button	**$1.50**	**$1.28**
4001UL*	SPST-NO, red button	**1.50**	**1.28**
10-9	SPST-NO, black button	**1.50**	**1.28**
10-9UL*	SPST-NO, black button	**1.58**	**1.28**
10-100	SPST-NO, red button, pos. feel	**2.35**	**2.00**
10-101	SPST-NC, black button, pos. feel	**2.35**	**2.00**

*UL Listed.

SERIES 35 DOUBLE POLE (FIG. C)

Momentary contact switch has fine silver contact solder terminals; tinned music wire spring. **Total Button Travel:** .062" ±.015". **Rated:** ½ amp at 115 VAC resistive for 100,000 operations. **Mounting:** 15/32-32 UNS-2A thread, .375" long. Fits in 31/64" dia. hole. **Size:** .800" O.D.; .743" behind panel; 1.274" overall.

35-1	DPST-NO, red button	**$2.10**	**$1.79**
35-3	DPST-NO, black button	**2.10**	**1.79**

SERIES 23 WIPING CONTACT (FIG. D)

Miniature switches with silver-plated brass contact solder terminals; tinned music wire spring. **Total Button Travel:** .095" ±.010". **Rated:** ¼ amp at 115 VAC resistive for 100,000 operations. **Mounting:** 5/16-32 UNEF-2A thread, .250" long. Fits 21/64" dia. hole. **Size:** .468" O.D.; .663" behind panel; 1.059" overall.

23-1	SPST-NO, red button	**$1.70**	**$1.45**
23-4	SPST-NO, black button	**1.70**	**1.45**

SERIES 30 BUTT CONTACT (FIG. E)

Miniature SPST-NO or -NC momentary contact switches have fine silver shorting bar and contact solder terminals. **Total Travel:** .062" ±.010" (30-1, -3); .065"+.010"-.015" (30-2, -6); .125"+.020" -.010" (30-15, -37). **Rated:** 1 amp at 115 VAC resistive for one-million operations (500,000 operations 30-15, -37). **Mounting:** ¼-32 UNEF-2A thread .250" long. Fits 17/64" dia. hole. **Size:** .592" behind panel, .992" overall (30-1, -3); .605" behind panel, 1.005" overall (30-2, -6); .677" behind panel, 1.077" overall (30-15, -37).

Grayhill Number	Description	Net Ea., Lots 1-49	50-99
30-1	SPST-NO, red button	**$1.15**	**$0.98**
30-1UL*	SPST-NO, red button	**1.15**	**.98**
30-2	SPST-NC, black button	**1.15**	**.98**
30-2UL*	SPST-NC, black button	**1.15**	**.98**
30-3	SPST-NO, black button	**1.15**	**.98**
30-3UL*	SPST-NO, black button	**1.15**	**.98**
30-6	SPST-NC, red button	**1.15**	**.98**
30-6UL*	SPST-NC, red button	**1.15**	**.98**
30-15#	SPST-NO, red button	**1.35**	**1.15**
30-37#	SPST-NO, black button	**1.35**	**1.15**

*UL Listed. #.020" overtravel.

SERIES 39 BUTT CONTACT

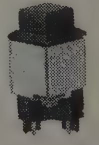
SPST-NO types have molded-in solder terminals in diallyl base; prevents flux contamination. Overtravel .015" min. (39-12) and .080" min. (39-101). Fine silver gold plated shorting bar and contact solder terminals. Limit switch 39-101 has nylon button and laminated phenolic insulator. **Voltage Breakdown:** 500 VAC between mutually insulated parts (39-101, 1000 VAC). **Total Button Travel:** .035" ±.015" (39-1, -3); .042" ±.010" (39-2); .130" ±.025" (39-12); .186" ±.025" (39-101). **Rated:** ½ amp at: one million operations (39-1, -3), 250,000 operations (39-101), 100,000 operations (39-12); rated ¼ amp at 250,000 operations (39-2). **Mounting:** 8-40 UNS-2A thread .125" long, fits 11/64" dia. hole except 39-101, 5/16-32 UNEF-2A thread .500" long, fits 21/64" "D" shaped hole. **Size:** .315" behind panel, .615" overall (39-1, -3); .455" behind panel, .755" overall (39-12); .490" behind panel, .780" overall (39-2); .650" plus .187" long button (39-101).

Grayhill No.	Fig.	Description	Net Ea., Lots 1-49	50-99
39-1	F	SPST-NO, red button	**$1.55**	**$1.32**
39-3	F	SPST-NO, black button	**1.55**	**1.32**
39-2	G	SPST-NC, black button	**2.10**	**1.79**
39-12	F	SPST-NO, black or red button	**1.80**	**1.53**
39-101	H	SPST-NO, white button	**2.95**	**2.51**

SERIES 39-250 PC MOUNT (FIG. I)

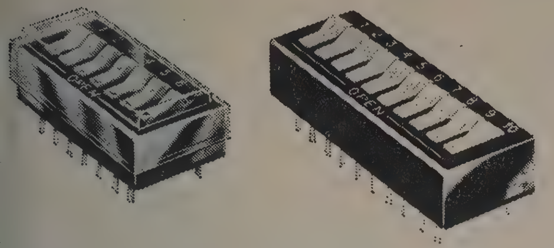
Momentary type, SPDT, butt contact switches rated at ¼ amp at 28 VDC or 115 VAC, resistive. Contact Resistance, 25 milliohms or less, initial. Voltage Rating, 1000 VAC. Life Expectancy, 500,000 operations. Protective cap (reusable) seals switch during flux cleaning operation.

Grayhill Number	Description	Net Ea., Lots 1-49	50-99
39-251 RED	Switch only	**$1.40**	**$1.19**
39-251 BLK	Switch only	**1.40**	**1.19**
39-250 RED	Switch and protective cap	**1.60**	**1.36**
39-250 BLK	Switch and protective cap	**1.60**	**1.36**
SHH1065	Protective cap	**.10**	**.09**



Grayhill Number	Fig.	Button Color	Circuitry	Current at 115 VAC Resistive	Operations at Rated Load	Net Each, Lots of 1-49	50-99
46-101 RED	J	Red	SPDT	¼ Amp	250,000	**$1.75**	**$1.49**
46-101 BLK	J	Black	SPDT	¼ Amp	250,000	**1.75**	**1.49**
46-102 RED (CAP)	K	Red	SPDT	¼ Amp	250,000	**1.85**	**1.57**
46-102 BLK (CAP)	K	Black	SPDT	¼ Amp	250,000	**1.85**	**1.57**
46-200 RED	L	Red	DPDT	¼ Amp	250,000	**3.70**	**3.15**
46-200 BLK	L	Black	DPDT	¼ Amp	250,000	**3.70**	**3.15**
46-05-05-502-0303	M	Red	SPDT	¼ Amp	250,000	**2.80**	**2.38**
46-05-05-502-0707	M	Black	SPDT	¼ Amp	250,000	**2.80**	**2.38**
46-05-08-502-0303	N	Red	DPDT	¼ Amp	250,000	**3.90**	**3.32**
46-05-08-502-0707	N	Black	DPDT	¼ Amp	250,000	**3.90**	**3.32**
46-01-05-500-0303	O	Red	SPDT	¼ Amp	250,000	**2.80**	**2.38**
46-01-05-500-0707	O	Black	SPDT	¼ Amp	250,000	**2.80**	**2.38**
46-01-08-500-0303	P	Red	DPDT	¼ Amp	250,000	**3.90**	**3.32**
46-01-08-500-0707	P	Black	DPDT	¼ Amp	250,000	**3.90**	**3.32**

SERIES 76 ROCKER DIP SWITCHES



'he SPST and SPDT rocker-actuated switches in Series 76 are ntended for application to data processing, communications, nd other back panel and logic equipment where manual pro-gramming may be necessary. The switches are spring loaded and he sliding ball contact system provides a degree of wiping action. **ize:** .380″ w. x .305″ h.—see table for length. Red plastic housing nd clear protective cover.

No. of Rockers	Length, Inches	Grayhill Number	Net Each, Lots of			
			1-9	10-24	25-49	50-99
SINGLE POLE-SINGLE THROW						
2	0.28	**76B02**	**$3.05**	**$2.81**	**$2.56**	**$2.41**
3	0.38	**76B03**	**3.10**	**2.85**	**2.60**	**2.45**
4	0.48	**76B04**	**3.15**	**2.90**	**2.65**	**2.49**
5	0.58	**76B05**	**3.20**	**2.94**	**2.69**	**2.53**
6	0.68	**76B06**	**3.30**	**3.04**	**2.77**	**2.61**
7	0.78	**76B07**	**3.35**	**3.08**	**2.81**	**2.65**
8	0.88	**76B08**	**3.45**	**3.17**	**2.90**	**2.73**
9	0.98	**76B09**	**3.55**	**3.27**	**2.98**	**2.80**
10	1.08	**76B10**	**3.60**	**3.31**	**3.02**	**2.84**
SINGLE POLE-DOUBLE THROW						
2	0.38	**76C02**	**$3.40**	**$3.06**	**$2.86**	**$2.69**
3	0.58	**76C03**	**3.65**	**3.36**	**3.07**	**2.88**
4	0.78	**76C04**	**3.90**	**3.59**	**3.28**	**3.08**

Grayhill No. 76P02 thru 76P10—Protective cover for SPST rocker switches. Last two digits indicate length; please specify. Net Each, Lots of: 1–9........**$0.15**; 10–24........**$0.14**
25–49........................**.13**; 50–99.........**.12**

SERIES 82 PUSHBUTTON MODULES

'hese switches can be used to generate oded outputs for control systems of all inds. By combining these different mod-ules on the appropriate circuit board, rrays of any size or shape can be as-embled easily. Switching capabilities are ractically endless, since any code up to '-wire can be accomplished right in the witches. No extra logic is required. **Size:** -button module, .683″ w x .683″ l; 2-utton module, .683″ w x 1.37″ l; 3-button nodule, .683″ w x 2.057″ l; 6-button mod-le, 1.37″ w x 2.057″ l. All models stand 750″ high above mounting surface. Also vailable with a clear cap to allow inser-ion of a legend.

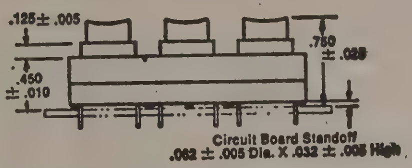
SERIES 82 WITH INSERTABLE LEGENDS

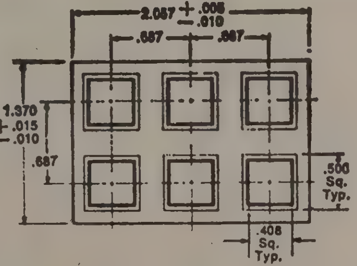
witches are available with clear protec-ive cap slotted on one side to allow inser-ion of a clear plastic tab imprinted with he legend. A legend sheet is available with ll normally required legends for both ertical and horizontal mounting. Only tandard switch circuitry is available. All witches are normally open.

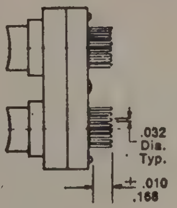
Grayhill No.	No. of But-tons	Cir-cuit	Net Each, Lots of		
			1-49	50-99	100-499
2-101-71	1	SPST	**$1.55**	**$1.32**	**$1.09**
2-101-74	1	4PST	**1.85**	**1.57**	**1.30**
2-201-41	2	SPST	**2.60**	**2.21**	**1.82**
2-201-44	2	4PST	**3.20**	**2.72**	**2.24**
2-301-61	3	SPST	**3.65**	**3.10**	**2.55**
2-301-64	3	4PST	**4.55**	**3.87**	**3.19**
2-601-81	6	SPST	**6.80**	**5.78**	**4.76**
2-601-84	6	4PST	**8.60**	**7.31**	**6.02**

Grayhill No. 82AC2017—Clear legend heet. Net Each, Lots of: 1–9....**$1.00**
0–99......**$0.85**; 100–499....**.70**

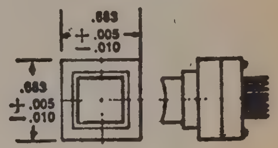
6 BUTTON MODULE



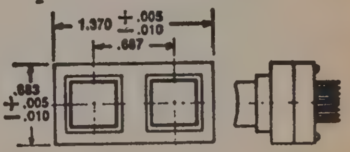




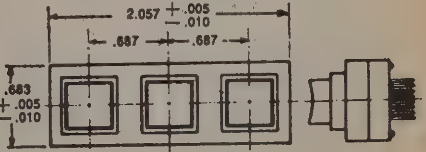
1 BUTTON MODULE



2 BUTTON MODULE



3 BUTTON MODULE



YOU NEED ONLY CALL ONE TELEPHONE

NUMBER FOR YOUR ELECTRONIC NEEDS.

J-B-T® Subminiature Switches

JMT-100

JMT-200 WITH COLOR CAP

SERIES JMT SUBMINIATURE TOGGLE SWITCHES

Combine drastic reduction in size and weight with trouble-free construction. Ideal for manually controlled, low current, solid state devices and miniaturized circuitry. Used in computers, aircraft electronic instruments, geophysical and portable equipment of all kinds. Mount in single hole with ¼″-40NS-2A bushing .352″ lg. with keyway. Solder terminals firmly staked to withstand repeate soldering; electrical continuity of terminal is to opposite throw of lever. Distinctive green phenoli body. Bat handle .400″ lg. **Series JMT-100:** SPDT action. Body .500″ x .260″ x .505″ deep behind pane (including terminals). Wt., 0.19 oz. **Series JMT-200:** DPDT action. Body .500″ x .450″ x .505″ dee behind panel (incl. terminals). Wt., 0.23 oz. **Series JMT-300:** 3PDT action. Body .652″ x .500″ x .571 deep behind panel (including terminals). Wt., 0.28 oz. **Series JMT-400:** 4PDT action. Body .843″ .500″ x .571″ deep behind panel (including terminals). Wt., 0.32 oz.

SPECIFICATIONS

Electrical Characteristics: Rated 5 amps nom. resistive, 125 VAC and 24 VDC. Initial contact resistance, 5 milliohms max., at 3 VDC, 100 mA. Insulation resistance, 10,000 megohms min. Dielectric strength, 1 kV rms at sea level. Life, 100,000 make-and-break, min. for suffix -23 models; all others 60,000, under load. **Physical Characteristics:** Coin silver switching contacts and rockers. Bright chrome-plated brass bat handle. Phenolic case and cradle. Bushing, locking ring (1 supplied) and hex nuts (2 supplied) are nickel-plated brass. Clamp and internal-tooth lockwasher chromate treated o stainless steel. **Circuitry:** As indicated in table, below. However, they may also be used as ST (single throw) by wiring only to applicable terminals. Example: JMT-123 connects as an On-Of switch by using center terminals and terminals on one end only.

	SPDT Series JMT-100					**DPDT Series JMT-200**				
	J-B-T No.	**Net Each, Lots of**				**J-B-T No.**	**Net Each, Lots of**			
Positions		**1**	**2-9**	**10-29**	**30-99**		**1**	**2-9**	**10-29**	**30-99**
On-Off-On	JMT-121	$2.70	$2.18	$1.60	$1.46	JMT-221	$3.35	$2.86	$2.09	$1.90
On-None-On	JMT-123	2.35	1.85	1.36	1.23	JMT-223	2.90	2.41	1.77	1.60
On-None-On†	JMT-126	2.70	2.18	1.60	1.46	JMT-226	3.35	2.86	2.09	1.90
On†-Off-On†	JMT-127	2.85	2.35	1.72	1.57	JMT-227	3.50	3.02	2.22	2.02
On-Off-On†	JMT-131	2.85	2.35	1.72	1.57	JMT-231	3.50	3.02	2.22	2.02
None-On-On†	JMT-134	2.70	2.18	1.60	1.46	JMT-234	3.35	2.86	2.09	1.90
On-On-On	…	…	…	…	…	JMT-232	3.70	3.19	2.34	2.13
On-On-On†	…	…	…	…	…	JMT-233	4.05	3.53	2.59	2.35
On†-On-On†	…	…	…	…	…	JMT-235	3.95	3.47	2.53	2.30
	3PDT Series JMT-300					**4PDT Series JMT-400**				
On-Off-On	JMT-321	$5.25	$4.76	$3.49	$3.18	JMT-421	$6.60	$6.10	$4.48	$4.08
On-None-On	JMT-323	4.80	4.31	3.16	2.88	JMT-423	5.95	5.43	3.99	3.63
On†-Off-On†	JMT-327	5.45	4.93	3.62	3.28	JMT-427	6.75	6.27	4.59	4.19
On-Off-On†	JMT-331	5.45	4.93	3.62	3.28	JMT-431	6.75	6.27	4.59	4.19
None-On-On†	JMT-334	5.55	5.04	3.70	3.36	JMT-434	7.10	6.61	4.84	4.40
On-On-On	…	…	…	…	…	JMT-432	7.20	6.72	4.93	4.48
On-On-On†	…	…	…	…	…	JMT-433	7.50	7.00	5.12	4.65
On†-On-On†	…	…	…	…	…	JMT-435	7.65	7.17	5.26	4.79

*See color cap ordering information table. †Momentary position.

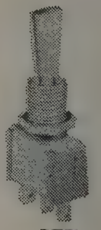
*COLOR CAPS

To order, add suffix (as indicated below) to switch number desired (e.g., JMT-123-**W-CAP-10A**). Add **2c** each to prices shown; **$10.00** per 1000 in bulk.

Color	**Suffix W-CAP-**	**Color**	**Suffix W-CAP-**
White	10A	Orange	10F
Blue	10B	Yellow	10G
Red	10C	Green	10H
Black	10D	Violet	10I
Brown	10E	Gray	10J

VARIATIONS OF SERIES JMT SUBMINIATURE TOGGLE SWITCHES*

Series LFH—with Flat Handle: Identical to JMT series above, except for flat handle (paddle) lever, permanently pinned for proper alignment in operating plane. Handle is satin chrome finish with matching dress nut construction and ratings same as JMT series. Available in all circuit configurations of JMT series, including 3PDT and 4PDT, and with MPC type printed circuit terminals.



LFH

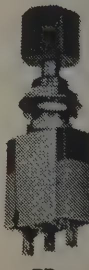
	SPDT Series LFH-100 Flat Handle					**DPDT Series LFH-200 Flat Handle**				
	J-B-T No.	**Net Each, Lots of**				**J-B-T No.**	**Net Each, Lots of**			
Positions		**1**	**2-9**	**10-29**	**30-99**		**1**	**2-9**	**10-29**	**30-99**
On-Off-On	LFH-121	$3.65	$3.14	$2.52	$2.20	LFH-221	$4.35	$3.85	$3.03	$2.66
On-None-On	LFH-123	3.30	2.81	2.27	1.97	LFH-223	3.85	3.36	2.70	2.34
On-None-On†	LFH-126	3.65	3.14	2.52	2.20	LFH-226	4.35	3.85	3.03	2.66
On†-Off-On†	LFH-127	3.80	3.30	2.64	2.31	LFH-227	4.50	4.02	3.16	2.77
On-Off-On†	LFH-131	3.80	3.30	2.64	2.31	LFH-231	4.50	4.02	3.16	2.77
None-On-On†	LFH-134	3.65	3.14	2.52	2.20	LFH-234	4.35	3.85	3.03	2.66
On-On-On	…	…	…	…	…	LFH-232	4.70	4.18	3.28	2.89
On-On-On†	…	…	…	…	…	LFH-233	4.95	4.46	3.53	3.12
On†-On-On†	…	…	…	…	…	LFH-235	4.95	4.46	3.53	3.12
	3PDT SERIES LFH-300					**4PDT SERIES LFH-400**				
On-Off-On	LFH-321	$6.35	$5.83	$4.47	$3.97	LFH-421	$7.70	$7.21	$5.49	$4.90
On-None-On	LFH-323	5.85	5.34	4.15	3.66	LFH-423	6.90	5.39	4.98	4.43
On†-Off-On†	LFH-327	6.50	6.00	4.59	4.08	LFH-427	7.85	7.37	5.60	5.02
On-Off-On†	LFH-331	6.50	6.00	4.59	4.08	LFH-431	7.85	7.37	5.60	5.02
None-On-On†	LFH-334	6.60	6.11	4.68	4.16	LFH-434	8.20	7.70	5.85	5.24
On-On-On	…	…	…	…	…	LFH-432	8.30	7.81	5.95	5.31
On-On-On†	…	…	…	…	…	LFH-433	8.65	8.14	6.15	5.49
On†-On-On†	…	…	…	…	…	LFH-435	8.80	8.31	6.29	5.63

Series LL—Locking-Lever Switches: Identical to JMT series above, except for locking lever. To prevent accidental or unintentional switching, the spring-loaded locking mechanism must be released by pulling out the top of the lever against spring tension. Available with anodized natural aluminum cap and in anodized red, blue, gold, black and green.

LL

	SPDT Series LL-100					**DPDT Series LL-200**				
	J-B-T No.	**Net Each, Lots of**				**J-B-T No.**	**Net Each, Lots of**			
Positions		**1**	**2-9**	**10-29**	**30-99**		**1**	**2-9**	**10-29**	**30-99**
On-Off-On	LL-121	$4.62	$4.10	$3.64	$2.86	LL-221	$5.36	$4.83	$4.31	$3.35
On-None-On	LL-123	3.99	3.47	3.09	2.34	LL-223	4.62	4.10	3.70	2.86
On-On-On	…	…	…	…	…	LL-232	5.36	4.83	4.31	3.35
	3PDT Series LL-300					**4PDT Series LL-400**				
On-Off-On	LL-321	$7.09	$6.56	$5.85	$4.56	LL-421	$8.51	$7.98	$7.17	$5.55
On-None-On	LL-323	6.35	5.83	5.24	4.04	LL-423	7.88	7.35	6.56	5.09
On-On-On	…	…	…	…	…	LL-432	8.51	7.98	7.17	5.55

Series PB—Pushbutton Switches: SPDT pushbutton-actuated subminiature switches with 100,000 cycles average life under load—5 amps at 125 VAC. Coin silver contacts and rocker; silver plated center terminal. Bushing and plunger are nickel-plated brass. High-strength plastic body with ⅜″ diam. threaded molded knob. Standard black, available red or white. Also available anodized aluminum in natural, red, blue, gold, black or green. Mount in ¼″ D-hole. **Series PBI** same as PB, except smaller shaft and .200″ diam. push-on knob. Standard black, available red or white.



PB

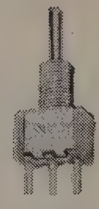
	100 Maintained Action					**100 Momentary Action**				
SPDT	PB-123	$2.93	$2.36	$1.77	$1.58	PB-126	$2.93	$2.36	$1.77	$1.58
SPDT	PBI-123	2.93	2.36	1.77	1.58	PBI-126	2.93	2.36	1.77	1.58

†Momentary position (spring return).

LISTING CONTINUED ON FOLLOWING PAGE

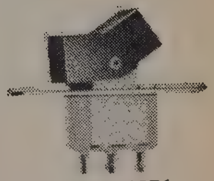
J-B-T® Subminiature Switches

VARIATIONS OF SERIES JMT TOGGLE SWITCHES (CONT'D)


Series MPC

eries MPC—with PC Terminals: Identical to series JMT above, except has PC terminals for direct
sertion into printed-circuit boards. Standard bat handle, bright chrome-plated brass.

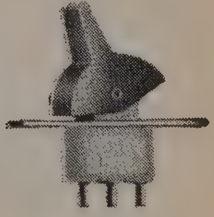
	SPDT Series MPC-100					DPDT Series MPC-200				
	J-B-T	Net Each, Lots of				J-B-T	Net Each, Lots of			
Positions	No.	1	2-9	10-29	30-99	No.	1	2-9	10-29	30-99
On-Off-On	MPC-121	$2.95	$2.46	$1.80	$1.62	MPC-221	$3.60	$3.11	$2.32	$2.09
On-None-On	MPC-123	2.55	2.07	1.55	1.39	MPC-223	3.15	2.64	1.97	1.78
On-None-On†	MPC-126	2.95	2.46	1.80	1.62	MPC-226	3.60	3.11	2.32	2.09
On†-Off-On†	MPC-127	3.15	2.63	1.93	1.74	MPC-227	3.80	3.29	2.44	2.21
On-Off-On†	MPC-131	3.15	2.63	1.93	1.74	MPC-231	3.80	3.29	2.44	2.21
None-On-On†	MPC-134	2.95	2.46	1.80	1.62	MPC-234	3.60	3.11	2.32	2.09
On-On-On						MPC-232	3.95	3.47	2.58	2.33
On-On-On†						MPC-233	4.30	3.82	2.83	2.56
On†-On-On†						MPC-235	4.25	3.76	2.78	2.51
	3PDT Series MPC-300					4PDT Series MPC-400				
On-Off-On	MPC-321	$5.65	$5.17	$3.84	$3.48	MPC-421	$6.00	$5.52	$4.94	$4.46
On-None-On	MPC-323	5.20	4.70	3.49	3.16	MPC-423	5.45	5.94	4.42	3.99
On†-Off-On†	MPC-327	5.85	5.35	3.98	3.58	MPC-427	7.30	6.82	5.06	4.57
On-Off-On†	MPC-331	5.85	5.35	3.98	3.58	MPC-431	7.30	6.82	5.06	4.57
None-On-On†	MPC-334	5.95	5.47	4.05	3.67	MPC-434	7.70	7.18	5.32	4.79
On-On-On						MPC-432	7.80	7.29	5.41	4.88
On-On-On†						MPC-433	8.10	7.58	5.61	5.06
On†-On-On†						MPC-435	8.25	7.76	5.77	5.20


Series MR1

eries MR1—Rocker Switches: Same nominal rating as JMT Series, and dimensionally same below
ounting bracket. Built-in extra strength in support column prevents wobbling and provides always-
erfect alignment. Green body molded of glass-filled diallyl phthalate. Mounted by standoffs. Rockers
re black molded nylon; red and white rockers also available. These switches also available with printed
rcuit, fast-on, and Wire-Wrap™ terminals. Available also in 3PDT and 4PDT configurations.

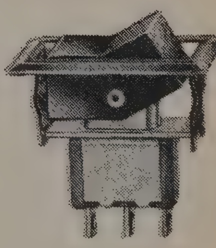
eries MP1—Paddle Lever Switches: Identical to subminiature Series MR1 rocker switches, but
addle lever type.

	SPDT Series MR1 and Series MP1‡					DPDT Series MR1 and Series MP1‡				
On-Off-On	MR1-121	$3.05	$2.52	$1.96	$1.82	MR1-221	$3.73	$3.20	$2.45	$2.26
On-None-On	MR1-123	2.73	2.21	1.72	1.60	MR1-223	3.31	2.78	2.13	1.96
On-None-On†	MR1-126	3.05	2.52	1.96	1.82	MR1-226	3.73	3.20	2.45	2.26
On†-Off-On†	MR1-127	3.26	2.73	2.08	1.93	MR1-227	3.89	3.36	2.57	2.37
On-Off-On†	MR1-131	3.26	2.73	2.08	1.93	MR1-231	3.89	3.36	2.57	2.37
On-On-On						MR1-232	4.10	3.57	2.69	2.48
On-On-On†						MR1-233	4.41	3.89	2.93	2.70
On†-On-On†						MR1-235	4.36	3.83	2.88	2.65
	3PDT Series MR1 and Series MP1					4PDT Series MR1 and Series MP1				
On-Off-On	MR1-321	$5.57	$5.04	$3.82	$3.52	MR1-421	$6.93	$6.41	$4.80	$4.40
On-None-On	MR1-323	5.15	4.62	3.50	3.22	MR1-423	6.25	5.72	4.32	3.96
On†-Off-On†	MR1-327	5.78	5.25	3.95	3.61	MR1-427	7.09	6.56	4.90	4.50
On-Off-On†	MR1-331	5.78	5.25	3.95	3.61	MR1-431	7.09	6.56	4.90	4.50
On-On-On						MR1-432	7.56	7.04	5.24	4.80
On-On-On†						MR1-433	7.82	7.30	5.43	4.97
On†-On-On†						MR1-435	7.98	7.46	5.57	5.10


Series MP1

eries MR2—Rocker Switches: Identical to series MR1, except they are panel mounted with a snap-
bezel. The 1- and 2-pole types can be mounted in the bezel and inserted from the front of the panel;
e 3- and4-pole types are inserted in the bezel from behind the panel.
eries MP2—Paddle Lever Switches: Identical to series MR2, except paddle lever type.

	SPDT Series MR2 and Series MP2‡					DPDT Series MR2 and Series MP2‡				
	J-B-T	Net Each, Lots of				J-B-T	Net Each, Lots of			
Positions	No.	1	2-9	10-29	30-99	No.	1	2-9	10-29	30-99
On-Off-On	MR2-121	$3.36	$2.84	$2.29	$2.10	MR2-221	$3.99	$3.47	$2.72	$2.54
On-None-On	MR2-123	2.99	2.47	2.00	1.76	MR2-223	3.57	3.05	2.40	2.24
On-None-On†	MR2-126	3.36	2.84	2.29	2.10	MR2-226	3.99	3.47	2.72	2.54
On†-Off-On†	MR2-127	3.52	2.99	2.36	2.21	MR2-227	4.20	3.68	2.85	2.65
On-Off-On†	MR2-131	3.52	2.99	2.36	2.21	MR2-231	4.20	3.68	2.85	2.65
On-On-On						MR2-232	4.46	3.94	2.96	2.76
On-On-On†						MR2-233	4.67	4.15	3.21	2.98
On†-On-On†						MR2-235	4.62	4.10	3.15	2.92
	3PDT Series MR2 and Series MP2					4PDT Series MR2 and Series MP2				
On-Off-On	MR2-321	$5.83	$5.30	$4.11	$3.79	MR2-421	$7.19	$6.67	$5.07	$4.67
On-None-On	MR2-323	5.46	4.94	3.77	3.50	MR2-423	6.51	5.99	4.59	4.23
On†-Off-On†	MR2-327	6.04	5.51	4.22	3.90	MR2-427	7.35	6.83	5.19	4.79
On-Off-On†	MR2-331	6.04	5.51	4.22	3.90	MR2-431	7.35	6.83	5.19	4.79
On-On-On						MR2-432	7.82	7.30	5.51	5.07
On-On-On†						MR2-433	8.09	7.56	5.70	5.24
On†-On-On†						MR2-435	8.24	7.72	5.85	5.38


Series MR2

eries MR3—Rocker Switches: Identical to series MR1 and MR2, except they have a larger rocker
d mounting plate, requiring larger panel cutout. Rockers of different colors may be interchanged
om front of panel without disturbing mounting of switch.

	SPDT Series MR3-100					DPDT Series MR3-200				
	J-B-T	Net Each, Lots of				J-B-T	Net Each, Lots of			
Positions	No.	1	2-9	10-29	30-99	No.	1	2-9	10-29	30-99
On-Off-On	MR3-121	$3.58	$3.03	$2.46	$2.26	MR3-221	$4.24	$3.69	$2.92	$2.72
On-None-On	MR3-123	3.19	2.64	2.15	1.90	MR3-223	3.80	3.25	2.57	2.40
On-None-On†	MR3-126	3.58	3.03	2.46	2.26	MR3-226	4.24	3.69	2.92	2.72
On†-Off-On†	MR3-127	3.74	3.19	2.53	2.37	MR3-227	4.46	3.91	3.04	2.83
On-Off-On†	MR3-131	3.74	3.19	2.53	2.37	MR3-231	4.46	3.91	3.04	2.83
On-On-On						MR3-232	4.73	4.18	3.17	2.95
On-On-On†						MR3-233	4.95	4.40	3.42	3.18
On†-On-On†						MR3-235	4.90	4.35	3.37	3.12
	3PDT Series MR3-300					4PDT Series MR3-400				
On-Off-On	MR3-321	$6.16	$4.51	$4.36	$4.03	MR3-421	$7.59	$7.04	$5.37	$4.95
On-None-On	MR3-323	5.78	5.23	4.00	3.72	MR3-423	6.93	6.38	4.86	4.49
On†-Off-On†	MR3-327	6.38	5.83	4.48	4.14	MR3-427	7.76	7.21	5.49	5.07
On-Off-On†	MR3-331	6.38	5.83	4.48	4.14	MR3-431	7.76	7.21	5.49	5.07
On-On-On						MR3-432	8.25	7.70	5.83	5.37
On-On-On†						MR3-433	8.53	7.98	6.03	5.54
On†-On-On†						MR3-435	8.69	8.14	6.24	5.70

Series MP2

Momentary position (spring return). ‡Listed are J-B-T Nos. for rocker switch models. To order
ddle lever models, change second character in J-B-T No. to **P**. Example: MP1-121; same price.

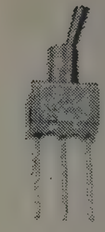
LISTING CONTINUED ON FOLLOWING PAGE

J-B-T® Subminiature Switches

VARIATIONS OF SERIES JMT TOGGLE SWITCHES (CONT'D)

Series TO1—Bat Handle: Identical to JMT series above, except contacts rated at 0.5 watts at 28 VDC/AC max. Terminals are for wire wrapping.

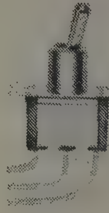
Positions	SPDT Series TO1-100 J-B-T No.	Net Each, Lots of 1	2-9	10-29	30-99	DPDT Series TO1-200 J-B-T No.	Net Each, Lots of 1	2-9	10-29	30-99
On-Off-On	TO1-121	$3.02	$2.46	$1.80	$1.65	TO1-221	$3.81	$3.25	$2.43	$2.24
On-None-On	TO1-123	2.69	2.13	1.55	1.41	TO1-223	3.86	2.80	2.09	1.92
On-None-On†	TO1-126	3.02	2.46	1.80	1.65	TO1-226	3.81	3.25	2.43	2.24
On†-Off-On†	TO1-127	3.19	2.63	1.93	1.77	TO1-227	4.03	3.47	2.56	2.35
On-Off-On†	TO1-131	3.19	2.63	1.93	1.77	TO1-231	4.03	3.47	2.56	2.35
None-On-On†	TO1-134	3.02	2.46	1.80	1.65	TO1-234	3.81	3.25	2.43	2.24
On-On-On						TO1-232	4.20	3.65	2.69	2.48
On-On-On†						TO1-233	4.54	3.98	2.96	2.71
On†-On-On†						TO1-235	4.48	3.92	2.89	2.64
	3PDT Series TO1-300					4PDT Series TO1-400				
On-Off-On	TO1-321	$5.23	$4.73	$3.41	$3.15	TO1-421	$6.54	$6.04	$4.53	$4.11
On-None-On	TO1-323	4.81	4.31	3.15	2.90	TO1-423	5.86	5.36	3.82	3.53
On†-Off-On†	TO1-327	5.38	4.88	3.52	3.26	TO1-427	6.64	6.14	4.34	4.00
On-Off-On†	TO1-331	5.38	4.88	3.52	3.26	TO1-431	6.64	6.14	4.34	4.00
None-On-On†	TO1-334	5.49	4.99	3.57	3.31	TO1-434	6.91	6.41	4.50	4.16
On-On-On						TO1-432	7.01	6.51	4.58	4.22
On-On-On†						TO1-433	7.27	6.77	4.75	4.38
On†-On-On†						TO1-435	7.43	6.93	4.85	4.47


TO1

TO

Series TO2—Bat Handle: For right angle mounting in printed-circuit boards, has unthreaded bushing, rated at 0.5 watts at 28 VDC/AC max.

Positions	SPDT Series TO2-100 J-B-T No.	Net Each, Lots of 1	2-9	10-29	30-99	DPDT Series TO2-200 J-B-T No.	Net Each, Lots of 1	2-9	10-29	30-99
On-Off-On	TO2-121	$3.19	$2.63	$1.97	$1.83	TO2-221	$3.92	$3.36	$2.50	$2.30
On-None-On	TO2-123	2.86	2.30	1.71	1.59	TO2-223	3.42	2.86	2.15	1.97
On-None-On†	TO2-126	3.19	2.63	1.97	1.83	TO2-226	3.92	3.36	2.50	2.30
On†-Off-On†	TO2-127	3.36	2.80	2.11	1.94	TO2-227	4.09	3.53	2.62	2.41
On-Off-On†	TO2-131	3.36	2.80	2.11	1.94	TO2-231	4.09	3.53	2.62	2.41
None-On-On†	TO2-134	3.19	2.63	1.97	1.83	TO2-234	3.92	3.36	2.50	2.30
On-On-On						TO2-232	4.26	3.70	2.76	2.53
On-On-On†						TO2-233	4.59	4.03	3.01	2.77
On†-On-On†						TO2-235	4.54	3.98	2.96	2.71


TO8

Series TO8—Bat Handle: Similar to series TO2, except designed for vertical mounting. Has an unthreaded bushing and is rated at 0.5 watts at 28 VDC/AC max.

Positions	SPDT Series TO8-100 J-B-T No.	Net Each, Lots of 1	2-9	10-29	30-99	DPDT Series TO8-200 J-B-T No.	Net Each, Lots of 1	2-9	10-29	30-99
On-Off-On	TO8-121	$3.14	$2.59	$1.94	$1.79	TO8-221	$3.80	$3.25	$2.45	$2.26
On-None-On	TO8-123	2.75	2.20	1.68	1.56	TO8-223	3.36	2.81	2.11	1.94
On-None-On†	TO8-126	3.14	2.59	1.94	1.79	TO8-226	3.80	3.25	2.45	2.26
On†-Off-On†	TO8-127	3.30	2.75	2.07	1.90	TO8-227	3.96	3.41	2.57	2.37
On-Off-On†	TO8-131	3.30	2.75	2.07	1.90	TO8-231	3.96	3.41	2.57	2.37
None-On-On†	TO8-134	3.14	2.59	1.94	1.79	TO8-234	3.80	3.25	2.45	2.26
On-On-On						TO8-232	4.18	3.63	2.71	2.49
On-On-On†						TO8-233	4.51	3.96	2.96	2.72
On†-On-On†						TO8-235	4.46	3.91	2.90	2.66

Group I

GROUP I—SP and DP heavy duty toggle switches rated 20A @ 125 VAC, 10A @ 250 VAC.

Positions	Screw Terminals J-B-T No.	Net Each, Lots of 2-24 *	25-49	50-99	100-249	Solder Terminals J-B-T No.	Net Each, Lots of 2-24 *	25-49	50-99	100-249	Push-on (Spade) Terminals J-B-T No.	Net Each, Lots of 2-24 *	25-49	50-99	100 249
						SPST—2 Terminals									
On-None-Off	4222S	$1.52	$1.38	$1.20	$1.00	4222L	$1.37	$1.20	$1.05	$0.87	4222P	$1.37	$1.20	$1.05	$0.8
On-Off-None	4224S	1.52	1.38	1.20	1.00	4224L	1.37	1.20	1.05	.87	4224P	1.37	1.20	1.05	.8
On-Off†-None	4225S	1.89	1.66	1.44	1.20	4225L	1.58	1.34	1.18	.98	4225P	1.58	1.34	1.18	.9
None-Off-On†	4228S	1.89	1.66	1.44	1.20	4228L	1.58	1.38	1.18	.98	4228P	1.58	1.38	1.18	.9
On-None-Off†	4229S	1.89	1.66	1.44	1.20	4229L	1.58	1.38	1.18	.98	4229P	1.58	1.38	1.18	.9
Off-None-On†	4230S	1.89	1.66	1.44	1.20	4230L	1.47	1.19	1.11	.93	4230P	1.47	1.29	1.11	.9
						SPDT—3 Terminals									
On-Off-On	4221S	$1.89	$1.66	$1.44	$1.20	4221L	$1.58	$1.34	$1.18	$0.98	4221P	$1.58	$1.34	$1.18	$0.9
On-None-On	4223S	1.89	1.66	1.44	1.20	4223L	1.58	1.34	1.18	.98	4223P	1.58	1.34	1.18	.9
On-None-On†	4226S	2.21	1.91	1.63	1.34	4226L	1.73	1.51	1.31	1.10	4226P	1.73	1.51	1.31	1.1
On†-Off-On†	4227S	2.21	1.91	1.63	1.34	4227L	1.73	1.51	1.31	1.10	4227P	1.73	1.51	1.31	1.1
On-Off-On†	4231S	2.21	1.91	1.63	1.34	4231L	1.73	1.51	1.31	1.10	4231P	1.73	1.51	1.31	1.1
						DPST—4 Terminals									
On-None-Off	5222S	$2.36	$1.75	$1.49	$1.18	5222L	$2.10	$1.59	$1.32	$1.05	5222P	$2.10	$1.59	$1.32	$1.0
On-Off-None	5224S	2.36	1.75	1.49	1.18	5224L	2.10	1.59	1.32	1.05	5224P	2.10	1.59	1.32	1.0
On-Off†-None	5225S	3.36	2.48	2.08	1.65	5225L	2.84	2.15	1.81	1.43	5225P	2.84	2.15	1.81	1.4
None-Off-On†	5228S	2.78	2.07	1.72	1.35	5228L	2.36	1.79	1.48	1.28	5228P	2.36	1.79	1.48	1.2
On-None-Off†	5229S	2.89	2.15	1.79	1.42	5229L	2.47	1.86	1.55	1.22	5229P	2.47	1.86	1.55	1.2
Off-None-On†	5230S	2.89	2.15	1.79	1.42	5230L	2.47	1.86	1.55	1.22	5230P	2.47	1.86	1.55	1.2
						DPDT—6 Terminals									
On-Off-On	5221S	$2.78	$2.07	$1.72	$1.35	5221L	$2.36	$1.79	$1.48	$1.28	5221P	$2.36	$1.79	$1.48	$1.2
On-None-On	5223S	2.78	2.07	1.72	1.35	5223L	2.36	1.79	1.48	1.28	5223P	2.36	1.79	1.48	1.2
On-None-On†	5226S	3.15	2.36	1.97	1.55	5226L	2.73	2.05	1.71	1.35	5226P	2.73	2.05	1.71	1.3
On†-Off-On†	5227S	3.26	2.48	2.08	1.65	5227L	2.84	2.15	1.81	1.43	5227P	2.84	2.15	1.81	1.4
On-Off-On†	5231S	3.15	2.36	1.97	1.55	5231L	2.73	2.05	1.71	1.35	5231P	2.73	2.05	1.71	1.3
On-On-On	5232S*	3.26	2.48	2.08	1.65	5232L*	2.89	2.06	1.71	1.43	5232P	2.89	2.06	1.71	1.4
On-On-On†	5233S*	3.52	2.63	2.22	1.88	5233L*	3.15	2.28	1.91	1.53	5233P	3.15	2.28	1.91	1.5
On†-On-On†	5235S*	3.57	2.67	2.26	1.90	5235L*	3.20	2.31	1.93	1.55	5235P	3.20	2.31	1.93	1.5

†Momentary. *On orders for single switches, add **50c**. *Not presently U.L. listed.

SPACE DOES NOT PERMIT LISTING OF ALL RELATED COMPONENTS.
WRITE FOR INFORMATION ON UNLISTED ITEMS.

J-B-T® MIL and JAN Toggle Switches

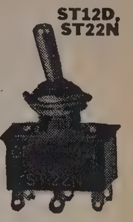
HEAVY DUTY TOGGLE SWITCHES SINGLE, DOUBLE AND 4-POLE

or use in DC circuits; or, AC circuits in frequencies up to 1600 Iz. Rugged, positive action. Built for extra long life to meet overnment, industrial and commercial requirements for high eliability. Metal top eliminates spring holes; encloses switch ehind panel. **Features:** Aircraft lubricant for operation in tempertures −85° F to +185° F. Withstand high humidity. Meets 00-hour salt-spray test QQ-M-151a. No momentary make or reak or mechanical damage under stringent shake tests and 75 G rop test. Tested to make and break at 50% overload for brief eriods due to size, solid coin silver contacts and rocker arms. ontact resistance, under 0.005 ohm. Dielectric exceeds 1,000 V ns, 60 Hz at sea level. Screw terminals and solder lugs withstand 0 lb. pull test. **Series MS35058, MS35059:** With lever seal for and, dust and 15 ft. water submersion tests. Screw terminals; olderable finish. Meets MIL-S-3950A specifications. **Series ST40, 2, 50, 52:** Heavy-duty type; solder and screw terminals. Meet AN-S-23 specifications. **Series MS25068:** Extra heavy duty erminals, 4-pole construction for single hole mounting. Silicone ubber bushing seals. Surpass rigorous electrical endurance requirements. Molded, hi-arc resistant bodies. MIL-S-3950A for odels with suffix -21 or higher.

ominal Ratings: 20 amps at 125 VAC; 10 amps at 250 VAC. **witch Movement:** Opposite to that of the lever. **Finish:** Dull nish nickel-plating to government specifications. **Hardware:** Two ex nuts, one internal-tooth lockwasher and locking ring (not upplied in bulk shipments).

MS25068 -27

ST40A


ST12D, ST22N

4PST EIGHT TERMINALS

IIL-S-3950A Circuit	Screw Terminal No.	Net Each, Lots of 1	2-24	25-49	50-99	100-249
On-Off-X	MS25068-24	$8.81	$7.53	$6.80	$5.75	$4.53
On-Off*-X	MS25068-25	12.19	10.64	9.57	8.07	6.37
X-Off-On*	MS25068-28	9.38	8.05	7.26	6.12	4.83

4PDT TWELVE TERMINALS

IIL-S-3950A Circuit	Screw Terminal No.	Net Each, Lots of 1	2-24	25-49	50-99	100-249
On-Off-On	MS25068-21	$10.13	$8.74	$7.82	$6.61	$5.22
On-X-On	MS25068-23	10.13	8.74	7.82	6.61	5.22
On-X-On*	MS25068-26	12.69	11.10	9.97	8.42	6.65
On*-Off-On*	MS25068-27	12.69	11.10	9.97	8.42	6.65
On-Off-On*	MS25068-31	12.69	11.10	9.97	8.42	6.65

SPST TWO TERMINALS

MIL-S-3950C Circuit	Screw Term. No.	1	2-24	25-49	50-99	100-249
On-X-Off	MS35058-22	$3.85	$2.98	$2.54	$2.18	$1.69
On-Off-X	MS35058-24	3.85	2.98	2.54	2.18	1.69
On-Off*-X	MS35058-25	5.10	4.10	3.50	3.00	2.33
X-Off-On*	MS35058-28	3.90	2.98	2.86	2.46	1.90
On-X-Off*	MS35058-29	4.14	3.23	2.75	2.36	1.84
Off-X-On*	MS35058-30	4.14	3.23	2.75	2.36	1.84

SPDT THREE TERMINALS

MIL-S-3950C Circuit	Screw Term. No.	1	2-24	25-49	50-99	100-249
On-Off-On	MS35058-21	$4.30	$3.42	$2.90	$2.50	$1.94
On-X-On	MS35058-23	4.30	3.42	2.90	2.50	1.94
On-X-On*	MS35058-26	5.00	3.98	3.38	2.90	2.26
On*-Off-On*	MS35058-27	4.92	3.98	3.38	2.90	2.26
On-Off-On*	MS35058-31	4.80	3.85	3.28	2.82	2.18

DPST FOUR TERMINALS

MIL-S-3950C Circuit	Screw Term. No.	1	2-24	25-49	50-99	100-249
On-X-Off	MS35059-22	$4.80	$3.93	$3.61	$3.00	$2.40
On-Off-X	MS35059-24	4.92	3.98	3.67	3.05	2.42
On-Off*-X	MS35059-25	6.36	5.80	5.33	4.06	3.24
X-Off-On*	MS35059-28	5.76	5.11	4.69	3.58	2.86
On-X-Off*	MS35059-29	6.12	5.52	5.08	3.86	3.10
Off-X-On*	MS35059-30	5.76	5.11	4.69	3.58	2.86

DPDT SIX TERMINALS

MIL-S-3950C Circuit	Screw Term. No.	1	2-24	25-49	50-99	100-249
On-Off-On	MS35059-21	$5.40	$4.84	$4.44	$3.38	$2.70
On-X-On	MS35059-23	5.40	4.84	4.44	3.38	2.70
On-X-On*	MS35059-26	6.54	5.94	5.46	4.15	3.32
On*-Off-On*	MS35059-27	6.36	5.80	5.33	4.06	3.24
On-Off-On*	MS35059-31	6.36	5.80	5.33	4.06	3.24

JAN-S-23 Circuit and Arrangement	Screw Terminal No.	Net Each, Lots of					Solder Terminal No.	Net Each, Lots of				
		1	2-24	25-49	50-99	100-249		1	2-24	25-49	50-99	100-249
PST 2-Term.												
On-X-Off	ST40A	$2.45	$1.94	$1.74	$1.50	$1.28	ST42A	$2.25	$1.75	$1.50	$1.30	$1.11
On-X-Off*	ST40B	2.90	2.38	2.04	1.75	1.46	ST42B	2.50	2.00	1.74	1.49	1.25
Off-X-On*	ST40C	2.90	2.38	2.04	1.75	1.46	ST42C	2.30	1.81	1.60	1.40	1.18
PDT 3-Term.												
On-X-On	ST40D	2.90	2.38	2.06	1.79	1.51	ST42D	2.45	1.94	1.70	1.48	1.25
On-Off-On	ST40E	2.90	2.38	2.06	1.79	1.51	ST42E	2.45	1.94	1.70	1.48	1.25
On-X-On*	ST40F	3.25	2.75	2.39	2.04	1.71	ST42F	2.70	2.19	1.90	1.63	1.40
On*-Off-On*	ST40G	3.20	2.69	2.26	1.95	1.66	ST42G	2.70	2.19	1.90	1.63	1.40
On-Off-On*	ST40H	3.25	2.75	2.39	2.04	1.71	ST42H	2.70	2.19	1.90	1.63	1.40
PST 4-Term.												
On-X-Off	ST50K	3.50	3.00	2.20	1.86	1.50	ST52K	3.20	2.70	2.00	1.69	1.34
On-X-Off*	ST50L	4.15	3.63	2.69	2.23	1.78	ST52L	3.65	3.14	2.38	1.98	1.56
Off-X-On*	ST50M	4.15	3.63	2.69	2.23	1.78	ST52M	3.65	3.14	2.38	1.98	1.56
PDT 6-Term.												
On-X-On	ST50N	3.95	3.44	2.59	2.15	1.73	ST52N	3.50	3.00	2.25	1.89	1.50
On-Off-On	ST50P	3.95	3.45	2.59	2.15	1.73	ST52P	3.50	3.00	2.25	1.89	1.50
On-X-On*	ST50R	4.40	3.91	2.94	2.46	1.96	ST52R	4.00	3.49	2.60	2.19	1.75
On*-Off-On*	ST50S	4.55	4.05	3.10	2.60	2.08	ST52S	4.15	3.65	2.73	2.28	1.84
On-Off-On*	ST50T	4.40	3.91	2.94	2.46	1.96	ST52T	4.00	3.49	2.60	2.19	1.75

MEDIUM DUTY TOGGLE SWITCHES (INCLUDING MS25098 AND MS25100)

ingle-hole, flush-mounting switches for DC or AC circuits up to 00 Hz. Molded bodies fully enclosed. Rugged, positive action uilt for extra long life. **Features:** Aircraft lubricant to withstand mperatures −85° F to +185° F. Withstand tropical humidity. leet 100-hour salt-spray test QQ-M-151a. No momentary make break or mechanical damage during shake tests or 75 G drop st. Silver-plated stationary contacts; phosphor-bronze movable ontacts; meet 50% overload for brief periods. Dielectric exceeds 000 V rms, 60 Hz at sea level. Contact resistance well under 01 ohm military requirement. Terminals withstand 5-lb. pull. **ominal Ratings:** 6 amps at 125 VAC; 3 amps at 250 VAC. **witch Movement:** Same direction as that of the lever. **Finish:** ull nickel-plate. **Hardware:** Two hex nuts, one internal tooth ckwasher and locking ring (not supplied in bulk shipments). **eries MS25098 and MS25100:** Unique internal design results in rpassing MIL-S-3950A endurance tests. Sand and dust bushing al; case to terminal seal. Bushing, 15/32″ lg. **Series ST12 thru T27:** Meet JAN-S-23 specs. Double-grip, self-wiping contacts; readed bushings, 15/32″ or ¼″ lg.; rear or side solder terminals.

SPST TWO TERMINALS

IIL-S-3950A Circuit	No.	1	2-24	25-49	50-99	100-249
On-X-Off	MS25098-22	$3.05	$1.96	$1.82	$1.68	$1.60
On-X-Off*	MS25098-29	3.75	2.55	2.37	2.14	2.08
Off-X-On*	MS25098-30	3.75	2.55	2.37	2.14	2.08

SPDT THREE TERMINALS

IIL-S-3950A Circuit	No.	1	2-24	25-49	50-99	100-249
On-X-On	MS25098-23	$3.40	$2.23	$2.08	$1.89	$1.82

DPST FOUR TERMINALS

IIL-S-3950A Circuit	No.	1	2-24	25-49	50-99	100-249
On-X-Off	MS25100-22	$4.15	$2.81	$2.62	$2.38	$2.30
On-X-Off*	MS25100-29	4.65	3.25	3.06	2.79	2.71
Off-X-On*	MS25100-30	4.65	3.25	3.06	2.79	2.71

DPDT SIX-TERMINALS

MIL-S-3950A Circuit	No.	1	2-24	25-49	50-99	100-249
On-X-On	MS25100-23	$4.35	$3.04	$2.84	$2.60	$2.53

SPST TWO TERMINALS

Circuit and Arrangement	JAN-S-23 No.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
On-X-Off	ST12A	$2.10	$1.14	$1.03	$0.98	$0.91
On-X-Off*	ST12B	2.50	1.38	1.25	1.19	1.10
Off-X-On*	ST12C	2.55	1.49	1.35	1.25	1.19
On-X-Off	ST13A†	2.15	1.19	1.08	1.01	.98

SPDT THREE TERMINALS

Circuit and Arrangement	JAN-S-23 No.	1-24	25-49	50-99	100-249	250-499
On-X-On	ST12D	$2.35	$1.32	$1.21	$1.12	$1.05
On-X-On	ST13D†	2.40	1.36	1.24	1.18	1.09

DPST FOUR TERMINALS

Circuit and Arrangement	JAN-S-23 No.	1-24	25-49	50-99	100-249	250-499
On-X-Off	ST22K	$2.70	$1.57	$1.43	$1.33	$1.25
On-X-Off*	ST22L	3.00	1.80	1.64	1.55	1.44
Off-X-On*	ST22M	3.00	1.80	1.64	1.55	1.44
On-X-Off	ST23K†	2.75	1.61	1.47	1.38	1.29

DPDT SIX TERMINALS

Circuit and Arrangement	JAN-S-23 No.	1-24	25-49	50-99	100-249	250-499
On-X-On	ST22N	$2.90	$1.72	$1.56	$1.46	$1.38
On-X-On	ST23N†	2.95	1.74	1.60	1.50	1.40

*Momentary position. †Bushing ¼″ long. ‡Side-connected terminals.

MALLORY Switches

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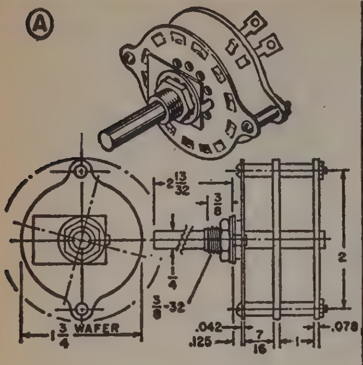

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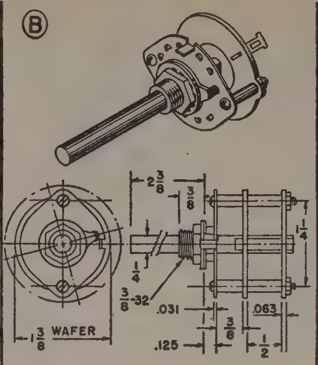

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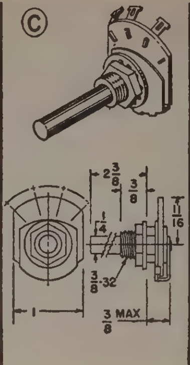

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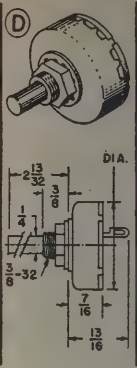

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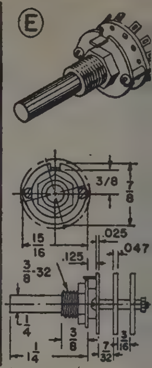

Mallory switches are available in three general styles: Rotary, lever-action and pushbutton. Most styles are supplied in both shorting and non-shorting contacts. Shorting switches have contacts with "make" before "breaking" and are widely used in audio circuits. Contacts in non-shorting switches "break" before "making". These switches may be chosen with phenolic, ceramic or glass-epoxy wafer materials. Ceramic is usually selected for high voltage circuits as in switching RF equipment. All switches are supplied with normal mounting hardware. Dial plates are not included (except for Type 13124L).

PHENOLIC WAFER ROTARY SWITCHES

Mallory phenolic wafer rotary switches come in several sizes and contact arrangements. Supplied with nut, washer and 366-1 black knob. Phenolic is MIL grade Richardson T725.

MINIATURE 1⅜" DIAMETER (FIG. B)

Rated 350 mA at 500 VAC rms resistive. Breakdown 1700 VAC rms, 60 Hz. Contact resistance 0.005 ohm. Supplied with adjustable stop, 366-1 knob and hex nut. All have 30° indexing.

Poles per Section	No. of Sections	Max. Positions	Mallory No. Shorting	Net Each	Mallory No. Non-Shorting	Net Each
1	1	11	4M11111	$ 7.10	4M21111	$ 6.86
2	1	5	4M1215	7.43	4M2215	7.28
3	1	3	....	....	4M2313	8.29
4	1	2	....	....	4M2412	8.24
1	2	11	4M11211	12.43	4M21211	12.43
2	2	5	....	....	4M2225	11.74
3	2	3	....	....	4M2323	12.81
1	3	11	....	....	4M21311	17.00
1	4	11	....	....	4M21411	21.86
2	4	5	....	....	4M2245	22.67
1	5	11	....	....	4M21511	25.91

GLASS-EPOXY WAFER ROTARY SWITCHES (FIG. E)

Subminiature size employs wafers ⅞" dia. Glass-epoxy per MIL-P-18177. Rated 150 mA at 150 V rms. Max. voltage, 225 V rms. Max. current, 2.5 amps at 6 VAC rms. (All specifications at resistive load.) Supplied with nut and washer.

Mallory Number						
Shorting	Non-Shorting	Index	Poles per Section	No. of Sections	Max. Positions	Net Each
....	12M21111G	30°	1	1	11	$9.74
....	12M21211G	30°	1	2	11	16.76

DECADE SWITCHES (FIG. A)

Use four capacitors for full decade. Connect in series for multipl decades. Complete with instructions. Use Mallory No. 380 di plate.

Mallory Number						
Shorting	Non-Shorting	Index	Poles per Section	No. of Sections	Max. Positions	Net Eac
....	153L	30°	Spec.	1	10	$8.0

MINIATURE SPECIAL PURPOSE (FIG. C)

For tone control, radio-phono use, etc. Suffix indicates: **S**, sprin return; **K**, knurled shaft (no knob supplied).

5M1112	....	30°	1	1	2	$3.4
5M1113	....	30°	1	1	3	4.1
5M1213	5M2213	30°	2	1	3	4.5
....	4M2412S	30°	4	1	2	9.0

GENERAL PURPOSE ROTARY SWITCHES (FIG. D)

Single section with formed cup enclosing contacts. Rated 0.2 am at 300 VDC; 5 amps, 6 VDC; 0.25 amp, 300 VAC; 6 amps, 6 VAC Maximum non-breaking resistive load, 5 amps. Breakdown 50 VAC/DC. Contact resistance 0.01 ohm or less. Comes with 366- knob and nut.

Mallory No.						
Shorting	Non-Shorting	Index	No. of Poles	Max. Positions	Base Dia., In.	Net Each
3115J	....	30°	1	5	1¼	$ 4.67
....	3215J	30°	1	5	1¼	5.52
31112J	32112J	30°	1	12	1¼	6.15
3122J	....	30°	2	2	1¼	6.15
....	3222J	30°	2	2	1¼	5.10
....	3223J	30°	2	3	1¼	5.30
3126J	....	30°	2	6	1¼	6.53
....	3226J	30°	2	6	1¼	6.35
3134J	....	30°	3	4	1¼	6.32
....	3234J	30°	3	4	1¼	7.27
3142J	....	30°	4	2	1¼	6.34
....	3242J	30°	4	2	1¼	6.37
3143J	....	30°	4	3	1¼	11.77
....	3243J	30°	4	3	1¼	6.43
31117J	....	20°	1	17*	1¹¹⁄₁₆	8.52
....	32117J	20°	1	17*	1¹¹⁄₁₆	10.83
3129J	....	20°	2	9*	1¹¹⁄₁₆	9.41
....	3229J	20°	2	9*	1¹¹⁄₁₆	9.97
3136J	....	20°	3	6*	1¹¹⁄₁₆	9.99
....	3236J	20°	3	6*	1¹¹⁄₁₆	5.68
3163J	....	20°	6	3*	1¹¹⁄₁₆	12.65
....	3263J	20°	6	3*	1¹¹⁄₁₆	10.88

*Furnished with adjustable stop.

OUR STOCKS ARE FULLY UP TO DATE WITH ALL THE LATEST PRODUCTS.
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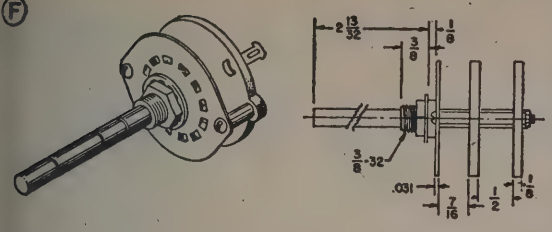

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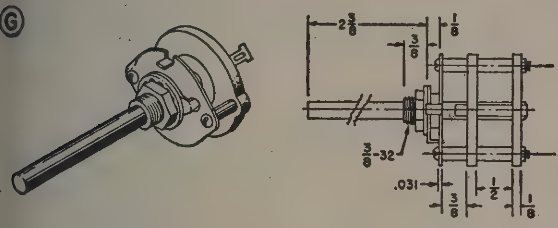

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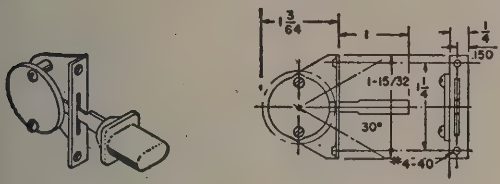

CERAMIC WAFER ROTARY SWITCHES

Mallory ceramic wafer rotary switches are available in two wafer sizes and a variety of circuits. Generally used where high voltages are encountered or in RF circuitry. Ceramic is MIL grade Steatite with Dow-Corning 200 treatment. Switches supplied with hex nut.

STANDARD 1¾" DIAMETER (FIG. F)

Rated 0.75 amp at 300 VAC; 10 amps. 6 VAC/DC. Breakdown, 1000 VAC/DC rms. Max. non-breaking resistive load, 5 amps.

Mallory Number		Index	Poles per Section	No. of Sections	Max. Positions	Net Each
Shorting	Non-Shorting					
....	172C	30°	1	1	10	$8.68
....	173C	30°	2	1	5*	8.68
....	174C	30°	3	1	3*	8.68
....	176C	30°	1	2	10	12.31
....	177C	30°	2	2	5*	12.31
....	178C	30°	3	2	3*	12.31
....	181C	30°	2	3	5*	15.72
....	162C	90°	1	2	4	11.16

*Plus "off" position.

MINIATURE 1⅜" DIAMETER (FIG. G)

Rated 350 mA at 500 VAC rms resistive. Breakdown, 1700 VAC rms, 60 Hz. Contact resistance, 0.005 ohm. Adjustable stop.

M11112C	4M21112C	30°	1	1	12	13.38
....	4M2216C	30°	2	1	6	13.38
....	4M2513C	30°	5	1	3	14.07
....	4M21212C	30°	1	2	12	22.02
....	4M2226C	30°	2	2	6	22.81
....	4M21312C	30°	1	3	12	32.57
....	4M2114N	90°	1	1	4	12.48

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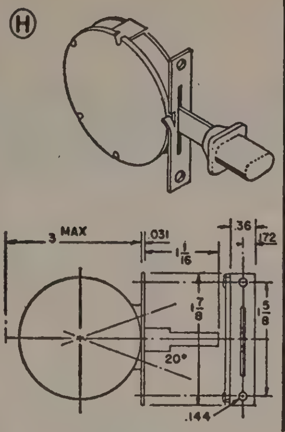

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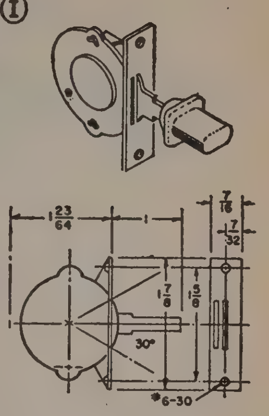

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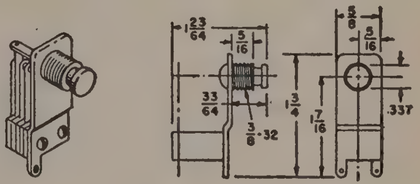


LEVER ACTION SWITCHES

Mallory lever action switches utilize MIL grade phenolic or glass-epoxy for wafer materials. Three wafer sizes available with a variety of circuits and actions. Supplied with mounting screws and knob.

STANDARD 1¾" DIA. PHENOLIC (FIG. H, 6000 SERIES)

Rated 0.2 amp at 300 VDC; 5 amps, 6 VDC; 0.25 amp, 300 VAC; 6 amps, 6 VAC. Positive action. Breakdown, 500 VAC/DC rms. Max. non-breaking resistive load, 5 amps.

Mallory Number		Index	Number of Poles	Number of Positions	Net Each
Shorting	Non-Shorting				
5124	5224	20°	2	4	$5.03
6142	6242	20°	4	2	2.13
6143	6243	20°	4	3	2.13

MINIATURE 1⅜" DIA. PHENOLIC (FIG. I)

Rated 350 mA at 500 VAC rms resistive. Breakdown, 1700 VAC rms, 60 Hz. Suffix indicates action (e.g., 6M2213S): **S**, spring return to center; **U**, spring return to one side, positive opposite; no suffix, positive action.

6M1213	....	30°	2	3	$ 9.36
....	6M2213	30°	2	3	8.33
....	6M2213S	30°	2	3	10.32
6M1213U	....	30°	2	3	11.43
....	6M2412	30°	4	2	11.35
....	6M2412S	30°	4	2	13.57

SUBMINIATURE ⅞" DIA. GLASS-EPOXY (FIG. J)

Glass epoxy wafers per MIL-P-18177. Rated 150 mA at 150 VAC rms, resistive. Max. voltage, 225 V rms. Max. current, 2.5 amps at 6 VAC rms, resistive. Suffix indicates action (e.g., 12L2213S): **S**, spring return to center; no suffix, positive action.

....	12L2213S	30°	2	3	$ 9.67
....	12L2413	30°	4	3	13.62
12L1612S	....	30°	6	2	13.19

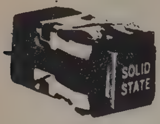
PUSHBUTTON SWITCHES (FIG. K)

Non-locking for test panels, etc. Silver contacts on alloy springs. Rated 0.4 amp at 300 VDC and 220 VAC; 4 amps, 6 VDC. Bushing ⅜"-32 x ⅜" lg. Integral phenolic knob. With nut and washer.

Mallory No.	Circuit Arrangement	Net Each
1011	SPST—Make	$2.54
1012	SPST—Break	2.54
1013	SPDT	1.18
1016	DPDT	1.62
1018	DPDT—Make before break	2.20

AML SERIES PUSHBUTTON SWITCHES

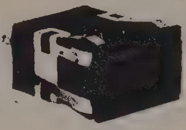
The AML (Advanced Manual Line) Series is an integrated line of pushbutton switches, indicators and accessories with coordinated button height, bezel size and visual compatibility. The low-profile square and rectangular buttons are available in whi red, yellow, green and blue. Display capabilities include sp screen, hidden color, and a three-segment lens cap indicator.



AML11 C

ELECTRONIC CONTROL

AML21



AML31

AML41

AML61

AML11 SOLID-STATE SWITCH

The AML mechanism and mounting combined with a Hall Effect integrated circuit for solid-state bounceless switching. Available with two types of output functions: 5 V sink, 5 and 6–16 V regulated sink. The button mechanisms are available in square rectangular shapes, unlighted or lighted (1 or 2 lamps), and m mentary or alternate action.

AML11 C B B 2 AA

Housing Type		Bezel Color		Lamp Type		Terminal Type		Circuitry Codes	
Description	List Price	Desc.	Adder	Desc.	Adder #	Desc.	Adder	Desc.	Add
B Square P.B.*	$2.35	B Black	.....	A No lamp	.....	2 .110″ x .020″ Solder or quick connect.	.....	AA Mom., sink, 5 V	$2.
C Square P.B.†	3.45			B 6 V lamp	$0.55	3 .025″ x .025″ P.C., wire-wrap or push-on.	.....	AE Alt., sink, 5 V	2.
E Rect. P.B.*	2.65			C 14 V lamp	.55			BA Mom., sink, 6–16 V	2.
F Rect. P.B.†	3.45			E 28 V lamp	.55			BE Alt., sink, 6–16 V	2.
G Rect. P.B.‡	4.15								

AML21 ELECTRONIC CONTROL SWITCHES

Intended for electronic control applications up to 3 amps. Contact arrangements are either one or two poles, form "C" (single break-double throw) in silver or gold.

AML21 C B B 2 AA

Housing Type		Bezel Color		Lamp Type		Terminal Type		Circuitry Codes	
Description	List Price	Desc.	Adder	Desc.	Adder	Desc.	Adder	Desc.	Add
B Square P.B.*	$1.85	B Black	.....	A No lamp	.....	2 .110″ x .020″ Solder or quick connect.	.....	AA Mom., SPDT, silver	$1.
C Square P.B.	2.70			B 6 V lamp	$0.55	3 .025″ x .025″ P.C., wire-wrap or push-on.	.....	AB Alt., SPDT, silver	1.
E Rect. P.B.*	2.10			C 14 V lamp	.55			AC Mom., DPDT, silver	2.
F Rect. P.B.	2.95			E 28 V lamp	.55			AD Alt., DPDT, silver	2.
G Rect. P.B.	3.75							BA Mom., SPDT, gold	1.
								BB Alt., SPDT, gold	1.
								BC Mom., DPDT, gold	3.
								BD Alt., DPDT, gold	3.

AML31 POWER SWITCHES

Intended for power switching applications requiring up to 10 amps capacity. Contact arrangement is form "X" (double break-single throw) normally open.

AML31 F B B 4 AD

Housing Type		Bezel Color		Lamp Type		Terminal Type		Circuitry Codes	
Description	List Price	Desc.	Adder	Desc.	Adder	Desc.	Adder	Desc.	Add
F Rect. P.B. 1 lamp ckt.	$3.40	B Black	.....	A No lamp	.....	4 .187″ x .020″*	.....	AD Alt., DPST-NO	$2.
				B 6 V lamp	$0.55				
				C 14 V lamp	.55				
				E 28 V lamp	.55				

AML41 INDICATORS

Provided in three forms: square, rectangular with a P.B. style button, and rectangular with a full lens. The rectangular indicators, mounted with long axis horizontal, can have two or thr vertical splits lighting independently.

AML41 C B B 2

Housing Type		Bezel Color		Lamp Type		Terminal Type	
Description	List Price	Desc.	Adder	Desc.	Adder	Desc.	Add
C Square†	$2.25	B Black	.....	A No lamp	.....	2 .110″ x .020″ Solder or quick connect.	....
D Square‡	2.90			B 6 V lamp	$0.55	3 .025″ x .025″ P.C., wire-wrap or push-on.	....
F Rectangular†	2.30			C 14 V lamp	.55		
G Rectangular‡	3.00			E 28 V lamp	.55		
J Rectangular† Lens type	2.35						
K Rectangular‡ Lens type	3.05						
L Rectangular§ Lens type	3.70						

AML51 BUTTONS

Indicator and switch buttons provide bright, uniform color for strong definition and good visibility. Hidden legend, hidden color gives the option of placing dead front areas where required.

AML51 C 10 R R R

Button Type		Display/Legend Type		Full Color		2-Split Color		3-Split Colo	
Description	List Price	Desc.	Adder	Desc.	Adder	Desc.	Adder	Desc.	Adde
C Square, full screen	$0.20	10 Transmitted, w/o legend	.....	R Red	....	R Red	....	R Red	..
D Square, 2-split hor.•	1.15	20 Transmitted, w/legend	$0.50	Y Yellow	....	Y Yellow	....	Y Yellow	..
F Rect., full screen	.35	30 Dead front, w/o legend	.30	G Green	....	G Green	....	G Green	..
G Rect., 2-split hor.	1.15	40 Dead front, w/legend	.80	B Blue	....	B Blue	....	B Blue	..
J Rect., lens type, full screen•	.55	50 Projected, w/o legend	.30	W White	....	W White	....	W White	..
K Rect., lens type, full screen•	1.20	60 Projected, w/legend	.80						
L Rect., lens type, 3-split vert.•	1.75								

*Non-illuminated. †One lamp circuit. ‡Two lamp circuits. §Three lamp circuits. #Per 1 amp. •For use with AML 41 devices only.

LISTING CONTINUED ON FOLLOWING PAGE

AML SERIES PUSHBUTTON SWITCHES (CONTINUED)

AML 61 STRIP MOUNTING ASSEMBLY

ntended for behind-the-panel mounting of 1 to 10 switches and/or ndicators. Brackets can be positioned to accommodate various panel thicknesses and device orientation (horiz. or vert.).

ML61	B	A	5	A
	Housing Type	Mtg. Bracket Orientation	No. of Stations	Mtg. Bracket Location

Housing Type		Mtg. Bracket Orientation		No. of Stations				Mtg. Bracket Location	
Description	Adder	Desc.	Adder	No.	List Price	No.	List Price	Desc.*	Adder
Square	.....	A Square	.....	1	$0.60	6	$3 60	A 0.00″	.....
Rectangular	.....	B Rect., horiz.	.....	2	1.20	7	4.20	B 0.06″	.....
		C Rect., vert.	.....	3	1.80	8	4.80	C 0.09″	.....
				4	2.40	9	5.40	D 0.12″	.....
				5	3.00	10	6.00	E 0.18″	.....

Spacing between front of bracket and front edge of bezel.

AML 71 BARRIERS

arriers are used to separate individual switches or indicators. ne switch or indicator requires two end barriers. Two or more evices require two end barriers plus a center barrier between ach two devices.

ML71	S	C	B
	Length	Type	Color

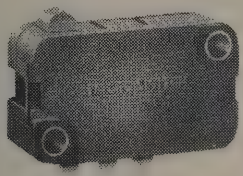
Length		Type		Color	
Description	List Price	Desc.	Adder	Desc.	Adder
Short for use with square devices or the short side of rect. devices.	$0.30	C Center	.....	B Black	.....
Long for use with the long side of rect. devices.	$0.30	E End	.....		

AML 91 LAMPS

AML91	L	A	86
	Device	Type	Lamp No.

Device		Type		Lamp No.	
Desc.	Adder	Desc.	Adder	Desc.	List Price
L Lamp	.....	A Wedge base T1¾	.....	86 Lamp #86 6.3 volts	$0.55
				73 Lamp #73 14 volts	.55
				85 Lamp #85 28 volts	.55

XL SERIES SOLID STATE SWITCH



L mechanically operated solid-state switches combine mounting imensions and mechanical characteristics of the popular V3 with all effect solid-state switching. An integrated circuit, actuated y a magnet in the operating plunger, produces a digital output. Vith no contacts, the output is bounce free. XL switches are vailable for use with 4.5 to 5.5 VDC or 6 to 16 VDC supply oltages and provide current sinking outputs. XL switches can be sed directly with electronic circuits such as integrated logic, iscrete transistors and SCR's. They may be ordered with normally non-conducting (normally high) or normally conducting normally low) outputs. Over 500 actuators are available.

Micro Switch No.*	Sinking Voltage DC	Max. Pre-Travel	Min. Over-Travel	Oper. Force (oz.)	List Price
PIN PLUNGER					
37XL11-01	4.5 to 5.5	.065″	.030″	.35	**$4.25**
37XL11-02	4.5 to 5.5	.065″	.030″	1.25	**4.25**
37XL11-03	4.5 to 5.5	.065″	.030″	3.00	**4.25**
47XL11-01	6 to 16	.065″	.030″	.35	**5.45**
47XL11-02	6 to 16	.065″	.030″	1.25	**5.45**
47XL11-03	6 to 16	.065″	.030″	3.00	**5.45**

Micro Switch No.	Sinking Voltage DC	Max. Pre-Travel	Min. Over-Travel	Oper. Force (oz.)	List Price
STRAIGHT LEVER					
37XL11XA-11	4.5 to 5.5	.070″	.025″	.40	**$4.40**
37XL11XA-12	4.5 to 5.5	.070″	.025″	1.50	**4.40**
37XL11XA-13	4.5 to 5.5	.070″	.025″	3.00	**4.40**
37XL11XA-21	4.5 to 5.5	.175″	.050″	.20	**4.40**
37XL11XA-22	4.5 to 5.5	.175″	.050″	.75	**4.40**
37XL11XA-23	4.5 to 5.5	.175″	.050″	1.50	**4.40**
37XL11XA-31	4.5 to 5.5	.260″	.100″	.15	**4.40**
37XL11XA-32	4.5 to 5.5	.260″	.100″	.50	**4.40**
37XL11XA-33	4.5 to 5.5	.260″	.100″	1.00	**4.40**
47XL11XA-11	6 to 16	.070″	.025″	.40	**5.60**
47XL11XA-12	6 to 16	.070″	.025″	1.50	**5.60**
47XL11XA-13	6 to 16	.070″	.025″	3.00	**5.60**
47XL11XA-21	6 to 16	.175″	.050″	.20	**5.60**
47XL11XA-22	6 to 16	.175″	.050″	.75	**5.60**
47XL11XA-23	6 to 16	.175″	.050″	1.50	**5.60**
47XL11XA-31	6 to 16	.260″	.100″	.15	**5.60**
47XL11XA-32	6 to 16	.260″	.100″	.50	**5.60**
47XL11XA-33	6 to 16	.260″	.100″	1.00	**5.60**
SIMULATED ROLLER LEVER					
37XL11XB-11	4.5 to 5.5	.175″	.050″	.20	**$4.45**
37XL11XB-12	4.5 to 5.5	.175″	.050″	.75	**4.45**
37XL11XB-13	4.5 to 5.5	.175″	.050″	1.50	**4.45**
47XL11XB-11	6 to 16	.175″	.050″	.20	**5.65**
47XL11XB-12	6 to 16	.175″	.050″	.75	**5.65**
47XL11XB-13	6 to 16	.175″	.050″	1.50	**5.65**

*Also available with full roller lever; information on request.

Note: Listings are "Normally High"; to order "Normally Low" devices, substitute **12** for **11** following XL in Micro Switch No. e.g., 37XL**12**XA-11.

WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR UNLISTED ITEMS. NO SPECIAL ORDER NUMBERS NECESSARY, JUST USE THE MANUFACTURER'S MODEL NUMBERS.

MICRO SWITCH Switches

TYPE "EX" EXPLOSION-PROOF SWITCHES

Designed for limits, safeties and interlocks in explosive atmosphere. Compact NEMA housings with ample wiring space. For Class I Group C and D; Class II, Groups E, F and G atmospheres. Mount from top, bottom, back or end. Captive cover screws; replaceable switching unit. Roller arm actuators adjustable through 360°. Clockwise actuation, except as indicated. Overtravel plunger actuators (-Q, -Q800 and -N15) have case-hardened plunger, withstand steady load of 100 lbs. without injury. Cross-roller arm (EX-CR) has roller perpendicular to long axis. Manual actuator (EX-AR50) type has large paddle for fast, easy operation. **Contacts:** SPDT except EXD series, DPDT. **EX Series UL Rated:** 15 amps, 125, 250 or 480 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC; ⅛ hp, 125 VAC; ¼ hp, 250 VAC. **EXA Series UL Rated:** 20 amps, 125, 250 or 480 VAC; 10 amps, 125 VAC "L"; ½ amp, 125 VDC; ¼ amp, 250 VDC; 1 hp, 125 VAC; 2 hp, 250 VAC. **EXD Series UL Rated:** 10 amps, 125 or 250 VAC; 0.3 amp, 125 VDC; 0.15 amp, 250 VDC. **EXH Series Rated:** 10 amps induct. and 25 amps resis., 28 VDC; 1 amp, 125 VAC; U/L, 1 amp, 125 VAC. **Type EX-N15 Rated:** UL, 10 amps, 125, 250 or 480 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC; includes elastomer plunger boot. All types include mounting bracket, except as indicated. EXH series has hermetically-sealed switching unit.

Micro Switch Number	Actuator	Oper. Force	Maximum Pre-travel	Maximum Over-travel	★ List Price
EX-AR	Roller arm	8–20 oz.	.219″	90°	$33.25
EX-AR800	Roller arm*	8–20 oz.	.219″	90°	37.00
EX-AR30	Roller arm†	2.5 lb.	.065″	25°	34.15
EX-AR16	Roller arm‡	2 oz.	......	......	36.40
EX-AR20	None	§	.219″	90°	30.85
EX-CR	Cross-roller	8–20 oz.	.219″	90°	33.25
EX-AR128	1-way roller	8–20 oz.	.219″	90°	37.20
EX-AR1613	Rod#	2 oz.	18°	40°•	39.05
EX-AR50	Manual	2.5 lb.	......	......	35.15
EX-Q	Plunger	3 lb.	.078″	.188″•	33.25
EX-Q800	Plunger*	3 lb.	.078″	.188″•	35.75
EX-N15	Plunger	3 lb.	.078″	.188″•	35.20
EXA-AR	Roller arm	12–32 oz.	.219″	25°	33.65
EXA-Q	Plunger	2 lb.	.050″	.125″•	34.70
EXD-AR	Roller arm	8–24 oz.	.250″	25°	40.25
EXD-Q	Plunger*	3 lb.	.156″	.141″•	40.25
EXH-AR3	Roller arm*	8–24 oz.	.219″	25°	58.15
EXH-AR33	Roller arm*†	2.5 lb.	.065″	25°	58.20

*Listed for UL Class I, Group B (hydrogen) atmospheres. †Counter-clockwise actuation. ‡Clockwise or counter-clockwise; low-force; no lever return spring or mounting bracket. §31.25 in.-oz. maximum; see listing of auxiliary actuators below. #Low-force rod; no mounting bracket included. •Minimum.

AUXILIARY ACTUATORS FOR "EX" SWITCHES

For type EX-AR20 switch, listed above.

Micro Sw. No.	Type	Material	List Price★
6PA5-EX	Roller arm	Bronze	$ 9.30
6PA127-EX	Roller arm	Nylon	9.30
6PA130-EX	One-way roller arm	Bronze	10.20
6PA131-EX	Cross-roller arm	Bronze	10.20
6PA136-EX	Rod	Aluminum	10.75
6PA138-EX	Adjust. roller arm	Bronze	11.40
6PA142-EX	CCW 6PA130-EX	Bronze	10.20

TYPE "EXMN" EXPLOSION-PROOF SWITCHES

Similar to "EX" series above, but 2-circuit double-break contacts. Bracket included. **Actuator:** EXMN-AR, clockwise roller arm; EXMN-AR30, counter-clockwise roller arm; EXMN-Q, straight plunger. Listed for UL Class I, Group B (hydrogen) atmospheres. **Rated:** UL and CSA listed: 10 amp, 125, 250 or 480 VAC; 0.8 amp, 125 VDC; 0.4 amp, 250 VDC; ½ hp, 125 VAC, 1 hp, 250 VDC.

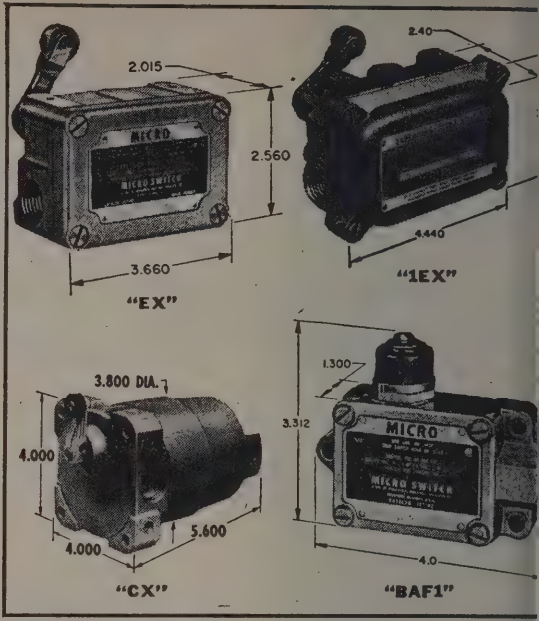
Micro Switch No.	Oper. Force	Pre-travel	Over-travel	List Price★
EXMN-AR	6–20 oz.	.250″	90° max.	$37.65
EXMN-AR30	2.5 lb. max.	.085″	25° max.	37.65
EXMN-Q	2 lb. max.	.078″	.141″ min.	37.65

TYPE "CX" EXPLOSION-PROOF SWITCHES

Will withstand pressure of internal explosion, cool exploded gases. For outdoor use in hazardous atmospheres. Rugged cast aluminum housings with two ¾″ diameter conduit openings. Consist of two switching units. **Type A:** Both switching units operate either side of center. **Type B:** One switching unit operates either side of center. Non-sparking roller arm actuators; momentary action. Mount from either of four sides, or front. **2CX Ratings:** SPDT contacts, U/L rated, 20 amps, 125, 250 or 480 VAC; 10 amps, 125 VAC "L"; ½ amp, 125 VDC; ¼ amp, 250 VDC; 1 hp, 125 VAC; 2 hp, 250 VAC. **4CX Ratings:** DPDT contacts, UL rated 10 amps, 125 or 250 VAC; 0.3 amp, 125 VDC; 0.15 amp, 250 VDC. **Actuator:** Adjustable (1″ to 3½″) or standard roller arm; rotates and locks in any position through 360°. No actuating arm types available.

Micro Switch No.	Type	Actuator	Maximum Oper. Force	Maximum Pre-travel	Min. Over-travel	★ List Price
2CX6	A*	Adjustable roller arm	10 lbs.	25°	35°	$103.00
2CX3	B		7 lbs.	12°	45°	103.00
4CX3	B		7 lbs.	20°	35°	123.55
4CX6	A		10 lbs.	30°	30°	122.85
2CX1	B	Standard roller arm	7 lbs.	12°	45°	100.80
2CX5	A		10 lbs.	25°	35°	100.80
4CX1	B		7 lbs.	20°	35°	123.75
4CX5	A		10 lbs.	30°	30°	121.45

*Corrosion-resistant bearings.



"DOUBLE-DUTY" EXPLOSION-PROOF SWITCH

Conduit opening at both ends of switch housing permits throu wiring; saves on installation problems. **Actuator:** Roller a except 4EX5, roller rod; 22EX22, side plunger. **1EX1 (SPD Rating:** UL, 15 amps, 125, 250 or 480 VAC; ½ amp, 125 VD ¼ amp, 250 VDC; ⅛ hp, 125 VAC; ¼ hp, 250 VAC. **2E** (SPDT) and **22EX22** (Two SPNC circuits) **Rating:** UL, amps, 125, 250 or 480 VAC; 10 amps, 125 VAC "L"; ½ an 125 VDC; ¼ amp, 250 VDC; 1 hp, 125 VAC; 2 hp, 250 VA **4EX1** and **4EX5** (DPDT) **Rating:** UL, 10 amps, 125 or 2 VAC; 0.3 amp, 125 VDC; 0.15 amp, 250 VDC.

Micro Switch No.	Oper. Force	Max. Pre-travel	Over-travel	Conduit 14NPT Dia.	★ List Pric
1EX1	8–20 oz.	.219″	90° max.	½″	$31.1
2EX1	12–32 oz.	.219″	25° max.	½″	31.4
4EX1	8–24 oz.	.250″	25° max.	¾″	39.2
4EX5	8–24 oz.	.250″	25° max.	¾″	41.0
22EX22	1.75 lb.	.140″	.125″ min.	½″	33.0

TYPE "F" HIGH CAPACITY, ENCLOSED SWITCH

For applications requiring a small switch that will handle a la electrical load. Built-in overtravel mechanism insures repe ability. Basic switch sealed against moisture and dust by gas between cover plate and housing. Actuators are sealed w elastomer boot (except roller plunger types). Aluminum hous with conduit type internally tapped ½″ hub. Mounts us three .265″ holes. Roller arm actuator (-2RN2) adjustable 3 horizontally, 225° vertically. One-way roller arm (-2RN adjustable 360° horizontally, 180° vertically. Flexible rod (-2RN operates from any direction except pull. Momentary contac Add Suffix **RH** for right-hand (location of actuator) or, **LH** left-hand mounting.

SPDT 20-AMP TYPES

UL rated 20 amps, 125, 250 or 480 VAC; ½ amp, 125 VD ¼ amp, 250 VDC; 1 hp, 125 VAC; 2 hp, 250 VAC. Lamp loa 10 amps, 125 VAC.

Micro Switch Number*	Actuator	Max. Oper. Force	Max. Pre-travel	Min. Over-travel	★ List Price
BAF1-2RN	Plunger	2½ lbs.	.094″	.219″	$17.40
BAF1-2RN2	Roller arm	2 lbs.	.219″	.250″	22.15
BAF1-2RQ9	Roller plunger‡	2½ lbs.	.094″	.156″	23.60
BAF1-2RQN8	Roller plunger†	8 lbs.	.125″	.187″	29.75
BAF1-2RN28	1-way roller arm	2 lbs.	.219″	.250″	25.30
BAF1-2RN18	Flexible rod	....	15°	......	25.20
BAF1-2RN4	1½″ button	2 lbs.	......	......	23.70
BAF1-3RNX1	Reset plunger§	1.75 lbs.	.094″	.219″	24.55

DPDT 10-AMP TYPES

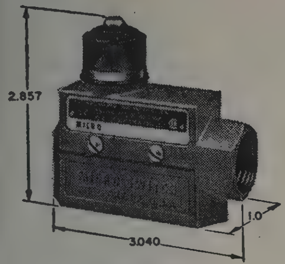
UL rated 10 amps at 125 or 250 VAC; 0.3 amp, 125 VD 0.15 amp, 250 VDC.

Micro Switch Number*	Actuator	Max. Oper. Force	Max. Pre-travel	Min. Over-travel	★ List Price
DTF2-2RN	Plunger	2½ lbs.	.141″	.156″	27.25
DTF2-2RN2	Roller arm	2½ lbs.	.312″	.219″	32.50

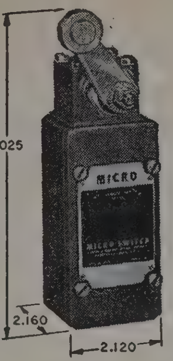
*Add suffix RH or LH, as indicated above. †O-ring actuat seal. ‡Plunger adjustable 360° horizontally. §Maintained conta switch with elastomer boots on both plungers (right-hand a tuator position only).

★WRITE OR CALL FOR QUANTITY DISCOUN

MICRO SWITCH Switches



"E6-V6"



"ML"

TYPES "E6" AND "V6" ENCLOSED SWITCHES

Extra convenient switches are interchangeable with older "E" and "V" types, but offer more flexible, utilitarian design. Easier access to terminals permits quick connection. Molded elastomer insulator-seal is bonded to inside of bottom housing. Available with or without actuator seal boots. Rugged cast aluminum housing. Temperature range, −25° to +160° F. **"E6"** indicates side mounting types; **"V6"** indicates bottom flange mounting.

SPDT MOMENTARY CONTACT TYPES

UL rated 15 amps at 125, 250 or 480 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC; ⅛ hp, 125 VAC; ¼ hp, 250 VAC. **Overtravel:** .219″ minimum except -2RQ8 and -2RQ81, .140″; -2RQ62, .838″.

Micro Switch Number BZE6- or BZV6-	Actuator	Oper. Force, Oz.	Max. Pre-travel	★ List Price
2RN	Plunger*	9–24	.078″	$10.30
2RN7	Plunger*†	9–24	.078″	10.60
2RQ	Plunger	9–13	.015″	7.90
2RN80	Roller plunger*‡	9–24	.078″	15.20
2RQ8	Roller plunger§	9–13	.015″	13.40
2RQ81	Roller plunger#	9–13	.015″	13.40
2RN2	Roller arm*	10–20	.188″	15.20
2RQ2	Roller arm	10–18	.188″	13.40
2RN18*	Flexible rod	7 max.	15°	16.55
2RN28	1-way roller arm*	8–20	.234″	17.60
2RN4	1.5″ dia. button*	10–20	.188″	15.75
2RQ62	Low-force rod	2–5	.718″	13.40

DPDT MOMENTARY CONTACT TYPES

UL rated 10 amps, 125 or 250 VAC; 0.3 amp, 125 VDC; 0.15 amp, 250 VDC. **Overtravel:** -2RN, .125″ min.; -2RN2, .219″.

Micro Switch Number	Actuator	Oper. Force, Oz.	Max. Pre-travel	★ List Price
DTE6-2RN	Plunger*	26–59	.110″	$29.20
DTV6-2RN	Plunger*	26–59	.110″	22.75
DTE6-2RN2	Roller arm*	10–30	.266″	26.75
DTV6-2RN2	Roller arm*	10–30	.266″	26.75

SPDT MAINTAINED CONTACT TYPES

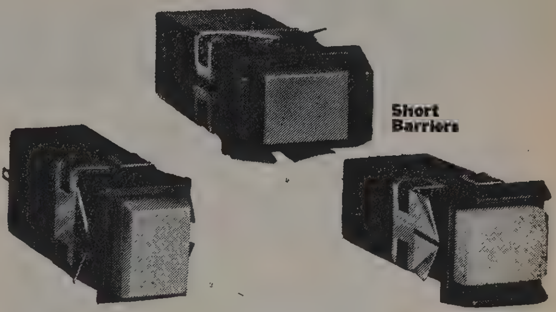
Rated 15 amps at 125, 250 or 480 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC; ¼ hp, 125 VAC; ½ hp, 250 VAC. **Overtravel:** .187″ minimum except -RN2X1 and -RQ2X2, .219″ minimum; -RQ8X2, .140″ minimum.

BZE6-RNX1	Plunger*	6–20	.078″	$18.70
BZV6-RNX1	Plunger*	6–20	.078″	18.75
BZE6-RQX2	Plunger	6–9.5	.012″	14.65
BZV6-RQX2	Plunger	6–9.5	.012″	14.65
BZE6-RN2X1	Roller arm*	16 max.	.188″	24.50
BZV6-RN2X1	Roller arm*	16 max.	.188″	24.50
BZE6-RQ2X2	Roller arm	10–18	.188″	18.65
BZV6-RQ2X2	Roller arm	10–18	.188″	18.50
BZE6-RQ8X2	Roller plunger‡	6–9.5	.012″	21.25

*Sealed against moisture and dirt with elastomer boot around actuator. †Side mounting only (prefix BZE6-) with #8 screws. ‡Roller parallel to long axis of switch (side mounting type only, prefix BZE6-). §Roller parallel to long axis of switch. #Cross roller plunger, perpendicular to long axis.

WRITE OR CALL FOR QUANTITY DISCOUNTS

SERIES 4 LIGHTED PUSHBUTTON SWITCHES AND INDICATORS



Bezel Type **Long Barriers**

- **LOW INSTALLED COST**
  Snap-in mounting for panels up to .200″ thick. Standard price includes assembled product, with lamp, ready to install in your panels. Front of panel mounting and relamping.
- **EASY WIRING**
  Lead wires are readily attached to .110″ QC terminals. Lamp and switch terminals are on same level.
- **PRECISION SWITCHING RELIABILITY**
  Long life dependability assured by time-proven SM basic switches. Choice of momentary or alternate action, 1 or 2 basic switches. UL Listed low energy (1 amp, 125 VAC) and power load (5 and 10 amp, 250 VAC) versions.
- **DISTINCTIVE LIGHTED DISPLAY COLORS**
  Transmitted color, projected color, and hidden legend/hidden color options.
- **VERSATILITY IN PANEL ARRANGEMENT**
  Choice of bezel or barrier style housings, which may be mounted individually or in vertical and horizontal strips.
- **MATCHING INDICATORS**
  Indicators feature the same buttons and housing styles as the pushbutton switches.

CONTACT US FOR CATALOG INFORMATION AND PRICES ON SERIES 4 SWITCHES

TYPE LSX WEATHER-PROOF/EXPLOSION-PROOF SWITCHES

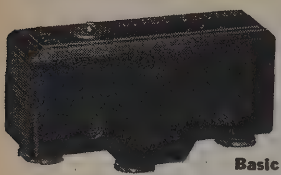
Type LSX switches are for use either indoors or outdoors in hazardous atmospheres as they are completely sealed devices. Mounting and tracking are compatible with other Micro Switch types for maximum versatility. Switches meet NEMA standards 1, 3, 4, 7, 9, and 13; and are water, dust and oiltight. Field adjustability matches switch to the application. Contacts are rated 10 amps continuous. Switches are UL and CSA listed.

Mirco Switch Number	Contacts	Actuator	List Price
LSXA3K	SPDT§	None	$53.00
LSXA3K-1A	SPDT§	Lever arm	56.00
LSXA3K-2CC	SPDT§	Adj. lever arm	58.00
LSXA3K-2JC	SPDT§	Adj. lever arm	60.00
LSXA4L	DPDT§	None	59.00
LSXA4L-2CC	DPDT§	Lever arm	64.00
LSXA4L-2KC	DPDT§	Adj. lever arm	66.00
LSXA4L-3S	DPDT§	Yoke lever arm	64.00
LSXA4L-5C	DPDT§	Offset lever arm	64.00
LSXB3K	SPDT§	None	55.00
LSXA4L-2KC	DPDT§	Adj. lever arm	68.00
LSXC3K	SPDT	Top plunger	56.00
LSXC4L	DPDT	Top plunger	62.00
LSXD3K	SPDT	Top roller plunger	60.00
LSXD4L	DPDT	Top roller plunger	66.00
LSXE3K	SPDT§	Side plunger	58.00
LSXF3K	SPDT§	Side roller plunger	62.00
LSXH3K	SPDT§■	None	55.00
LSXJ3K-7A	SPDT	Wobble stick	56.00
LSXJ4L-7A	DPDT	Wobble stick	62.00
LSXK3K-8A	SPDT	Cat whisker	53.00
LSXL4M	DPDT*	None	65.00
LSXM4N	DPDT#	None	61.00
LSXM4N-1C	DPDT#	Lever arm	64.00
LSXN3K	SPDT▲	None	59.00
LSXP3K	SPDT§•	None	55.00
LSXP4L	DPDT§•	None	61.00
LSXR3K	SPDT§†	None	53.00

*Sequential operation. #Center neutral. §Momentary. †Low torque. ▲Maintained. •Low pretravel and differential travel. ■Low pretravel and torque.

MICRO SWITCH Switches

TYPE "BZ" PRECISION 15-AMP SWITCHES



Basic Switch

Phenolic enclosed, general-purpose switches combine long life with accurate repeatability. SPDT contacts may be wired either normally-open or normally-closed. Momentary contacts. **Temperature Range:** −65° F to +180° F except as indicated. **UL and CSA Listed:** 15 amps at 125, 250 or 480 VAC; ⅛ hp, 125 VAC; ¼ hp, 250 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC. High temperature types (to +400° F) are rated 5 amps, 125, 250 or 480 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC. **Terminals:** A2 type, bottom facing 6-32NC x .218″ screw with cup washers. **Mechanical Life:** 20 million operations. **Mounting:** Two .140″ dia. holes on 1″ centers for fixed position mounting. **Size:** 1.940″ w. x .687″ d. x .950″ h., less terminals. Types also available for applications requiring gold alloy contacts.

PIN PLUNGER ACTUATOR

Micro Switch Number	Recommended For—	Oper. Force, Oz.	Min. Rel. Force, Oz.	Min. Over-travel	List Price
BZ-2R-A2	Most applications	9–13	4	.005″	$2.80
BZ-2R24-A2	Temp. to +250° F	9–13	4	.005″	3.15
BZ-2R5551-A2	Dustproof, splash resistant seal	9–15	4	.005″	4.10
BZ-2R55-A2	Sealed construction	9–15	4	.005″	5.85
BZ-2RT04	Meet MIL-S-8805	9–13	6	.005″	3.60
BZ-2R05-A2	Varying humidity	9–13	4	.005″	3.35
BZ-2R244-A2	Temp. to +400° F	9–13	4	.005″	3.60
OVERTRAVEL PLUNGER ACTUATOR					
BZ-2RD-A2	For 20° rise cams	9–13	4	.060″	$3.60
BZ-2RDS5551-A2	Dustproof, splash resistant seal	13–19	4	.060″	8.50
BZ-2RD24-A2	Temp. to +250° F	9–13	4	.060″	3.70
BZ-2RS-A2	In-line motion	9–13	4	.060″	3.60
BZ-2RS5551-A2	Dustproof, splash resistant seal	9–15	4	.060″	4.80
BZ-2RS24-A2	Temp. to +250° F	9–13	4	.060″	3.75
BZ-2RST04	Meet MIL-S-8805	9–13	6	.060″	3.85
BZ-2RQ-A2	In-line, slow 30° rise cams	9–13	4	.219″	5.05
BZ-2RQ24-A2	Temp. to +250° F	9–13	4	.219″	5.20
BZ-2RQ1-A2	As BZ-2RQ-A2 w/bshg. mount	9–13	4	.219″	6.00
BZ-2RQ1T04	Meet MIL-S-8805	9–13	6	.219″	6.00
BZ-2RQ124-A2	Temp. to +250° F	9–13	4	.219″	6.25
BZ-2RQ18-A2	Roller plunger, rapid 30° rise cams, slide operation	9–13	4	.140″	10.35
BZ-2RQ1824-A2	Temp. to +250° F	9–13	4	.140″	10.45
BZ-2RQ181-A2	Roller plunger	9–13	4	.140″	10.10
STRAIGHT LEVER ACTUATOR					
BZ-2RW80-A2	2.5″ lever	2.5	0.50	.219″	$3.55
BZ-2RW84-A2	Lower force	1	0.125	.219″	3.55
BZ-2RW-A2	Repeatability	1–2.5	0.50	.188″	3.55
BZ-2RW899-A2	Adjustable from .670″ to .880″	2.5	0.50	.125″	4.40
BZ-2RW863-A2	6″ lever	1	....	.578″	3.75

STRAIGHT LEVER ACTUATOR (CONT'D)

Micro Switch Number	Recommended For—	Oper. Force, Oz.	Min. Rel. Force, Oz.	Min. Over-travel	List Price
BZ-2RWT04	Meet MIL-S-8805	1–3.25	0.75	.172″	3.80
BZ-2RW824-A2	Temp. to +250° F	2.5	0.50	.219″	4.40
BZ-2RW8244-A2	Temp. to +400° F	2.5	0.50	.219″	4.80
ROLLER LEVER ACTUATOR					
BZ-2RW822-A2	1.05″ roller lever	6	1.5	.094″	$4.40
BZ-2RW82224-A2	Temp. to +250° F	6	1.5	.094″	4.65
BZ-2RW82299-A2	Adjustable from 1.172″ to 1.203″	6	1.5	.040″	5.70
BZ-2RW80147-A2	1.05″ roller lever	6	1.5	.094″	3.65
BZ-2RW82-A2	1.90″ roller lever	3.5	0.75	.156″	4.40
BZ-2RW8224-A2	Temp. to +250° F	3.5	0.75	.156″	4.55
BZ-2RW8299-A2	Adjustable from 1.150″ to 1.240″	3.5	0.75	.085″	5.20
BZ-2RW80196-A2	1.90″ roller lever	3.5	0.75	.156″	3.65
BZ-2RW826-A2	One-way roller, .37″ dia. x .15″ w.	6	1.5	.094″	5.20
BZ-2RW825-A2	One-way roller, .19″ dia. x .19″ w.	8	1.5	.060″	5.20
FLEXIBLE LEAF ACTUATOR*					
BZ-2RL-A2	Force & stability	5	0.50	.060″	$3.40
BZ-2RL5551-A2	Dustproof, splash resistant seal	7	0.50	.060″	4.65
BZ-2RLT04	Meet MIL-S-8805	5	0.50	.060″	3.55
BZ-2RL24-A2	Temp. to +250° F	5	0.50	.060″	3.55
BZ-2RL244-A2	Temp. to +400° F	5	0.50	.060″	3.90
FLEXIBLE LEAF WITH ROLLER ACTUATOR*					
BZ-2RL2-A2	Force & stability	5	0.50	.060″	$4.10
BZ-2RL25551-A2	Dustproof, splash resistant seal	7	0.50	.060″	5.45
BZ-2RL224-A2	Temp. to +250° F	5	0.50	.060″	4.35
BZ-2RL2244-A2	Temp. to +400° F	5	0.50	.060″	4.75

*Overtravel values given are maximum.

TYPE "BA" PRECISION 20-AMP SWITCHES

Same size and appearance as "BZ' switches above, but higher current capacity. **UL Electrical Rating:** 20 amps at 125, 250 or 480 VAC; 10 amps, 125 VAC "L" (AC tungsten lamp load); ¼ amp, 250 VDC; ½ amp, 125 VDC; 1 hp, 125 VAC, 2 hp, 250 VDC. **Temperature Range:** −65° F to +180° F. **Contacts:** SPDT, momentary. **Mechanical Life:** 10 million operations. **Terminals:** A2 type, bottom facing 6-32NC x .218″ screw with cup washers.

PIN PLUNGER ACTUATOR

Micro Switch Number	Recommended For—	Oper. Force, Oz.	Min. Rel. Force, Oz.	Min. Over-travel	List Price
BA-2R24-A2	Temp. to +250° F	14–22	10	.010″	$3.15
BA-2R-A2	To 20 A load	14–22	10	.010″	2.90
OVERTRAVEL PLUNGER ACTUATOR					
BA-2RB-A2	To 20 A load	14–22	10	.094″	3.60
BA-2RQ1-A2	To 20 A load	14–22	10	.219″	6.00
STRAIGHT LEVER ACTUATOR					
BA-2RV-A2	To 20 A load	2.5	0.50	.078″	3.65

ROLLER LEVER ACTUATOR

Micro Switch Number	Recommended For—	Oper. Force, Oz.	Min. Rel. Force, Oz.	Min. Over-travel	List Price
BA-2RV22-A2	To 20 A load	6	1.5	.030″	$4.55
BA-2RV2-A2	To 20 A load	3.5	0.50	.060″	4.55
FLEXIBLE LEAF ACTUATOR*					
BA-2RL-A2	To 20 A load	9	1	.062″	$3.40
FLEXIBLE LEAF WITH ROLLER ACTUATOR*					
BA-2RL2-A2	To 20 A load	9	1	.060″	$4.10

WE THINK YOU'LL LIKE OUR SERVICE . . .

LET US SERVE YOU!

MICRO SWITCH Switches

TYPE "1SX" SUBMINIATURE BASIC SWITCHES

Smallest SPDT snap-action switches from Micro Switch. Withstand temperatures from −65° F to +250° F. Silver contacts unless otherwise listed. **Release Force:** 1 oz. min. **Pretravel:** .020″ max. **Overtravel:** .004″ min. **Operating Position:** .320″ ±.015″. **Mounting:** Accept pins or screws of .087″ max. dia. on .188″ centers. T and T2 terminals for wrap around soldering of lead wires. UL and CSA listed. **Size:** .500″ w. x .200″ d. x .350″ h. overall, less terminals. Write or phone for information covering Type 1SX switches with integral lever and auxiliary actuators.

Ref.	Electrical Data
A	5 amps res., 3 amps ind., sea level, 4 amps res., 2 amps ind., 50,000 feet, 28 VDC; 5 amps res. or ind., 115 VAC, 60 Hz. UL and CSA Listed: 5 amps, 250 VAC.
B	7 amps res., 4 amps ind., sea level, 7 amps res., 2.5 amps ind., 50,000 ft., 28 VDC. UL, CSA Listed: 7 amps, 250 VAC.
C	3.5 amps res., 2 amps ind., sea level, 3.5 amps res., 1.5 amps ind., 50,000 ft., 28 VDC. UL Listed: 7 amps, 250 VAC.
D	1 amp res., ½ amp ind., 28 VDC.
E	3 amps res., 2 amps ind., 28 VDC. UL Listed: 3 amps, 250 VAC.
F	7 amps res., 4 amps ind., 2.5 amps lamp load, sea level, 4 amps res., 2.5 amps ind., 2.5 amps lamp load, 50,000 ft., 28 VDC. 7 amps res., 7 amps ind., 2 amps lamp load, 115 VAC, 60 Hz, sea level.
G	1 amp res., 0.5 amp ind., sea level and 50,000 ft., 28 VDC. 1.5 amps res., 1 amp ind., sea level, 115 VAC, 60 Hz.
H	.010 amp res. and ind., sea level, 28 VDC.

STRAIGHT PLUNGER ACTUATOR

Micro Switch Number	Recommended For—	*	Max. Oper. Force	Max. Diff. Travel	List Price
1SX21-T	Most applications	A	5 oz.	.002″	$3.55
3SX21-T	Applications requiring gold contacts	D	5 oz.	.003″	6.20
7SX21-T	Varying humidity	A	5 oz.	.003″	8.00
1SX22-T	For sealed enclosures	A	5 oz.	.003″	4.10
SX1-T	Up to 7 A load handling	B	5 oz.	.005″	3.90
SX1-T	Lower force	B	3 oz.	.005″	4.50
SX12-T	Reduced diff. travel	C	5 oz.	.002″	4.50
1SX1-T	Lowest diff. travel‡	E	5 oz.	.001″	4.10
2SX3-T	Lowest diff. travel§	H	5 oz.	.001″	6.60
SX48-T	0.010 overtravel	B	5 oz.	.005″	4.50
1SX1-T	Varying humidity	B	5 oz.	.005″	5.05
SX1-T	Applications requiring gold contacts	D	5 oz.	.005″	6.20
1SX39-T	Meet MIL-S-8805	F	5 oz.	.005″	3.90
1SX39-T2	+180° F max. use	F	5 oz.	.005″	3.90
3SX39-T	MIL-S-8805 gold con-	G	5 oz.	.005″	6.20
3SX39-T2	tacts, +180° F max.	G	5 oz.	.005″	6.20
SX1-T	Temp. to +400° F	†	5 oz.	.005″	4.50
2SX2-T	Best reliability§	H	5 oz.	.003″	6.05
2SX1-T	Higher current rating§	D	5 oz.	.003″	6.55

Electrical data reference. †Electrical data on request. ‡0.75 elease force. §With bifurcated gold contacts.

TYPE "SM" SUBMINIATURE SWITCHES

SM series are slightly larger than the 1SX switches. SPDT circuitry; contacts are silver except as noted. **Operating Temp. Range:** −100° F to +180° F. **Mechanical Life:** 10,000,000 cycles, 5% survival for 11SM series. **Operating Force:** 3–5 oz. except s noted. **Release Force:** 1 oz. min. except 11SM701-T, 14 grams. Power load switching capability to 11 amps, VAC. Motor load andling capacity to ¼ hp, VAC. T terminals for wrap around oldering of lead wires; others available. Series 21SM284 meet MIL-S-8805 requirements. UL and CSA listed. **Mounting:** Accept pins or screws of .087″ max. dia. Write or phone for information overing SM switches with integral leaf and aux actuators.

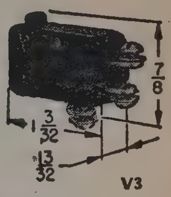
Ref.	Electrical Data
J	5 amps res., 3 amps ind., sea level; 5 amps res., 2.5 amps ind., 50,000 ft., 28 VDC. UL Listed, 5 amps, 250 VAC.
K	UL Listed: 5 amps, 125 or 250 VAC.
M	UL Listed: 11 amps and ¼ hp, 125 or 250 VAC.
N	1 amp res., 0.5 amp ind., 30 VDC. UL Listed: 1 amp, 125 VAC.
P	1 amp res., 0.5 amp ind., 30 VDC. UL Listed: 1 amp, 125 VAC.
R	5 amps res., 3 amps ind., 2.4 amps lamp load, sea level, 5 amps res., 2.5 amps ind., 2.4 amps lamp load, 50,000 ft., 28 VDC. 5 amps res., 5 amps ind., 1.5 amps lamp load, 115 VAC, 60 Hz, sea level.
S	UL Listed: 4 amps, 250 VAC.

PIN PLUNGER ACTUATORS

ize: .781″ w. x .250″ d. x .565″ h., overall.

Micro Switch Number	Recommended For—	*	Max. Pre-travel	Min. Over-travel	List Price
1SM1-T	Most applications	J	.020″	.005″	$1.60
1SM3-T	Temp. to +250° F	J	.020″	.005″	1.60
1SM244-T	Temp. to +400° F	†	.020″	.005″	2.30
2SM1-T	Varying humidity	J	.020″	.005″	2.30
1SM401-T	Less differential travel‡	K	.020″	.005″	3.45
1SM701-T	Lower force§	S	.020″	.005″	1.60
1SM1-T	Up to 11 amps ¼ hp AC load handling	M	.030″	.005″	2.80
1SM23-T	Gold contacts	N	.020″	.005″	4.15
2SM4-T	Bifurcated gold contacts	P	.020″	.003″	5.20
11SM1	Sealed plunger#	. .	.020″	.005″	3.90

Electrical data reference. †Electrical data on request. Max. perating Force: ‡3.5 oz.; §56 grams; #3–7.5 oz.



PIN PLUNGER ACTUATORS (CONT'D)

Micro Switch Number	Recommended For—	*	Max. Pre-travel	Min. Over-travel	List Price
51SM1-T	Center plunger position†	J	.030″	.010″	$2.80
21SM284	Meet MIL-S-8805, solder terminals	R	.030″	.005″	2.50
21SM284-T2	Meet MIL-S-8805	R	.030″	.005″	2.50

*Electrical data reference. †Max. operating force, 2–5 oz.

INTEGRAL LEVER ACTUATORS

Electrical Data: 311SM1-T thru 311SM7-T, reference J; balance, reference S. **Size:** .781″ w. x .250″ d. x .586″ h., overall.

Micro Switch No.	*	Force, Grams		Max. Pre-travel	Min. Over-travel	Actu-ator Lgth.	List Price
		Max. Oper.	Min. Rel.				
311SM1-T	A	40	7	.085″	.011″	.285″	$1.90
311SM2-T	A	30	5	.120″	.015″	.565″	1.90
311SM3-T	A	15	2	.310″	.034″	1.765″	1.90
311SM4-T	B	40	7	.085″	.011″	.251″	2.05
311SM5-T	B	30	5	.120″	.015″	.535″	2.05
311SM6-T	C	40	7	.085″	.011″	.251″	2.25
311SM7-T	C	30	5	.120″	.015″	.535″	2.25
311SM701-T	A	16	3	.085″	.011″	.285″	1.90
311SM702-T	A	12	2	.120″	.015″	.565″	1.90
311SM703-T	A	6	1	.310″	.034″	1.765″	1.90
311SM704-T	B	16	3	.085″	.011″	.251″	2.05
311SM705-T	B	12	2	.120″	.015″	.535″	2.05
311SM706-T	C	16	3	.085″	.011″	.251″	2.25

*Actuator: A, lever; B, simulated roller lever; C, roller lever.

TYPE "V3" MINIATURE BASIC SWITCHES

SPDT circuitry; silver contacts unless otherwise noted. Power load switching capability up to 15 amps, motor handling capacity of ⅓ hp. Long mechanical life of 10,000,000 cycles, 95% survival for V3-100 series. **Pretravel Time:** .047″ max. **Overtravel Time:** .040″, min., except V3-1101-D8, V3-2101-D8, V3-3001-D8, .050″ min. UL and CSA Listed. Solder terminals except as noted; other types available. **Size:** 1.094″ w. x .400″ d. x .625″ h., less terminals. Write or phone for information covering "V3" switch with straight lever; roller lever, simulated roller and aux actuators.

Ref.	Electrical Data
T	10 amps res., 6 amps ind., 6 amps motor load, 3.6 amps lamp load, 30 VDC. UL and CSA Listed: 10 amps and ⅓ hp, 125 or 250 VAC, ½ amp, 125 VDC; ¼ amp, 250 VDC; 4 amps, 125 VAC "L" lamp load.
U	10 amps res., 10 amps ind., sea level, 6 amps ind., 50,000 ft., 6 amps motor load, 30 VDC. UL and CSA Listed: 15 amps and ⅓ hp, 125 or 250 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC; 5 amps, 120 VAC "L" lamp load.
V	UL and CSA Listed: 10 amps and ¼ hp, 125 or 250 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC. 3 amps, 125 VAC "L" lamp load.
W	10 amps, 250 VAC or 28 VDC; ½ amp, 125 VDC; ¼ amp, 250 VDC.
X	UL Listed: 1 amp, 125 VAC.

PLUNGER ACTUATORS

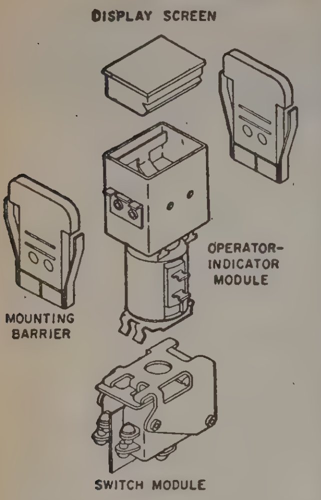
Micro Switch Number	Recommended For—	*	Max. Oper. Force	Min. Release Force	List Price
V3-101-D8	Most applications	T	8 oz.	2 oz.	$1.10
V3-101	General use, screw terminals	T	8 oz.	2 oz.	1.60
V3-1101-D8	Added overtravel	T	75 gms	10 gms	1.10
V3-2101-D8	Lowest force, added overtravel	V	50 gms	5 gms	1.15
V3-3001-D8	Lower force, up to 15 amps load handling	U	135 gms	15 gms	1.25
V3-1-D8	Up to 15 amps load handling	U	6–14 oz.	4 oz.	1.25
V3-1	Up to 15 amps load hndlg., screw term.	U	6–14 oz.	4 oz.	1.85
V3-154-D8	Less diff. travel	T	6 oz.	1 oz.	1.20
V3-343-D8	Gold alloy contacts	X	8 oz.	2 oz.	2.15
V3-1001	MIL-S-8805 applica-	U	6–14 oz.	4 oz.	2.50
V3-1002†	tion requirements	U	6–14 oz.	4 oz.	2.35
V3-1003‡		U	6–14 oz.	4 oz.	2.35
V3-129§	Temp. to +302° F	T	8 oz.	2 oz.	1.70
V3-245§	Temp. to +400° F	W	10–25 oz.	6 oz.	2.95

*Electrical data reference. †SPNC. ‡SPNO. §Actuators available on request.

WRITE OR CALL FOR QUANTITY DISCOUNTS

MICRO SWITCH Series 2 Switches

ILLUMINATED DISPLAY AND PUSHBUTTON SWITCH DEVICES



A new series of modular indicator and pushbutton units. No tools required for installation. The needs of modern indication and keyboard control met efficiently. Any panel is made up of the desired number and types of each unit and the units made up of the parts needed to do a specific function. Especially designed for such equipment as: Electronic data-processing systems, computers, graphic flow panels, business machines, missile and supervisory panels, scientific instruments, annunciator panels, etc. All units readily combined into rows or columns.

MOUNTINGS

Barrier Mountings are attached to two sides (long or short) of the indicators or operator-indicators and serve as mounting devices as well as separation-of-modules function. **Flange Mountings** have spring clip mounting devices ready-attached to two sides (long or short); units simply snap into mounting holes.

INDICATOR UNITS

Consist of light box with 2, 3 or 4 sockets and clips for attaching display screen. Barrier or flange mounted (long or short) unit for indication only. Mount same as operator-indicator units.

LIGHTING UNITS

Display Screens are large and may be engraved with signs or symbols. **Color Filters** are placed over lamps to obtain projected color with translucent white display screens. **Lamps** used in all units are standard miniature Nos. 328, 337, 330, 336, 334, 327.

SWITCHING UNITS

Switching units are wired simply and quickly and are snapped into position on the bottom of the operator-indicator units.

SHORT BARRIER TYPE

OPERATOR-INDICATOR

M.S. No.	No. of Sockets	Hold-in Coil DC	List Price
2C201	2	w/o	$ 5.25
2C203	4	w/o	6.25
2C213	2	6 v.	12.45
2C215	4	6 v.	13.25
2C225	2	28 v.	12.60
2C227	4	28 v.	13.35
2C237	4	48 v.	13.50
2C239	4	48 v.	14.45

INDICATOR

2F201	2	....	$ 4.15
2F203	4	....	5.05

LONG BARRIER TYPE

OPERATOR-INDICATOR

2C207	2	w/o	$ 5.25
2C209	4	w/o	6.25
2C219	2	6 v.	12.45
2C221	4	6 v.	13.25
2C231	2	28 v.	12.60
2C233	4	28 v.	13.35
2C243	2	48 v.	13.50
2C245	4	48 v.	14.45

*Price on request.

INDICATOR

2F207	2	....	$ 4.15
2F209	4	....	5.05

SHORT FLANGE TYPE

OPERATOR-INDICATOR

2C210	2	w/o	$ 6.10
2C212	4	w/o	6.75
2C222	2	6 v.	13.15
2C224	4	6 v.	13.85
2C234	2	28 v.	13.25
2C236	4	28 v.	14.05
2C248	4	48 v.	15.00

INDICATOR

2F210	2	....	$ 4.95
2F212	4	....	5.55

LONG FLANGE TYPE

OPERATOR-INDICATOR

M.S. No.	No. of Sockets	Hold-in Coil DC	List Price
2C204	2	w/o	$ 6.10
2C206	4	w/o	6.75
2C216	2	6 v.	13.15
2C218	4	6 v.	13.85
2C228	2	28 v.	13.25
2C230	4	28 v.	14.05
2C240	2	48 v.	14.35
2C242	4	48 v.	15.00

INDICATOR

2F204	2	....	$ 4.95
2F206	4	....	5.55

MOUNTING BARRIERS

SHORT

M.S. No.	Color	Panel Thick.	List Price
2B1	Gray	1/16–3/16″	$0.61
2B3	Black	1/16–3/16″	.61
2B10	White	1/16–3/16″	.61
2B11	Red	1/16–3/16″	.61
2B5	Gray	3/16–5/16″	.61
2B7	Black	3/16–5/16″	.61
2B12	White	3/16–5/16″	.61
2B13	Red	3/16–5/16″	.61

LONG

2B2	Gray	1/16–3/16″	.61
2B4	Black	1/16–3/16″	.61
2B14	White	1/16–3/16″	.61
2B15	Red	1/16–3/16″	.61
2B6	Gray	3/16–5/16″	.61
2B8	Black	3/16–5/16″	.61
2B16	White	3/16–5/16″	.61
2B17	Red	3/16–5/16″	.61

COLOR LAMP FILTERS

M.S. No.	Color	Type	List Price
2G12	Red	Silicone	$0.29
2G13	Yellow	Silicone	.29
2G14	Green	Silicone	.29
2G15	Blue	Silicone	.29
2G16	Amber	Silicone	.29
2G17	White	Silicone	.29

SPACING BARRIERS

LONG—1.360″

No.	Color	Spacer	List Price★
2B9	Gray	.160 ± .005	$0.54
2B18	Black	.160 ± .005	.54
2B19	White	.160 ± .005	.54

SHORT—1.120″

2B23	Gray	.160 ± .005	$0.54
2B24	Black	.160 ± .005	.54
2B25	White	.160 ± .005	.54
2B26	Red	.160 ± .005	.54

DISPLAY SCREENS

LATERALLY SPLIT

No.	Colors	List Price★
2A36	Red/Red	$1.95
2A37	Red/Yellow	1.95
2A38	Red/Green	1.95
2A39	Red/Blue	1.95
2A40	Red/White	1.95
2A41	Yellow/Green	1.95
2A42	Yellow/Blue	1.95
2A43	Yellow/White	1.95
2A44	Yellow/Yellow	1.95
2A45	Green/Blue	1.95
2A46	Green/White	1.95
2A47	Green/Green	1.95
2A48	Blue/White	1.95
2A49	Blue/Blue	1.95
2A50	White/White	1.95

DISPLAY SCREENS (CONT'D)

SOLID SCREEN

No.	Color	List Price★
2A1	Red	$0.90
2A2	Yellow	.90
2A3	Green	.90
2A4	Blue	.90
2A5	White	.90

3-PIECE SCREEN

2A66	Red	$1.00
2A67	Yellow	1.00
2A68	Green	1.00
2A69	Blue	1.00
2A70	White	1.00

LONGITUDINALLY SPLIT

2A51	Red/Red	$1.95
2A52	Red/Yellow	1.95
2A53	Red/Green	1.95
2A54	Red/Blue	1.95
2A55	Red/White	1.95
2A56	Yellow/Green	1.95
2A57	Yellow/Blue	1.95
2A58	Yellow/White	1.95
2A59	Yellow/Yellow	1.95
2A60	Green/Blue	1.95
2A61	Green/White	1.95
2A62	Green/Green	1.95
2A63	Blue/White	1.95
2A64	Blue/Blue	1.95
2A65	White/White	1.95

LAMP-FILTER TOOL

Permit changing of lamps and color filters from front of mounting panel without causing breakage or shorts.

M.S. No. 15PA32—............................**Price on Request**

SWITCHING UNITS

TB Type Switch—Rating: 10 amps, 125–250 v. AC; 10 amps 30 v. DC.

No.	Contact Arrangement	Terminals	List Price★
2D64	2 Circuit, Double Break	Screw (end)	$4.65
2D86	2 Circuit, Double Break	Solder (end)	4.25

SM Type Subminiature—Rating: UL Listed for 5 amps, 125 or 250 v. AC. 30 v. DC rating: Inductive, 3 amps at sea level, 2.5 amps at 25,000 ft.; resistive, 5 amps, at sea level and 50,000 ft., max. inrush 24 amps.

No.	SPDT Circ.	Type	Contacts	List Price★
2D1	2	Momentary	Gold	$ 7.00
2D2	2	Momentary	Silver	4.95
2D4	3	Momentary	Gold	10.75
2D5	3	Momentary	Silver	7.15
2D8	4	Momentary	Gold	13.85
2D9	4	Momentary	Silver	11.65
2D25	2	Alternate Action	Gold	8.40
2D26	2	Alternate Action	Silver	7.30
2D32	4	Alternate Action	Gold	16.15
2D33	4	Alternate Action	Silver	13.85

M.S. No. 2D62 HS Type—Hermetically sealed. Rating: 1 amp, 125 VAC inductive or resistive load; 10 amps, 28 VDC inductive load; 25 amps, 28 VDC resistive load. Contact arrangement, SPDT. Screw type terminals. List Price..............**$16.50**

M.S. No. 2D66 A Type—High capacity. Rating: 20 amps. 125, 250, 480 VAC; 1 hp, 125 VAC; 2 hp. 250 VAC. Contact arrangement, SPDT. Screw type terminals. List Price........ **5.00**

M.S. No. 2D88 MT Type—Magnetic blow-out. Rating: 10 amps, 125 VAC or DC resistive load; ½ hp, 125 VDC polarized; ¼ hp, 125 V nonpolarized. Contact arrangement, SPDT. Screw type terminals. List Price..............................**$ 9.50**

M.S. No. 2D89 DT Type—Rating: 10 amps, 125 or 250 VAC; 0.3 amp, 125 VDC; 0.15 amp, 250 VDC. Contact arrangement, DPDT, Screw type terminals. List Price..............**$11.70**

M.S. No. 2D68 Z Type—Long life. Rating: 15 amps, 125, 250, 480 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC. Contact arrangement, SPDT. Screw type terminals. List Price.........**$ 5.00**

M.S. No. 2D70 V3 Type—Rating: 15 amps, 125 or 250 VAC; 10 amps resistive or inductive load at 30 VDC at sea level; 6 amps, inductive and 10 amps resistive load at 30 VDC at 50,000 ft.; ½ hp, 125 VAC. Contact arrangement, SPDT. Screw type terminals. List Price..............................**$ 2.75**

M.S. No. 2D72 V3 Type—Same as above but DPDT contact. List Price....................................**$ 4.10**

★WRITE OR CALL FOR QUANTITY DISCOUNTS

MICRO SWITCH SERIES PW OILTIGHT PUSHBUTTONS

ON
OFF
HAND
OFF
AUTO
JOG

PWC CONTACT BLOCKS

Standard-duty contact block controls loads up through NEMA size 4 contactors and motor starters. Has double-break construction, chisel-shaped, fine silver contacts. **General-purpose electronic duty contact block** designed for controlling electronic and small magnetic loads up through NEMA size 1 contactors. Has single-break snap-acting design with silver contacts. **Low-level electronic duty contact block** for low energy loads usually under 50 volts. Has snap-acting design with gold bifurcated (two points in parallel) contacts. Contact blocks available with **Circuit Form X** (SPST-NO double-break), **Form Y** (SPST-NC double-break), or **Form C** (SPDT single-break) contacts. Any combination of four contact blocks may be used with one operator (two contact blocks with lighted pushbuttons).

ELECTRICAL RATINGS

Electrical Rating	Volts	Amperes Make	Amperes Break	Type Load
A	120 AC 125 DC 30 DC	30 1.1 10	3 1.1 10	.35 PF capacitive Inductive Inductive
B	120 AC 30 DC 30 DC	7.5 3 5	1.2 3 5	.35 PF capacitive Inductive Resistive
C	120 AC max. 30 DC max. 30 DC max.	1 0.5 1	1 0.5 1	Resistive Inductive Resistive

Micro-Switch No.	Contact Block Type	Term. Type	Elect. Rating	Circuit Form	Contacts	List Price
PWCD	Standard	Screw	A	X	Silver	**$3.20**
PWCE	Standard	Screw	A	Y	Silver	**3.20**
PWCK	Standard	Screw	A	X	Silver	**3.20**
PWCJ	Standard	Screw	A	Y	Silver	**3.20**
PWCF	Standard	Push-On	A	X	Silver	**3.00**
PWCG	Standard	Push-On	A	Y	Silver	**3.00**
PWCC	Gen. Purp.	Push-On	B	C	Silver	**5.40**
PWCB	Low Level	Push-On	C	C	Gold	**8.00**
PWCM	Gen. Purp.	Screw	B	C	Silver	**5.70**
PWCL	Low Level	Screw	C	C	Gold	**8.30**

PWP AND PWM UNLIGHTED PUSHBUTTONS

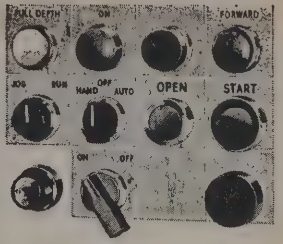
Unlighted pushbuttons with extended heads, full guard, and full guard (large opening), plus $1\frac{1}{8}$″ and $1\frac{1}{2}$″ mushroom heads. Full guards (large opening) provide opening as large as heavy duty oiltight devices and permit operation by a gloved finger. Any combination of standard duty or electronic duty contacts block (up to a maximum of four) may be used with these pushbuttons. Size, behind panel, $1\frac{13}{32}$″ w. x $1\frac{15}{16}$″ d. x $1\frac{7}{32}$″ h. Legend plates, $1\frac{15}{32}$″ w. x $1\frac{15}{32}$″ h.

M-S No.	Description†	List Pr.
PWP1	Unlighted pushbutton without ring	**$ 4.40**
PWP2	Unguarded, extended head pushbutton w/ring	**5.40**
PWP3	Full guard, $\frac{3}{4}$″ I.D., w/ring	**5.40**
PWP4	Full guard (large opening) 1″ I.D. w/ring	**5.40**
PWM2	Mushroom head unit, small, $1\frac{1}{8}$″ dia.	**11.40**
PWM3	Mushroom head unit, large, $1\frac{1}{2}$″ dia.	**11.40**

†**Add suffix for button color: 2** (Black), **3** (Red), **4** (Orange), **5** (Yellow), **6** (Green), **7** (Blue), **8** (White); (e.g., PWP12, Operator with unlighted black button without ring). Mushroom head units in black, red and yellow only.

PWH LIGHTED PUSHBUTTONS

Combines function of an unlighted pushbutton and an indicator in one unit. Saves space and cost. Offers guarded lens and extended lens versions. Translucent pigmented nylon lens provides long operating life and high chemical resistance. Choice of lens colors. Transformer equipped units available for operation at 120 VAC, resistor units for 120 VAC/DC; and full voltage devices for operation at 6–8; 12–14; or 24–28 volts. Lighted pushbuttons accept one or two contact blocks. Size, behind panel, $1\frac{13}{32}$″ w. x $1\frac{15}{16}$″ d. x $1\frac{7}{32}$″ h. Legend plates, $1\frac{15}{32}$″ w. x $1\frac{15}{32}$″ h. Listed are lighted pushbuttons with **Extended Lens.** To order lighted pushbutton with **Full Guard** instead, change first numerical digit to **3** (e.g., PWH310). To order lighted pushbutton with **Full Guard, Large Opening,** change first numerical digit to **4** (e.g., PWH410). For all models, add suffix for button color: **3** (Red), **4** (Amber), **5** (Yellow), **6** (Green), **7** (Blue), **8** (White).



PWH LIGHTED PUSHBUTTONS (CONT'D)

Micro-Switch No.	Term. Type	Micro-Switch No.	Term. Type	Voltage	List Price
PWH210	Screw	**PWH250**	Push-On	Full (less lamp)	**$16.40**
PWH212	Screw	**PWH252**	Push-On	6–8 Volts	**17.40**
PWH213	Screw	**PWH253**	Push-On	12–14 Volts	**17.40**
PWH215	Screw	**PWH255**	Push-On	24–28 Volts	**17.40**
PWH221	Screw	**PWH261**	Push-On	Trans. 120 VAC	**21.40**
PWH231	Screw	**PWH271**	Push-On	Res., 120 VAC/DC	**17.40**

PWL ONE-LAMP AND PUSH-TO-TEST INDICATORS AND PWD TWO-LAMP INDICATORS

Superior lens design gives brilliant indication from any angle. Indicating lights and push-to-test lenses have different shapes for easy recognition. Push-to-test form permits manual check of lamp. Lenses, in choice of colors, remove easily without disturbing units' mounting ring. Two-lamp indicators offer split lens and legends on insert to show dual status—OPEN/CLOSE, OFF/ON, UP/DOWN, IN/OUT, etc. Size, behind panel, $1\frac{13}{32}$″ w. x $1\frac{15}{16}$″ d. x $1\frac{7}{32}$″ h. Legend plates, $1\frac{15}{32}$″ w. x $1\frac{15}{32}$″ h. **To order PWD Two-Lamp Indicating Lights** write for ordering information and prices. **PWL One-Lamp Indicating Lights, Choice of Lens Color†.** To order **Push-to-Test Indicator** change letter B to **P** (e.g., PWL**P**10) and add **$6.00** to list price.

PWLB10	Screw	**PWLB50**	Push-On	Full (less lamp)	**$16.40**
PWLB12	Screw	**PWLB52**	Push-On	6–8 Volts	**17.40**
PWLB13	Screw	**PWLB53**	Push-On	12–14 Volts	**17.40**
PWLB15	Screw	**PWLB55**	Push-On	24–28 Volts	**17.40**
PWLB21	Screw	**PWLB61**	Push-On	Trans. 120 VAC	**21.40**
PWLB31	Screw	**PWLB71**	Push-On	Res., 120 VAC/DC	**17.40**

†**Add suffix for lens color: 3** (Red), **4** (Amber), **5** (Yellow), **6** (Green), **7** (Blue); **8** (White). (e.g., PWH210**3**, red lens.)

PWS AND PWK SELECTOR UNITS

Knob or wing lever selectors are offered in a choice of two, three, four, or five maintained position and two or three position spring return. Knobs and wing levers available in choice of colors with contrasting black or white indicating line. Wing levers provide large gripping area, ideally suited for gloved-hand operation and for frequent operation of spring return units. Key-operated selectors offered in a variety of lock and withdrawal positions. Two keys supplied with each operator. Selectors provide separate cam surface for each of four contact blocks. Selectors accept up to four contact blocks in any combination of standard and electronic duty for multiple-circuit flexibility. Complete information available on request.

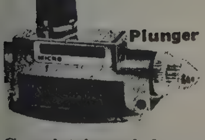
PWU SELECTOR-PUSH UNITS

Selector-push units offered in 2- or 3-position maintained with extended button. Many cam choices permit wide range of sequencing possibilities. Push features are accomplished by pins that extend through the turn cam. Accept up to four contact blocks in any combination of standard and electronic duty for multiple-circuit versatility. Complete information available on request.

PWN LEGEND PLATES

Standard aluminum legend plates have words with $\frac{9}{64}$″ high characters except "STOP" which may be ordered in $\frac{13}{64}$″ high also. Special and custom legends may be ordered. Plates available in aluminum or plastic. Complete information on request.

BZG/BZH ENCLOSED SWITCHES



Rod
Lever
MICRO

Roller
Lever
MICRO

Completely sealed construction with a diecast aluminum housing form a NEMA 1 and 4 enclosure. SPST precision switching element is rated 15 amps at 125, 250 or 480 VAC. Choice of sturdy side and flange mounting. Sizes of side mount plunger models are: 3.391″ w. (single conduit), 3.902″ w. (double conduit) x 1.024″ d. x 3.022″ h.

Operating Characteristics	Model Type Plunger	Model Type Rod Lever	Model Type Roller Lever
Operating Force	9–24 oz.	3–7 oz.	10–20 oz.
Release Force	4 oz. min.	1 oz. min.	6 oz. min.
Pretravel	.078 max.	.718 max.	.188 max.
Differential Travel	.002 max.	.229 max.	.006 max.
Overtravel	.219 min.	.828 min.	.219 min.

Micro-Switch No. Side Mount	Micro-Switch No. Flange Mount	No. Conduit Openings	Actuator Type	List Price
BZG1-2RN	**BZH1-2RN**	1	Plunger	**$12.85**
BZG2-2RN	**BZH2-2RN**	2	Plunger	**14.50**
BZG1-2RN62	**BZH1-2RN62**	1	Rod Lever	**19.05**
BZG2-2RN62	**BZH2-2RN62**	2	Rod Lever	**20.70**
BZG1-2RN2	**BZH1-2RN2**	1	Roller Lever	**18.00**
BZG2-2RN2	**BZH2-2RN2**	2	Roller Lever	**19.65**

MICRO SWITCH HEAVY DUTY "LS" OILTIGHT LIMIT SWITCHES

Side Rotary Actuated

Top Rotary Actuated

ELECTRICAL RATINGS

Listed by UL; Certified by CSA: 10 A continuous carry.

Switch Type	Action	Rating, Amperes							
		Power Factor 0.35				Inductive		Resistive	
		120 VAC	240 VAC	480 VAC	600 VAC	120 VDC	240 VDC	120 VDC	240 VDC
SPDT	Make	60	30	15	12	0.25	0.15	0.8	0.4
	Break	6.0	3.0	1.5	1.2	0.25	0.15	0.8	0.4
DPDT	Make	30	15	7.5	6.0	0.25	0.15	0.8	0.4
	Break	3.0	1.5	0.75	0.6	0.25	0.15	0.8	0.4

Note: Standard switches operate both clockwise and counter-clockwise; rotary heads are assembled with shaft to front or label side of switch. For clockwise operation only, add suffix **1** to Micro Switch Number; for counter-clockwise only, add suffix **2**; for head with shaft to right side, suffix **3**; for head with shaft to left, **4**; for head with shaft toward back, **5**.

Advanced design limit switches feature mounting and tracking interchangeability, design flexibility and improved, rugged oil-tight construction. Superior corrosion-resistant enclosures with wide cam tracking possibilities, new lever lock, single-pole and double-pole circuits, self-lifting pressure plate terminals, grounding screw. Available with a variety of actuator types in plug-in or non-plug-in enclosures. Designed for long, trouble-free life with heavy zinc alloy diecast housing to withstand great physical abuse. All external surfaces are epoxy painted. Extended operating temperature limit of 250° F. Generous overtravel on all types gives extra design freedom. Enclosures with circuit indicating light are available for 120 or 240 VAC in single-pole plug-in models.

Positive sealing keeps oil, water and dust out; design meets NEMA classifications 1, 4 and 13. Double elastomer seals on lever operating shaft; elastomer boot seal on plunger and wobble lever actuated switches (listed on following page); elastomer diaphragm seal between operating head and housing; gasket seal between cover and housing (non-plug-in switches) and between plug-in switch and mounting base.

Mount from either front or back; all types have identical mounting centers. Easy installation and maintenance with self-lifting pressure plates on all wiring terminals. Plug-in switches permit replacement of switching component in seconds. Rotary actuating levers lock in any position through 360° around the shaft; head may be positioned and locked in any of four 90° positions. Double actuating shaft bearings on rotary types.

Contact block housings are molded from arc resistant thermosetting plastic compound which does not deteriorate with age. Contacts are fine silver or gold plated fine silver. Single-pole switches with fine silver contacts have movable contacts of silver-cadmium-oxide alloy. UL and NEMA industrial 600-volt spacing.

SIDE ROTARY ACTUATED, MOMENTARY CONTACT SWITCHES

STANDARD PRETRAVEL AND OPERATING TORQUE

Pretravel: 15° max. **Differential:** SPDT, 5° max.; DPDT, 7° max. **Overtravel:** 60° min. **Oper. Torque:** 4 in.-lbs. max.

M.S. No.	Circuit	Body Style	Conduit	Indicator Light	List Price*
LSA1A	SPDT	Plug-in	½″	None	**$33.00**
LSA1E	SPDT*	Plug-in	½″	None	**35.00**
LSA5A	SPDT†	Plug-in	½″	120 volt	**39.00**
LSA8A	SPDT†	Plug-in	½″	240 volt	**39.00**
LSA3K	SPDT	Non-plug-in	½″	None	**29.00**
LSA2B	DPDT	Plug-in	¾″	None	**40.00**
LSA6B	DPDT	Plug-in	½″	None	**40.00**
LSA4L	DPDT	Non-plug-in	¾″	None	**35.00**
LSA7L	DPDT	Non-plug-in	½″	None	**35.00**

LOW OPERATING TORQUE, STANDARD PRETRAVEL

Pretravel: 15° max. **Differential:** SPDT, 5° max.; DPDT, 7° max. **Overtravel:** 60° min. **Oper. Torque:** 1.7 in.-lbs. max.

M.S. No.	Circuit	Body Style	Conduit	Indicator Light	List Price*
LSR1A	SPDT	Plug-in	½″	None	**$33.00**
LSR1E	SPDT*	Plug-in	½″	None	**35.00**
LSR5A	SPDT†	Plug-in	½″	120 volt	**39.00**
LSR3K	SPDT	Non-plug-in	½″	None	**29.00**
LSR2B	DPDT	Plug-in	¾″	None	**40.00**
LSR6B	DPDT	Plug-in	½″	None	**40.00**
LSR4L	DPDT	Non-plug-in	¾″	None	**35.00**
LSR7L	DPDT	Non-plug-in	½″	None	**35.00**

LOW DIFFERENTIAL, STANDARD TORQUE

Pretravel: 7° max. **Differential:** SPDT, 3° max.; DPDT, 4° max. **Overtravel:** 68° min. **Oper. Torque:** 4 in.-lbs. max.

M.S. No.	Circuit	Body Style	Conduit	Indicator Light	List Price*
LSP1A	SPDT	Plug-in	½″	None	**$35.00**
LSP1E	SPDT*	Plug-in	½″	None	**37.00**
LSP5A	SPDT†	Plug-in	½″	120 volt	**41.00**
LSP3K	SPDT	Non-plug-in	½″	None	**31.00**
LSP2B	DPDT	Plug-in	¾″	None	**42.00**
LSP6B	DPDT	Plug-in	½″	None	**42.00**
LSP4L	DPDT	Non-plug-in	¾″	None	**37.00**
LSP7L	DPDT	Non-plug-in	½″	None	**37.00**

LOW DIFFERENTIAL, LOW TORQUE

Pretravel: 7° max. **Differential:** SPDT, 3° max.; DPDT, 4° max. **Overtravel:** 68° min. **Oper. Torque:** 1.7 in.-lbs. max.

M.S. No.	Circuit	Body Style	Conduit	Indicator Light	List Price*
LSH1A	SPDT	Plug-in	½″	None	**$35.00**
LSH1E	SPDT*	Plug-in	½″	None	**37.00**
LSH5A	SPDT†	Plug-in	½″	120 volt	**41.00**
LSH8A	SPDT†	Plug-in	½″	240 volt	**41.00**
LSH3K	SPDT	Non-plug-in	½″	None	**31.00**
LSH2B	DPDT	Plug-in	¾″	None	**42.00**
LSH6B	DPDT	Plug-in	½″	None	**42.00**
LSH4L	DPDT	Non-plug-in	¾″	None	**37.00**
LSH7L	DPDT	Non-plug-in	½″	None	**37.00**

TOP ROTARY ACTUATED MOMENTARY CONTACT SWITCHES

Pretravel: 35° max. **Differential:** SPDT, 8° max.; DPDT, 12° max. **Overtravel:** 100° min. **Oper. Torque:** 2.5 in.-lbs. max.

M.S. No.	Circuit	Body Style	Conduit	Indicator Light	List Price*
LSB1A	SPDT	Plug-in	½″	None	**$35.00**
LSB1E	SPDT*	Plug-in	½″	None	**37.00**
LSB5A	SPDT†	Plug-in	½″	120 volt	**41.00**
LSB3K	SPDT	Non-plug-in	½″	None	**31.00**
LSB2B	DPDT	Plug-in	¾″	None	**42.00**
LSB6B	DPDT	Plug-in	½″	None	**42.00**
LSB4L	DPDT	Non-plug-in	¾″	None	**37.00**
LSB7L	DPDT	Non-plug-in	½″	None	**37.00**

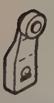
SIDE ROTARY ACTUATED MAINTAINED CONTACT SWITCHES

Pretravel: 65° max. **Differential:** SPDT, 30° max.; DPDT, 35° max. **Overtravel:** 20° min. **Oper. Torque:** 4 in.-lbs. max.

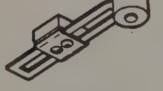
M.S. No.	Circuit	Body Style	Conduit	Indicator Light	List Price*
LSN1A	SPDT	Plug-in	½″	None	**$39.00**
LSN1E	SPDT*	Plug-in	½″	None	**41.00**
LSN5A	SPDT†	Plug-in	½″	120 volt	**45.00**
LSN8A	SPDT†	Plug-in	½″	240 volt	**45.00**
LSN3K	SPDT	Non-plug-in	½″	None	**35.00**
LSN2B	DPDT	Plug-in	¾″	None	**46.00**
LSN6B	DPDT	Plug-in	½″	None	**46.00**
LSN4L	DPDT	Non-plug-in	¾″	None	**41.00**
LSN7L	DPDT	Non-plug-in	½″	None	**41.00**

*Gold plated contacts for low-energy circuits. Rated 10 amps continuous; .01 amp, 5 VAC or 5 VDC; 720 VA, 600 VAC or 30 watts, 240 VDC pilot rating. May be used also at same ratings for regular silver contacts, SPDT switches. †Use only at voltage stated for indicator light.

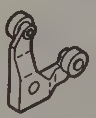
LEVERS FOR ROTARY ACTUATED SWITCHES



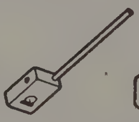
Standard



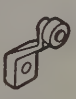
Adjustable



Yoke



Rod



Offset

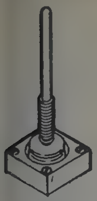
Special levers permit a wide range of cam tracking possibilities with side or top rotary actuated switches. **Standard Levers** have fixed 1½″ radius with roller on either side of lever (open or closed). **Adjustable Levers** can be set from 1½″ to 3½″ radius. **Offset Levers** have fixed 1½″ radius, with rollers on either side. **Yoke Levers** are for use with side rotary maintained contact switches. **Rod Levers** can be formed to meet individual requirements. **To order** lever alone, use complete M.S. Number (e.g., LSZ51A). To order lever as a unit with rotary actuated switches, add suffix (-1A, -1B, etc.) to the rotary switch number and add appropriate cost. Example: LSA1A-**1B** is a standard pretravel plug-in switch with fixed radius steel lever, roller mounted on the open side of the lever; List Price is $36.00 ($33.00 plus $3.00 for the lever).

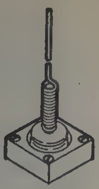
M.S. No. LSZ5-	Description	Mounted Position	Roller, Inches		Material	List Price*
			Dia.	W.		
1A	Standard (1½″ radius)	Open	¾	¼	Nylon	**$3.00**
1B		Open	¾	¼	Steel	**3.00**
1C		Closed	¾	¼	Nylon	**3.00**
1D		Closed	¾	¼	Steel	**3.00**
1L		Closed	¾	¼	Ball bearing	**7.00**
2CC	Adj. Radius (1½–3½″)	Closed	¾	¼	Nylon	**5.00**
2DC		Closed	¾	¼	Steel	**5.00**
2JC		Closed	1	½	Nylon	**7.00**
2KC		Closed	1½	¼	Nylon	**7.00**
3E	Yoke (1½″)	†	¾	¼	Nylon	**5.00**
3S		Closed‡	¾	¼	Nylon	**5.00**
4MC	5″ Rod	....	....	....	Aluminum	**5.00**
4NC	12″ Rod	....	....	....	Steel (stainless)	**5.00**
4RC	12″ Rod	....	....	....	Spring steel	**5.00**
5A	Offset (1½″)	Open	¾	¼	Nylon	**5.00**
5C		Closed	¾	¼	Nylon	**5.00**

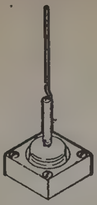
†One roller on each side (1 closed, 1 open). ‡Rollers on same side.

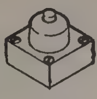
★WRITE OR CALL FOR QUANTITY DISCOUNTS

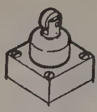
MICRO SWITCH "LS" SWITCHES WITH SPECIAL ACTUATORS

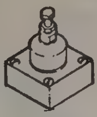

Plastic Rod

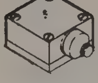

Spring Wire

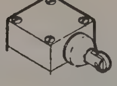

Cat Whisker

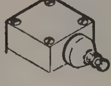

Top Plunger

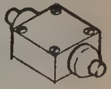

Top Roller


Adj. Top


Side Plunger


Side Roller


Adj. Side


Maintained

WOBBLE ACTUATED SWITCHES

Ratings and contacts same as rotary switches on preceding page. Cable (1.5″) and coil spring (2″) types also available.

WITH PLASTIC ROD ACTUATOR

Pretravel: 1″ max. **Operating Force:** 10 oz. max.

M.S. Number	Cir-cuit	Body Style	Con-duit	Indicator Light	List Price*
LSJ1A-7A	SPDT	Plug-in	½″	None	$36.00
LSJ1E-7A	SPDT*	Plug-in	½″	None	38.00
LSJ5A-7A	SPDT†	Plug-in	½″	120 volt	42.00
LSJ3K-7A	SPDT	Non-plug-in	½″	None	32.00
LSJ2B-7A	DPDT	Plug-in	¾″	None	43.00
LSJ6B-7A	DPDT	Plug-in	½″	None	43.00
LSJ4L-7A	DPDT	Non-plug-in	¾″	None	38.00
LSJ7L-7A	DPDT	Non-plug-in	½″	None	38.00

WITH SPRING WIRE ACTUATOR

Pretravel: 4″ max. **Operating Force:** 5 oz.

LSJ1A-7M	SPDT	Plug-in	½″	None	$35.00
LSJ1E-7M	SPDT*	Plug-in	½″	None	37.00
LSJ5A-7M	SPDT†	Plug-in	½″	120 volt	41.00
LSJ3K-7M	SPDT	Non-plug-in	½″	None	31.00
LSJ2B-7M	DPDT	Plug-in	¾″	None	42.00
LSJ6B-7M	DPDT	Plug-in	½″	None	42.00
LSJ4L-7M	DPDT	Non-plug-in	¾″	None	37.00
LSJ7L-7M	DPDT	Non-plug-in	½″	None	37.00

WITH CAT WHISKER ACTUATOR

Pretravel: 2″ max. **Operating Force:** 5 oz. max.

LSK1A-8A	SPDT	Plug-in	½″	None	$33.00
LSK1E-8A	SPDT*	Plug-in	½″	None	35.00
LSK5A-8A	SPDT†	Plug-in	½″	120 volt	39.00
LSK8A-8A	SPDT†	Plug-in	½″	240 volt	39.00
LSK3K-8A	SPDT	Non-plug-in	½″	None	29.00
LSK2B-8A	DPDT	Plug-in	¾″	None	40.00
LSK6B-8A	DPDT	Plug-in	½″	None	40.00
LSK4L-8A	DPDT	Non-plug-in	¾″	None	35.00
LSK7L-8A	DPDT	Non-plug-in	½″	None	35.00

TOP PLUNGER ACTUATED MOMENTARY CONTACT SWITCHES

Assembled with roller parallel to mounting surface. For roller perpendicular to mounting surface, add suffix **6** to Micro Switch Number. Ratings and contacts same as rotary actuated types. **Pretravel:** .070″ max. **Differential Travel:** SPDT, .015″ max.; DPDT, .020″ max. **Overtravel:** .190″ min. **Oper. Force:** 4 lbs. max.

TOP PLAIN PLUNGER ACTUATOR

Operating point, 1.805″ (±.030″). Oiltight seals.

M.S. Number	Cir-cuit	Body Style	Con-duit	Indicator Light	List Price*
LSC1A	SPDT	Plug-in	½″	None	$36.00
LSC1E	SPDT*	Plug-in	½″	None	38.00
LSC5A	SPDT†	Plug-in	½″	120 volt	42.00
LSC3K	SPDT	Non-plug-in	½″	None	32.00
LSC2B	DPDT	Plug-in	¾″	None	43.00
LSC6B	DPDT	Plug-in	½″	None	43.00
LSC4L	DPDT	Non-plug-in	¾″	None	38.00
LSC7L	DPDT	Non-plug-in	½″	None	38.00

TOP ROLLER PLUNGER ACTUATOR

Operating point, 2.200″ (±.040″). Roller adjusts to 90° angles.

LSD1A	SPDT	Plug-in	½″	None	$40.00
LSD1E	SPDT*	Plug-in	½″	None	42.00
LSD5A	SPDT†	Plug-in	½″	120 volt	46.00
LSD8A	SPDT†	Plug-in	½″	240 volt	46.00
LSD3K	SPDT	Non-plug-in	½″	None	36.00
LSD2B	DPDT	Plug-in	¾″	None	47.00
LSD6B	DPDT	Plug-in	½″	None	47.00
LSD4L	DPDT	Non-plug-in	¾″	None	42.00
LSD7L	DPDT	Non-plug-in	½″	None	42.00

ADJUSTABLE TOP PLUNGER ACTUATOR

Operating point adjusts from 2.085–2.335″.

LSV1A	SPDT	Plug-in	½″	None	$38.00
LSV1E	SPDT*	Plug-in	½″	None	40.00
LSV5A	SPDT†	Plug-in	½″	120 volt	44.00
LSV8A	SPDT†	Plug-in	½″	240 volt	44.00
LSV3K	SPDT	Non-plug-in	½″	None	34.00
LSV2B	DPDT	Plug-in	¾″	None	45.00
LSV6B	DPDT	Plug-in	½″	None	45.00
LSV4L	DPDT	Non-plug-in	¾″	None	40.00
LSV7L	DPDT	Non-plug-in	½″	None	40.00

SIDE PLUNGER ACTUATED MOMENTARY CONTACT SWITCHES

Assembled with plunger to front of switch. For plunger to right side, add suffix **3** to Micro Switch Number; for plunger to left side, add suffix **4**; for plunger toward back, add suffix **5**. Ratings and contacts same as rotary actuated switches. **Pretravel:** .100″ max. **Differential:** SPDT, .025″; DPDT, .035″ max. **Overtravel:** .190″ min. **Operating Force:** 6 lbs. max.

SIDE PLAIN PLUNGER

Operating point, 1.300″ (±.030″). Actuating head may be faced in any of four positions, 90° apart. Boot and gasket seals.

M.S. Number	Cir-cuit	Body Style	Con-duit	Indicator Light	List Price*
LSE1A	SPDT	Plug-in	½″	None	$38.00
LSE1E	SPDT*	Plug-in	½″	None	40.00
LSE5A	SPDT†	Plug-in	½″	120 volt	44.00
LSE3K	SPDT	Non-plug-in	½″	None	34.00
LSE2B	DPDT	Plug-in	¾″	None	45.00
LSE6B	DPDT	Plug-in	½″	None	45.00
LSE4L	DPDT	Non-plug-in	¾″	None	40.00
LSE7L	DPDT	Non-plug-in	½″	None	40.00

SIDE ROLLER PLUNGER

Operating point, 1.735″ (±.040″). Head may be faced in any of four positions, 90° apart. Roller turns vertical or horizontal.

LSF1A	SPDT	Plug-in	½″	None	$42.00
LSF1E	SPDT*	Plug-in	½″	None	44.00
LSF5A	SPDT†	Plug-in	½″	120 volt	48.00
LSF3K	SPDT	Non-plug-in	½″	None	38.00
LSF2B	DPDT	Plug-in	¾″	None	49.00
LSF6B	DPDT	Plug-in	½″	None	49.00
LSF4L	DPDT	Non-plug-in	¾″	None	44.00
LSF7L	DPDT	Non-plug-in	½″	None	44.00

ADJUSTABLE SIDE PLUNGER

Operating point adjusts from 1.615″ to 1.865″.

LSW1A	SPDT	Plug-in	½″	None	$40.00
LSW1E	SPDT*	Plug-in	½″	None	42.00
LSW5A	SPDT†	Plug-in	½″	120 volt	46.00
LSW3K	SPDT	Non-plug-in	½″	None	36.00
LSW2B	DPDT	Plug-in	¾″	None	47.00
LSW6B	DPDT	Plug-in	½″	None	47.00
LSW4L	DPDT	Non-plug-in	¾″	None	42.00
LSW7L	DPDT	Non-plug-in	½″	None	42.00

MAINTAINED CONTACT SWITCHES WITH SIDE PLAIN PLUNGER

Available with same head options as momentary contact types. **Pretravel:** .170″ max. **Differential:** .090″ max. **Overtravel:** .080″ min. **Oper. Force:** 10 lbs. max. **Oper. Point:** 1.480″ (±.030″).

LSG1A	SPDT	Plug-in	½″	None	$44.00
LSG8A	SPDT†	Plug-in	½″	240 volt	50.00
LSG3K	SPDT	Non-plug-in	½″	None	40.00
LSG2B	DPDT	Plug-in	¾″	None	51.00
LSG6B	DPDT	Plug-in	½″	None	51.00
LSG4L	DPDT	Non-plug-in	¾″	None	46.00

SPECIAL SIDE ROTARY SWITCHES

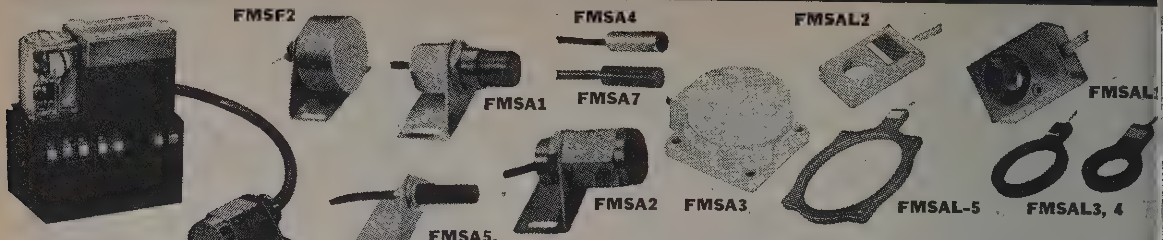
Type LSM Center Neutral: Pole 1 operates counter-clockwise, pole 2 clockwise. SPDT double break contacts in each direction. Ratings same as standard DPDT types. Pretravel, 22° max. Differential, 10° max. Overtravel, 53° min. Operating torque, 4 in.-lbs. max. **Type LSL Sequential:** Pole 1 operates first, pole 2 operates second; either clockwise or counter-clockwise, or both. Two SPDT double break contacts with 8° between operation. Ratings same as standard DPDT types. Pretravel, 1st pole 15° max., 2nd pole 10° max. Differential, 5° for each pole. Overtravel, 48° min. Operating torque, 4 in.-lbs. max.

Body Style	Con-duit	Center Neutral		Sequential	
		M.S. No.	List*	M.S. No.	List*
Plug-in	¾″	LSM2D	$42.00	LSL2C	$46.00
Plug-in	½″	LSM6D	42.00	LSL6C	46.00
Non-plug-in	¾″	LSM4N	37.00	LSL4M	41.00
Non-plug-in	½″	LSM7N	37.00	LSL7M	41.00

*Gold plated contacts for low-energy circuits. Electronic duty rated 5 VAC or VDC, .01 amp, recommended minimum load. May also be used at same electrical ratings shown for SPDT type switches listed on preceding page. †Use at voltage indicated for light; upper operating temperature limit for lighted units is 200° F.

★WRITE OR CALL FOR QUANTITY DISCOUNTS

MICRO SWITCH Proximity Switches



PROXIMITY CONTROLS

The proximity controls on these pages represent the modern approach to detecting metal objects without contacting them. Three basic proximity concepts are offered—modular electronic controls, self-contained solid state switches, and reed/magnetic operated switches. Each has its own unique advantages. Modular electronic proximity controls consist of a sensor, a control base (amplifier, power supply and function circuit) and an output relay. They offer the greatest versatility, including sensitivity to ferrous metals only or all-metals and a variety of control logics. Self-contained proximity switches contain in one small housing all of the circuitry needed to respond to any metal and produce a usable output signal. They are particularly useful as inputs into solid state logic systems. Reed proximity switches are operated by the influence of a magnetic field either by moving a magnet close to the reed switch or by moving a ferrous metal into the magnetic field to bias its magnetic influence on the reed switch contacts.

MODULAR ELECTRONIC PROXIMITY CONTROLS

Series FM all-metals responsive and ferromagnetic metals responsive modular proximity controls have all solid state circuitry. Amplifier, power supply and a wide range of function circuits are on plug-in circuit cards. Plug-in output modules provide a variety of output contact forms. Range of function circuits include time delays, AND and OR logic, decade counters, and speed control. Sensors available are loop design, high temperature, steel clad for rugged applications, small sizes for limited access areas, and full-threaded sensors for bushing mounting. Sensitivity adjustment and target-in-range lamp provided for installation purposes. Also have output condition indicator lamps as well as adjustment controls for setting time cycles, speed rates, etc.

FERROMAGNETIC RESPONSE FACTORY ASSEMBLED CONTROLS

Ferromagnetic responsive factory assembled modular controls listed in the following table have input voltage of 110–120 VAC, 50/60 Hz, except No. FMF121-AV, 220–240 VAC, 50/60 Hz. Micro Switch Nos. FMF111-CV and FMF112K1-VC are SPST NO reed relays; No. FMV011F1, 28 VDC nom., balance are DPDT. Temperature range, −40° F to +150° F. Sensors must be ordered separately to complete the control; housings also available.

Micro Switch Number	Function	Response Time		List Price
		Operating	Release	
FMF111-AV	Gen. purpose	44 ms	57 ms	$133.70
FMV011F1	Gen. purpose	33 ms	34 ms	123.20
FMF121-AV	Gen. purpose	44 ms	57 ms	138.95
FMF111F1-AA†	Double gen. purp.	44 ms	57 ms	215.90
FMF111T2-VA	ON delay	.6–15 sec	....	187.65
FMF112T5-VA	OFF delay*	.6–15 sec	....	208.70
FMF112T7-VA	OF/OFF delay*	.03–.7 sec	....	227.30
FMF112T8-VA	ON/OFF delay*	.6–15 sec	....	227.30
FMF111L5-VA†	AND logic	44 ms	57 ms	196.00
FMF111L6-VA†	OR logic	44 ms	57 ms	196.00
FMF111-CV	Counter control	900 input pulses per minute		154.65
FMF112K1-VA	Decade counter control*			233.50
FMF111U1-VA	Over or under speed detector	60–900 input pulses per min.		220.15

*With deluxe power supply. †2 sensors; all others, 1 sensor.

FERROMAGNETIC RESPONSIVE SENSORS

Ferromagnetic responsive sensors must be ordered separately to complete the proximity control. Sensors use 18 AWG stranded leads.

Micro Switch Number	Std. Lead Lgth.	Sensi- tivity	Ambient Temperature Range	List Price
FMSF1-6	6 ft.	.500″*	−40° F to +185° F	$ 57.65
FMSF1-25	25 ft.	.500″*	−40° F to +185° F	67.95
FMSF1-50	50 ft.	.500″*	−40° F to +185° F	81.25
FMSF3-6	6 ft.	.500″*	0° F to +430° F	77.60
FMSF3-25	25 ft.	.500″*	0° F to +430° F	94.80
FMSF3-50	50 ft.	.500″*	0° F to +430° F	129.25
FMSF2-6	6 ft.	1.500″†	−40° F to +185° F	78.45
FMSF2-25	25 ft.	1.500″†	−40° F to +185° F	88.80
FMSF2-50	50 ft.	1.500″†	−40° F to +185° F	102.05
FMSF4-6	6 ft.	1.500″†	0° F to +430° F	138.85
FMSF4-25	25 ft.	1.500″†	0° F to +430° F	150.00
FMSF4-50	50 ft.	1.500″†	0° F to +430° F	178.30

*Sensitivity to 2″ x 2″ x 0.5″, 1018 steel target. †Sensitivity to 5″ x 5″ x 0.062″, 1018 steel target.

ALL-METALS RESPONSE FACTORY ASSEMBLED CONTROLS

Modular electronics proximity controls listed in following table have input voltage 110–120 VAC, 50/60 Hz, except No. FMA121-AV, 220–240 VAC, 50/60 Hz. Micro Switch Nos. FMA111-CV and FMA112K1-VC are SPST NO reed relays; No. FMV011A1, 28 VDC nom., balance are DPDT relays. Temp. range, −40° F to +150° F. Sensors must be ordered to complete the control.

Micro Switch Number	Function	Response Time		List Price
		Operating	Release	
FMA111-AV	Gen. purpose	16 ms	30 ms	$135.90
FMV011-A1	Gen. purpose	4 ms	8 ms	120.15
FMA121-AV	Gen. purpose	16 ms	30 ms	135.90
FMA111A1-AA†	Double gen. purp.	16 ms	30 ms	209.80
FMA111T2-VA	ON delay	.6–15 sec	....	184.60
FMA112T5-VA	OFF delay*	.6–15 sec	....	205.65
FMA112T7-VA	ON/OFF delay*	.03–.7 sec	....	224.25
FMA112T8-VA	ON/OFF delay*	.6–15 sec	....	224.25
FMA111L3-VA†	AND logic	16 ms	30 ms	189.75
FMA111L4-VA†	OR logic	16 ms	30 ms	189.75
FMA111-CV	Counter control	15,000 input pulses per minute		151.60
FMA112K1-VC	Decade counter control*			246.15
FMA111U1-VA	Over or under speed detector	60–2000 input pulses per min.		217.10

*With deluxe power supply. †2 sensors; all others, 1 sensor.

ALL-METALS RESPONSIVE SENSORS

All-metals responsive sensors must be ordered separately to complete the proximity control. Sensors use Type RG-58 C/U 50 ohm coaxial cable.

Micro Switch Number	Stand- ard Lead Lgth.	Sensitivity to 2″ x 2″ x ½″‡		List Price
		With Amplifier FMA1 or FMA3. Max. Temp. Range, −40° F to +185° F	With Amplifier FMA2. Max. Temp. Range, +32° F to +120° F	
FMSA1-6*	6 ft.	.500″	.750″	$37.00
FMSA1-25*	25 ft.	.500″	.750″	42.15
FMSA1-50*	50 ft.	.500″	.750″	52.45
FMSB1-6†	6 ft.	.500″	.750″	48.00
FMSB1-25†	25 ft.	.500″	.750″	53.90
FMSB1-50†	50 ft.	.500″	.750″	64.25
FMSA2-6*	6 ft.	.700″	1.000″	30.00
FMSA2-25*	25 ft.	.700″	1.000″	34.70
FMSA2-50*	50 ft.	.700″	1.000″	45.05
FMSB2-6†	6 ft.	.700″	1.000″	39.85
FMSB2-25†	25 ft.	.700″	1.000″	45.80
FMSB2-50†	50 ft.	.700″	1.000″	56.20
FMSA3-6	6 ft.	1.500″	2.00″	53.25
FMSA3-25	25 ft.	1.500″	2.00″	59.10
FMSA3-50	50 ft.	1.500″	2.00″	69.50
FMSA4-6	6 ft.	.350″	.450″	23.65
FMSA5-6	6 ft.	.350″	.450″	26.60
FMSA5-25	25 ft.	.350″	.450″	32.50
FMSA5-50	50 ft.	.350″	.450″	42.90
FMSA6-6	6 ft.	.190″	....	31.05
FMSA6-25	25 ft.	.190″	....	36.95
FMSA6-50	50 ft.	.190″	....	47.35
FMSA7-6	6 ft.	.160″	....	34.70
FMSA8-6	6 ft.	.110″	....	42.90

*Cadmium plated steel. †Stainless steel. ‡No. 1018 steel target, except FMSA3 sensor, 5″ x 5″ x .062″ steel target.

ALL-METALS RESPONSIVE LOOP SENSORS

For use with FM all-metals responsive controls to detect small ferrous and non-ferrous metals. Totally enclosed units operate at very high speed, responding to signals as short as a few milliseconds. Metallic objects need only have one dimension at least 20% of the inside diameter to operate. Standard lead lengths are 6 ft., 25 ft. and 50 ft. Sensors temp. range is +32° F to +185° F. **Sizes:** FMSAL1, 1.250″ w. x 1.875″ long; FMSAL2, 1.375″ w. x 2.250″ long; FMSAL3, 1.500″ inner dia., 2.750″ outer dia., x 4.250″ long. FMSAL4, 3.000″ inner dia. x 4.250″ outer dia. x 5.625″ long. FMSAL5, 6.000″ inner dia. x 9.000″ long.

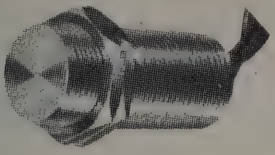
Micro Switch Number*	Loop I.D.	Min. Size Piece (Pass Through Detection)†	Sensor Isolation	List Price
FMSAL1-6	0.40″	.250″ x .75″	5X loop I.D.	$48.40
FMSAL2-6	0.75″‡	5/16″ x ½″	4X loop I.D.	48.40
FMSAL3-6	1.50″	.375″ x .75″	3X loop I.D.	48.40
FMSAL4-6	3.00″	.650″ x 1.5″	3X loop I.D.	48.40
FMSAL5-6	6.00″	1.5″ x 3.0″	2X loop I.D.	52.40

*Sensors listed have 6 ft. lead lengths; for 25 ft., change suffix to **25**, e.g., **FMSAL1-25** and add **$5.60** to price; for 50 ft., change suffix to **50** and add **$15.50** to price. †4″ free-fall drop. ‡Hexhead screws; all others CRS bar stock.

WRITE OR CALL FOR QUANTITY DISCOUNTS

MICRO SWITCH Proximity Switches

SERIES 103SR HALL EFFECT PROXIMITY SENSORS

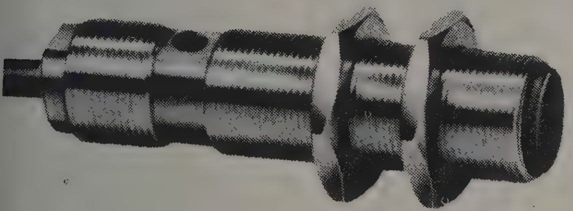


Versatile switches actuated by magnetic targets. The sensing element is a Hall Effect sensor with a trigger and amplifier integrated on a silicon chip. The SR series sensors can be operated at any speed from zero up to a maximum of 10 kHz and are not rate sensitive. The sensor is sealed in an aluminum bushing 1" long with a 15⁄32-32 thread overall. Lead wires are color-coded, 6" long, #20 AWG stranded, and PVC insulated. **Operating Temperature Range:** Model 103SR3F-5, −40° C to +100° C; all others, −40° C to +105° C.

M.S. No.	Supply Volts	Output		Volts	Max. Actuate Gauss	Min. Release Gauss	List Price
		Type	mA				
103SR5A-1	4.5–9	Digital Sinking	4	.4 max.	575	82	**$ 9.65**
103SR11A-1	4.5–7	Digital Sourcing	10	3.4 min.	575	82	**9.65**
103SR13A-1 **103SR17A-1**	6–16	Digital Sinking	10	.4 max.	492 205	40 −205	**9.65** **9.65**
103SR12A-1 **103SR16A-1**	6–16	Digital Sourcing	10	Vs-2	492 205	40 −205	**9.65** **9.65**
103SR3F-5	4–10	Linear Sourcing	....	1.75 to 2.25 @ 0 Gauss	*	*	**11.05**

*Sensitivity: 0.9 mV/Gauss from −400 to +400 Gauss.

SERIES 50FY MAGNETICALLY OPERATED PROXIMITY SWITCHES



Magnetically operated proximity switches have many of the advantages of the Series FY all-metals switches, but differ in that the 50FY is smaller, costs less, and is actuated only by a magnetic field, which means that it can sense through non-ferrous metal. The switching element is a Hall Effect sensor and an integrated amplifier on a silicon chip. Switches are housed in a corrosion-resistant aluminum bushing, threaded for easy installation. Circuits are protected against transient conditions and reverse voltages. **Temperature Range:** −40° F to +185° F.

Micro Switch No.#	Supply Voltage DC	Leakage Current	Circuit Type	Output Current	List Price
50FY12-1	7-16	20 μA	Sink-N.O.	20 mA	**$19.00**
50FY13-1	7-16	20 μA	Source-N.O.	20 mA	**19.00**
50FY24-1	7-16	10 μA	Sink-N.O.	200 mA	**23.75**

#To order switch with right angle mounting bracket, add suffix **B** to Model No. and **$1.65** to price.

SERIES FY ALL-METALS-SENSITIVE PROXIMITY SWITCHES

Series FY self-contained proximity switches provide solid-state reliability at prices comparable to electromechanical limit switches. They require no physical contact to actuate, have greater electrical life, are equally rugged and well sealed, interface directly with industrial logic or programmable controllers and operate at much higher speeds. The aluminum housings withstand industrial conditions. Circuitry is completely sealed. All switch output circuits are current sinking and switches are available in normally closed, normally open or complementary outputs. **Temperature Range:** −22° F to +160° F.

Micro Switch No.#	Sensing Distance	Output Current		Input Voltage	List Price
		N.O.	N.C.		
DC SWITCHES 14 MM DIAMETER					
FYAA3A1-2†	3 mm	20 mA	....	8.5–20 DC	**$38.00**
FYAA3A2-2†	3 mm	20 mA	....	19–30 DC	**38.00**
FYAB8A1-2	8 mm	20 mA	....	8.5–20 DC	**38.00**
FYAB8A2-2	8 mm	20 mA	....	19–30 DC	**38.00**
18 MM DIAMETER					
FYBC5E1-2*†	4 mm	170 mA	....	8.5–20 DC	**44.60**
FYBC5E2-2*†	4 mm	170 mA	....	19–30 DC	**44.60**
FYBD12E1-2*	10 mm	170 mA	....	8.5–20 DC	**44.60**
FYBD12E2-2*	10 mm	170 mA	....	19–30 DC	**44.60**
30 MM DIAMETER					
FYCA8A1-2†	8 mm	20 mA	....	8.5–20 DC	**$36.35**
FYCA8A2-2†	8 mm	20 mA	....	19–30 DC	**36.35**
FYCC8E1-2*†	8 mm	170 mA	....	8.5–20 DC	**42.95**
FYCC8E2-2*†	8 mm	170 mA	....	19–30 DC	**42.95**
FYCB16A1-2	16 mm	20 mA	....	8.5–20 DC	**36.35**
FYCB16A2-2	16 mm	20 mA	....	19–30 DC	**36.35**
FYCD16E1-2*	16 mm	170 mA	....	8.5–20 DC	**42.95**
FYCD16E2-2*	16 mm	170 mA	....	19–30 DC	**42.95**
76 MM DIAMETER					
FYDB32F1-2	32 mm	20 mA	....	8.5–20 DC	**$49.55**
FYDB32F2-2	32 mm	20 mA	....	19–30 DC	**49.55**
FYDD32B1-2*	32 mm	170 mA	....	8.5–20 DC	**56.15**
FYDD32B2-2*	32 mm	170 mA	....	19–30 DC	**56.15**
AC SWITCHES 30 MM DIAMETER					
FYCA8C3-2†	8 mm	1 A	....	120 AC	**$62.80**
FYCA8D3-2†	8 mm	....	1 A	120 AC	**62.80**
FYCC8C3-2*†	8 mm	1 A	....	120 AC	**70.20**
FYCC8D3-2*†	8 mm	....	1 A	120 AC	**70.20**
FYCB16C3-2	16 mm	1 A	....	120 AC	**62.80**
FYCB16D3-2	16 mm	....	1 A	120 AC	**62.80**
FYCD16C3-2*	16 mm	1 A	....	120 AC	**70.20**
FYCD16D3-2*	16 mm	....	1 A	120 AC	**70.20**
76 MM DIAMETER					
FYDB32C3-2	32 mm	1 A	....	120 AC	**$62.80**
FYDB32D3-2	32 mm	....	1 A	120 AC	**62.80**
FYDD32C3-2*	32 mm	1 A	....	120 AC	**70.20**
FYDD32D3-2*	32 mm	....	1 A	120 AC	**70.20**

*Has LED output indicator. #To order switch with right angle mounting bracket, add suffix **B** to Model No. and **$1.65** to price. †Shielded; others unshielded.

WE CAN QUOTE ON NEEDS FOR MRO, R&D, AND PRODUCTION QUANTITIES

IN BOTH THE SEMICONDUCTOR AND ELECTROMECHANICAL MARKETS.

MICRO SWITCH MANUAL INDUSTRIAL CONTROL DEVICES

TYPE PT HEAVY DUTY, OIL-TIGHT PUSHBUTTONS

START
ON
HIGH
FAST
LOW
MOTOR RUN
JOG
DOWN

Enhance Your Control Panels With This New Line of Heavy Duty, Oil-Tight Pushbuttons

Micro Switch's new Type PT devices can be employed in a broad range of control applications where rapid operator identification of the control is necessary, where oil splash will be encountered, and where heavy duty (high inrush or reactive) loads are being driven.

The following **UNLIGHTED** Type PT devices are available: Pushbuttons, Selectors, Selector-Push units, and Potentiometers. These devices provide you with the maximum control value for the lowest price and are principally used where feedback sounds or machinery operations can be directly observed by an operator.

When indication from remote operations is required, Type PT **LIGHTED** devices are also offered in Indicators, Push-to-Test Indicators, lighted Pushbuttons, and lighted Push-Pull units.

Here are a few outstanding features of these rugged, attractively styled and easy-to-use units.

Modern Square Legend Plates are provided in 1⅞" or 2¼" size. Square shape uses only space otherwise necessary behind the panel for electrical clearances. Square shape blends with other panel instruments such as timers, recorders, meters, etc.

Large, Easy-to-Read Legends—Larger legend plate size along with its square shape permits larger legending for ease of operator identification even at a distance away from the panel. High contrast between letters and legend plate background is provided on these legend plates.

Oil-Tight Shaft and Panel Seals are Buna N elastomers for long-life oil-tight sealing. Keeps cutting oils, lubricants, petroleum hydraulic fluids, alcoholic solvents, and other liquids from entering through the device or enclosure hole and away from the contact blocks. Devices are built for use with NEMA 1 and 12 enclosures.

Interchangeable Lenses, Buttons and Knobs—Actuators are color-coded and interchangeable before or after installation. Buttons snap fit and are screw-driver removable. Lenses screw on for easy lamp replacement. Knobs and wing levers screw on for style and color interchangeability. Mushroom head buttons and Selector-Push collars are held in place with Allen head set screws.

Universal Mounting Diecast Bushing fits commercially available enclosure cutouts. Seals on bushing are large enough to permit oil-tight sealing even when dowel pin knockouts on your panels have been removed. Sturdy diecast bushing is protected with chrome-nickel-copper plating.

CONTACT US FOR CATALOG INFORMATION AND PRICES ON MICRO SWITCH TYPE PT PUSHBUTTONS

Complete Circuit Flexibility—Ten different heavy duty and six different electronic duty contact blocks permit easy adaptation from one to 16 heavy duty circuits per operator (up to 32 electronic duty). Circuit flexibility eliminates units equipped with unused contacts.

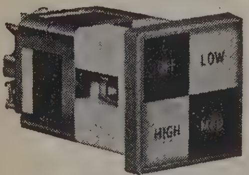
Tandem Mounting of Contact Blocks permits any combination of heavy or electronic duty contact blocks, generally with up to four blocks per operator. Tandem mounting lets you tailor operators to exact circuit requirements and add circuits easily after installation.

Contact Blocks for Dry Circuit to Heavy Duty Loads—Heavy duty contact blocks are built to handle high AC inrush currents and high DC inductive break voltages. For low energy applications, electronic duty contact blocks are also offered (with mechanical wiping action): choice of sliding silver contacts for instrumentation type loads, and sliding gold contacts for dry circuit control.

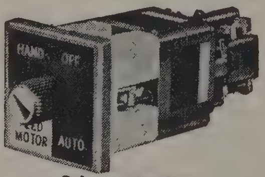
Heavy Duty, Easy-to-Wire Contact Block Terminals—Heavy duty contact block terminals are angled to permit easy access to terminal screw by screwdriver. Terminal screw contains clamping pressure plate which lifts away from a stationary U-bracket. The U-bracket and pressure plate will securely hold a single wire from No. 16 to No. 12 size, stranded or solid, as well as any two wires of same or adjacent sizes. Electronic duty contact blocks have combination solder and 0.187" width quick-connect terminals.

Easy-to-See Terminal Designations—All contact block terminals are numbered adjacent to the terminal for easy polarity reference and easy cross-reference when wires are numbered. Heavy duty contact blocks also identify the NC or NO terminals for each circuit. To help the installer, heavy duty NC terminals are colored silver, and NO terminals are colored gold.

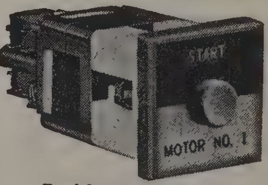
SERIES CMC COORDINATED MANUAL CONTROL DEVICES



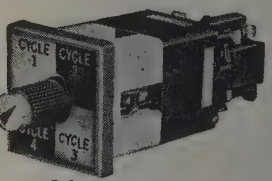
Indicator Only



Selector-Indicator



Pushbutton-Indicator



Selector-Push Indicator

The Coordinated Manual Control Devices are multi-light, oiltight controls offering unexcelled flexibility in panel indication and control. An indicator unit and three operator-indicator units cover various functional requirements. The indicator module provides a lighted color coded display only. The three types of operator models are pushbutton, selector, and selector-push, all with lighted color coded display. Various control legends and five color inserts to choose from with each unit. Contact Blocks attach to operator housings.

Square Shape—Distinctive 2¼" square shape for diagonal or square mounting; provides the most legend area for panel space.

Oiltight Construction—Both cover plate and actuator have oiltight seals that prevent entrance of oil, coolants, water.

Indication—Display is divided into four equal areas, with individually controlled lamps. Each lamp can be lighted with its own 120 or 240 VAC transformer, direct low-voltage wiring, or 48 VAC/VDC resistor.

Legends—Over 300 standard industrial legend plates available, with 1 to 4 words. Blank and custom legends also available.

Color—Each quarter of display area can be color-coded in red, yellow, green, blue, white or amber in any combination.

Lighted Indicator Pointer—Selector and Selector-Push units feature reflectively illuminated pointer.

Pushbutton Unit—Controls up to 16 heavy-duty circuits (32 electronic or dry circuits). Minimum distance between pushbuttons is 1⅝".

Selector Unit—Choice of 2, 3 or 4-position. Circuits controlled selectively for maintained action. Sure-grip knurled knob.

Selector-Push Unit—Pushbutton operation for circuit control.

Contact Blocks—Choice of heavy duty or electronic duty blocks, with up to 8 circuits. Up to four contact blocks can be mounted on a single unit.

Four-Plunger Actuation—Permits four separate sequences of action to contact blocks on a single unit.

Terminals—Lamp and heavy duty contact block terminals designed for bare wire, quick-connectors, spade lugs, or solder connections. Electronic duty contact blocks have solder quick-connect terminals.

Fast Mounting—Four lugs for one-man, front-of-panel mounting in panels from 1/16" to ¾" thick.

WRITE OR CALL FOR COMPLETE CATALOG INFORMATION AND PRICES ON COORDINATED MANUAL CONTROL DEVICES

MICRO SWITCH MODULATED PHOTOELECTRIC EQUIPMENT

FE-MLS SERIES MODULATED LED CONTROLS

Modulated LED controls have a vibration-resistant, long-life, light-emitting diode that is electronically pulsed (modulated). The phototransistor and the receiver circuits respond only to a narrow frequency band around the LED pulsing frequency. Therefore, these controls can be used where ambient light is bright, even outdoors, without triggering. Because modulated LED controls emit an invisible infrared beam (approximately 9000 Angstrom wavelength), each control has an externally visible indicator to signal alignment of emitter with receiver (or scanner with target), and to permit operation monitoring. All modulated LED controls have built-in ON-OFF amplifiers and require logic cards for any function other than simple ON-OFF. Types FE-MLS2A and FE-MLS5A controls are high-intensity devices which will penetrate foggy, dusty or other poor visibility scanning conditions. In addition, they can be used to scan through nearly opaque material such as denim or colored plastic in inspection applications. The infrared beam of these high-intensity devices is harmless to the naked eye. All controls have integral protection against industrial electrical noise and inductive load spikes.

FE-MLS1A SERIES

The FE-MLS1A is a UL and CSA listed AC-powered control with a self-contained power supply. It scans a maximum of 30 feet to a retroreflective target. False pulse protection during the initial power surge applies only for simple ON-OFF control. The control includes a sensitivity adjustment and a 10-amp DPDT relay. The cast aluminum housing withstands shock and vibration; is dusttight, watertight and oiltight; and inhibits electrical noise. Right angle mounting flanges are integral. **Maximum Operation Rate:** 18 times per second. **Logic:** ON-OFF control (light or dark selection by means of a jumper wire). Uses LOG Series logic cards for other operations. **Maximum Scan Distance:** 30 feet with 3″ dia. disc supplied. **Input Power:** 105–130 or 210–260 VAC, 50–60 Hz, 4 VA.

Micro Switch No. FE-MLS1A—Control for 105–130 VAC operation. List Price.............................**$137.00**

Micro Switch No. FE-MLS1A-T230—Control for 210–260 VAC operation. List Price.............................**$150.00**

FE-MLS2A SERIES

The FE-MLS2A is a UL and CSA listed AC-powered control. It consists of separate emitter and receiver—each with its own power supply—designed for long-distance scanning or penetration of murky atmospheres. Maximum scanning distance is 700 feet. No logic card is needed for simple ON-OFF response—for which there is a 70-millisecond false pulse protection during the initial power surge. A built-in mode selector switch determines light or dark operation. The receiver unit contains a sensitivity adjustment and a plug-in 10-amp DPDT relay. If flooded with intense ambient light, the control locks off, rather than triggers. A unique circuit in the receiver accepts a plug-in earphone alignment aid (included with the control). **Maximum Scan Distance:** 700 feet. **Maximum Operation Rate:** 13 times per second. **Logic:** Simple ON-OFF response selected by switch. Uses LOG Series logic cards for other operations. **Input Power:** 105–130 or 210–260 VAC, 50–60 Hz, 2 VA for emitter, 3 VA for receiver.

Micro Switch No. FE-MLS2A—Control for 105–130 VAC operation. List Price.............................**$385.00**

Micro Switch No. FE-MLS2A-T230—Control for 210–260 VAC operation. List Price.............................**$385.00**

FE-MLS3A SERIES

The FE-MLS3A is a DC-powered, light-operated scanner. It scans a maximum 25 feet to a retroreflective target. The 12 VDC models of this series are powered from a G4B or LCR Series control base that accepts optional plug-in logic cards (which also provide optional dark operation. The current sinking output drives a 12 VDC relay or interfaces directly with logic level circuitry. A completely potted version is available for use in areas where oil or water seepage is present. The sensitivity adjustment is not accessible in the potted version. **Maximum Scan Distance:** 25 feet with 3-inch disc supplied. **Maximum Operation Rate:** 100 times per second. **Logic:** ON-OFF response; light operated; will operate a relay directly. Uses LOG Series logic cards for other operations. **Input Power:** 12–18 or 22–30 VDC, 2 watts (12-volt model) or 3 watts (24-volt model).

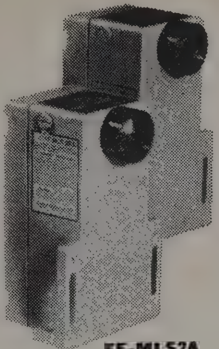
Micro Switch No. FE-MLS3A—Standard 12-volt scanner. List Price.............................**$125.00**

Micro Switch No. FE-MLS3A-00300—24-volt scanner. List Price.............................**$125.00**

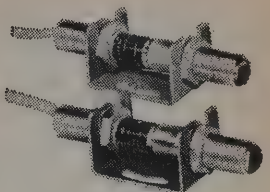
LOG SERIES LOGIC CARDS

For simple, immediate ON-OFF response, any modulated LED device will operate a relay directly; no logic card is needed. However, a card is needed to convert normally light-operated devices to the dark-operated mode. Each card (except LOG6) includes a light operate/dark operate mode selector switch. Latching logic cards cannot be used in Models FE-MLS1A or FE-MLS2A controls. Cards plug into MLS1A and MLS2A controls, and into the control base used to power other controls.

Micro Switch No.	Function	List Price
FE-LOG-J	Immediate ON-OFF jumper card	$10.00
FE-LOG3-1	Electronic latch-in control	28.10
FE-LOG4-2	One-shot pulse output, adjustable	56.50
FE-LOG4-2L	Electronic latch, non-repeat	59.85
FE-LOG5	On-delay control	51.30
FE-LOG5L	On-delay control with electronic latch	51.30
FE-LOG5R	Off-delay control	48.20
FE-LOG5-14	On-Off delay control	59.80
FE-LOG6	Stop-motion control	59.80
FE-LOG8	Momentary start, delayed one-shot	65.70
FE-LOG8A	Momentary start, delayed one-shot control	65.70
FE-LOG8B	Momentary start, non-repeat delayed one-shot control	68.10



FE-MLS2A



FE-MLS4A

FE-MLS7A

FE-MLS4A SERIES

The FE-MLS4A is a DC-powered, light-operated control consisting of separate emitter and receiver. Maximum scan distance is approximately 8 feet. A regulated LCRP3 power supply can be used to power the 12 VDC control. The FE-MLS4A current sinking output drives a 12 VDC relay or interfaces directly with minicomputers. Output is disabled for 30 milliseconds after power is applied, preventing false pulses when operating loads with a response time longer than 0.5 millisecond. Emitter and receiver are completely potted in fully threaded ⅝″ diam. anodized aluminum housings. Optional right angle beam deflectors allow positioning of emitter and receiver at right angles to each other. **Maximum Scan Distance:** 8 feet. **Maximum Operation Rate:** 165 times per second. **Logic:** ON-OFF response; light operated; will operate a relay directly. Uses LOG logic cards for other operations. **Input Power:** 12–16 VDC, 80 mA max.

Micro Switch No. FE-MLS4A—Standard control. List Price.............................**$120.00**

FE-MLS5A SERIES

The FE-MLS5A is a DC-powered, light-operated control consisting of separate emitter and receiver. Maximum scanning distance is 250 feet. The 12-volt models of this series are powered from a G4B or LCR Series control base that can accept optional plug-in logic cards, which also provide optional dark operation. Current sinking output drives a 12 VDC relay or interfaces directly with logic level circuitry, including programmable controllers and minicomputers. If flooded with intense ambient light, the control ouptput locks off, rather than triggers. A completely potted model is available for use in areas where oil or water seepage is present. **Maximum Scan Distance:** 250 feet. **Maximum Operation Rate:** 20 times per second. **Logic** ON-OFF response; light operated; will operate a relay directly. **Input Power:** 12–18 or 22–30 VDC.

Micro Switch No. FE-MLS5A—Standard 12-volt control. List Price.............................**$210.00**

FE-MLS7A SERIES

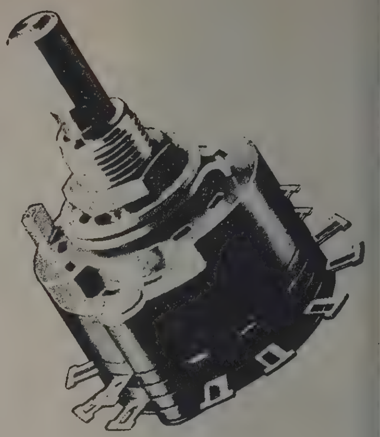
The FE-MLS7A is a compact, DC-powered scanner. Either light-operated or dark-operated models are available. Maximum scan distance is 10 feet. The scanner features a noise-sheltered integrated receiver; flexible printed wire circuitry; and a solid acrylic optical system that eliminates all maintenance. In addition to the usual circuit protection against load spikes, circuitry is protected against reverse voltage and one-second (maximum) short circuiting between output and supply voltage. The output is disabled for 100 milliseconds after power is applied, preventing false pulses when operating loads with a response time longer than 0.5 millisecond. A regulated LCRP3 power supply can be used to power the 12-volt model. The current sinking output drives a 100-milliamp relay or interfaces directly with logic level circuitry, including programmable controllers and minicomputers. **Maximum Scan Distance:** 10 feet. **Maximum Operation Rate:** 125 times per second. **Logic:** ON-OFF response; both dark-operated and light-operated models; will operate a relay directly. **Input Power:** 12–16 or 22–26 VDC.

Micro Switch No.	Input VDC	Description	List Price
FE-MLS7A-1011	12	N.O., light-operated, side mount	$86.00
FE-MLS7A-1012	12	N.C., dark-operated, side mount	86.00
FE-MLS7A-2011	12	N.O., light-operated, flange mount	88.50
FE-MLS7A-2012	12	N.C., dark-operated, flange mount	88.50
FE-MLS7A-1021	24	N.O., light-operated, side mount	86.00
FE-MLS7A-1022	24	N.C., dark-operated, side mount	86.00
FE-MLS7A-2021	24	N.O., light-operated, flange mount	88.50
FE-MLS7A-2022	24	N.C., dark-operated, flange mount	88.50

WRITE OR CALL FOR QUANTITY DISCOUNTS

STACKPOLE Switches

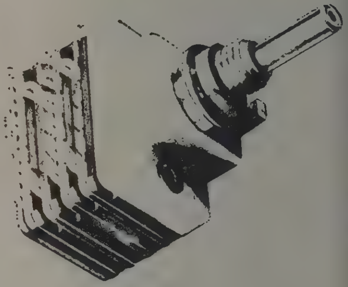
SERIES 100 ROTARY SWITCH



Fully enclosed, environment-proof rotary switch in 1⅛″ diameter. Dual ball detent provides positive indexing and long life. Available in shorting or non-shorting types with adjustable stops and excellent shock and vibration characteristics. Contacts are silver plated brass. Insulation is diallyl phthalate or equivalent in wafer, and delrin or equivalent in front housing and rotor. Shaft is ¼″ diam. brass x ⅞″ long, FMS. Bushing is ⅜″-32 x ⅜″ long. Contacts are rated at 0.3 A at 125 VAC, 0.5 A at 28 VDC. Index angle is 30°. Switches are explosion-proof in accordance with MIL-3786B; conform to low-frequency vibration test MIL-3786B; and conform to shock test MIL-3786B. **Voltage Breakdown:** Terminal to terminal, 1000 VAC, rms; terminal to ground, 2000 VAC, rms. **Contact Resistance:** Average initial, 0.003 ohm; less than 0.004 ohm after 10,000 cycles. **Size:** 1⅛″ diam. x 0.792″ d. behind panel (single deck) or 1.076″ d. behind panel (double deck). UL and CSA listed. Also available as a special BCD switch.

No. of Decks	Poles per Deck	No. of Pos.	Stackpole No.		Net Each, Lots of				
			Shorting	Non-Shorting	1-49	50-99	100-249	250-499	500 Up
1	1	2 to 12	73-1024	73-1025	$4.21	$3.13	$2.43	$2.03	$1.86
1	2	2 to 6	73-1036	73-1037	4.21	3.13	2.43	2.03	1.86
1	3	2 to 4	73-1044	73-1045	4.21	3.13	2.43	2.03	1.86
2	1	2 to 12	73-1076	73-1077	5.93	4.40	3.43	2.86	2.62
2	2	2 to 6	73-1088	73-1089	5.93	4.40	3.43	2.86	2.62
2	3	2 to 4	73-1096	73-1097	5.93	4.40	3.43	2.86	2.62

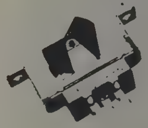
SERIES 80 ROTARY SELECTOR SWITCH



Subminiature size rotary switches feature fully enclosed modular design, riveted construction, high reliability dual-ball detent, and in-line 0.100″ grid spacing between terminals and between decks. Switches are available in shorting or non-shorting types. Contacts are silver plated brass. Insulation is diallyl phthalate or equivalent in wafer, and delrin or equivalent in front housing and rotor. Shaft is ¼″ diam. brass x ⅝″ long, FMS. Terminals are solder lug type. Bushing is ¼″-32 x ¼″ long. **Breakdown Voltage:** Terminal to terminal, 600 VAC, rms; terminal to ground, 1000 VAC, rms. **Contact Rating:** 0.100 A at 125 VAC. **Contact Resistance:** Less than 0.005 ohm initial, 0.01 ohm max. **Index Angle:** 30°. **Size:** 0.8125″ w. x 0.8125″ h. x 0.606″ d. behind panel (single deck) or 0.806″ d. behind panel (double deck). UL and CSA listed.

No. of Decks	Poles per Deck	No. of Pos.	Stackpole No.		Net Each, Lots of				
			Shorting	Non-Shorting	1-49	50-99	100-249	250-499	500 Up
1	1	12	73-8820	73-8821	$5.48	$4.07	$3.17	$2.64	$2.42
1	2	6	73-8830	73-8831	5.48	4.07	3.17	2.64	2.42
1	3	4	73-8836	73-8837	5.48	4.07	3.17	2.64	2.42
2	1	12	73-8864	73-8865	7.02	5.22	4.06	3.36	3.10
2	2	6	73-8874	73-8875	7.02	5.22	4.06	3.36	3.10
2	3	4	73-8880	73-8881	7.02	5.22	4.06	3.36	3.10

ROCKER SWITCHES



Standard size rocker switches available in flat bracket types for behind-panel mounting or offset bracket type for panel mounting. UL and CSA listed.

Stackpole Number	Form	Contact Rating	Net Each, Lots of							
			1-9	10-24	25-49	50-99	100-499	500-999	1000-4999	5000-Up
OFFSET BRACKET										
RS-36-1-OB	SPDT	A	$0.94	$0.80	$0.69	$0.61	$0.594	$0.297	$0.247	$0.207
RS-50-OB	DPDT	B	.93	.80	.69	.61	.594	.297	.247	.207
FLAT BRACKET										
RS-36-1-FB	SPDT	A	$0.90	$0.77	$0.67	$0.59	$0.574	$0.287	$0.237	$0.197
RS-50-FB	DPDT	B	.90	.77	.65	.59	.574	.287	.237	.197

SLIDE SWITCHES

Slide switches, available in a wide variety of sizes and types, feature high reliability and long life. Switches are UL and CSA listed and approved (inductive load ratings).

SUBMINIATURE										
SS-61	SPDT	C	$0.95	$0.81	$0.70	$0.62	$0.60	$0.30	$0.185	$0.175
SS-62	DPDT	C	1.26	1.08	.93	.83	.80	.40	.25	.23
MINIATURE										
SS-90-1	SPDT	D	$0.62	$0.53	$0.45	$0.41	$0.394	$0.197	$0.147	$0.107
SS-91-1	DPDT	D	.69	.59	.51	.45	.438	.219	.169	.129
SS-92	SP3T	D	.74	.64	.55	.49	.47	.235	.185	.145
SS-93	DP3T	D	.80	.68	.59	.53	.518	.254	.204	.164
STANDARD										
SS-9-3	SPDT*	A	$0.75	$0.65	$0.55	$0.47	$0.417	$0.221	$0.164	$0.122
SS-15-1	SPST♯	E	.76	.65	.55	.47	.417	.23	.169	.126
SS-31	SP3T	A	.64	.55	.48	.42	.404	.22	.161	.119
SS-36-1	SPDT	A	.81	.69	.60	.53	.514	.257	.207	.157
SS-50	DPDT	B	.66	.49	.43	.38	.37	.212	.148	.104
SS-54	DP3T	B	.78	.67	.57	.51	.496	.281	.217	.173

*Spring return. ♯Push-button type, momentary contact, normally open, no-detent switch.

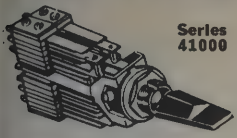
PUSH-IN LEAD SLIDE SWITCHES

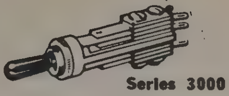
Number 18 or 20 AWG pretinned or solid wire leads can be inserted directly into the switch base without special connectors, machines or fixtures. Soldering or other hand operations are eliminated. Once inserted, the leads are locked by firm-gripping lock clips. UL and CSA listed.

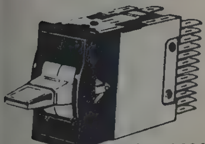
SP-9-1	SPDT*	A	$0.90	$0.77	$0.67	$0.59	$0.574	$0.287	$0.237	$0.187
SP-36-1	SPDT	A	.81	.69	.60	.53	.514	.257	.207	.157
SP-44	SP3T	A	.86	.74	.65	.58	.564	.26	.21	.17

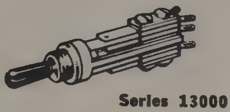
*Spring return.

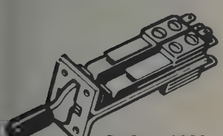
SWITCHCRAFT® INC. LEVER AND PUSHBUTTON SWITCHES

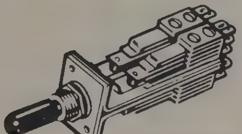

Series 41000


Series 3000


Series 84000


Series 13000


Series 6000


Series 16000

SERIES 41000 "LT SWITCH"

U.S. Pat. No. 3,433,906 Canadian Pat. No. 850,234 (Aug. 25, 1970)

Small, high quality, telephone type lever switch. Two or three position types with positive locking and/or non-locking action. Special damping block guards against transient leaf bounce. "Can't-Cheat" detent guide prevents accidental actuator by-pass of switching positions. Welded crossbar palladium contacts rated at 2 amps, 200 watts, AC, non-inductive. Mount on 23/32" centers in a 15/32" dia. hole in panels up to ¼" thick. Require only 2⅛" depth behind panel. Bushing is slotted for non-turn mounting.

Part No.*	Action	Net Each, Lots of				
		1-9	10-24	25-49	50-99	100-249
TWO POSITION TYPES						
41203	SPDT	$4.92	$3.69	$3.38	$3.08	$2.46
41206	DPDT	6.16	4.62	4.24	3.85	3.08
41212	4PDT	8.36	6.27	5.75	5.23	4.18
THREE POSITION TYPES						
41306	SPDT	$ 6.16	$4.62	$4.24	$3.85	$3.08
41312	DPDT	8.36	6.27	5.75	5.23	4.18
41324	4PDT	12.28	9.21	8.44	7.68	6.14

*To order locking type, add suffix "L" to part number; same prices apply.

SERIES 84000 "LEVER-LITE" III SWITCHES

U.S. Pat. No. 3,727,020 and 3,821,533;
Canadian Pat. No. 972,791 (Aug. 12, 1975) and
990,330 (June 1, 1976)

Illuminated lever switches available in two and three positions with locking, non-locking and talk-listen functions. Silver-plated bronze springs with welded crossbar palladium contacts rated at 2 amps, 200 watts, AC, non-inductive. Illumination is multi-color. Two position switches have amber color in neutral position and green in down position. Three position switches have red in up position, amber in neutral position and green in down position. Switch uses one standard T-1¾ flange base lamp (not supplied). Switch is mounted, relamped (without tools), terminated, and removed from front of panel. Color filters are changeable from front. Solder lug/quick-connect terminals. Mounting hole is ⅞" x 1½". Depth behind panel is 1 13/16".

84206	DPDT	$ 8.64	$6.48	$5.94	$5.40	$4.32
84312	DPDT#	10.68	8.01	7.34	6.68	5.34

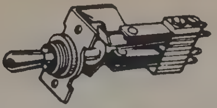
*To order locking type, add suffix "L" to part number; same prices apply. #Three position type, action per section.

"TELEVER" SWITCHES

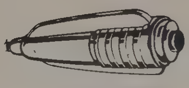
Rugged telephone type lever switches available in two and three positions, locking and non-locking types. Nylon rollers on the lever actuate the special nickel silver springs, providing smooth action. Welded crossbar palladium contacts are rated 2 amps, 200 watts, AC, non-inductive. Series 6000 mounts with four 3-48 screws on 1 7/32" x 1 3/16" centers; Series 16000 mounts in ½" dia. hole in panels up to ¼" thick. Supplied with black insulated knob. Tinned solder lug terminals.

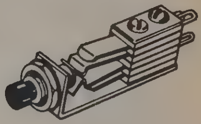
Part No.*	Action	Net Each, Lots of				
		1-9	10-24	25-49	50-99	100-249
TWO POSITION TYPES						
6006	DPDT	$6.16	$4.62	$4.24	$3.85	$3.08
16006	DPDT	6.44	4.83	4.43	4.03	3.22
160012	4PDT	8.76	6.57	6.02	5.48	4.38
THREE POSITION TYPES						
160312	DPDT	$8.76	$6.57	$6.02	$5.48	$4.38

*To order locking type, add suffix "L" to part number; same prices apply.


FEATHER-LEVER

Hi-D® Switch


"CORDETTE" SWITCH


"TF-SWITCH"

"LEV-R" SWITCHES

Small lever action switches in two and three position types, locking and non-locking action. Require half the space usually needed for a lever switch. Frame bushing and shaft are nickel plated brass. Supplied with locknut and screw-on black knob. Fine silver contacts rated 3 amps, 300 watts, AC, non-inductive. Non-locking types have spring return. Series 3000 mount in panels up to 3/32" thick; Series 13000 mount in panels up to ¼" thick. Both Series are ⅝" wide, require 2¼" behind panel, and mount in ½" dia. hole.

Part No.*	Action	Net Each, Lots of				
		1-9	10-24	25-49	50-99	100-249
TWO POSITION TYPES						
3001	SPST-NO	$2.64	$1.98	$1.82	$1.65	$1.32
3003	SPDT	3.20	2.40	2.20	2.00	1.60
3006	DPDT-NO	3.80	2.85	2.61	2.38	1.90
13001	SPST-NO	2.88	2.16	1.98	1.80	1.44
13006	DPDT	4.04	3.03	2.78	2.53	2.02
THREE POSITION TYPES						
3034	SPST	$3.56	$2.67	$2.45	$2.23	$1.78
3037	DPDT†	4.12	3.09	2.83	2.58	2.06
30312	DPDT	5.40	4.05	3.71	3.38	2.70
13036	SPDT	4.40	3.30	3.03	2.75	2.20
130312	DPDT	5.68	4.26	3.91	3.55	2.84

*To order locking type, add suffix "L" to part number; same prices apply. †Center off.

"FEATHER-LEVER" SWITCHES

Miniature lever switches. Lightweight and compact. Available in two and three positions, locking and non-locking types. Nylon roller on actuator gives smooth, even operation. Nickel silver springs and fine silver contacts rated 2 amps, 200 watts, AC, non-inductive. Supplied with black plastic, push-on knob. Bushing mounts in 5/16" dia. hole in panels up to ⅛" thick on 7/16" centers. Requires 1 9/32" depth behind panel. Supplied with locknut.

Part No.*	Action	Net Each, Lots of				
		1-9	10-24	25-49	50-99	100-249
29206	DPDT	$3.52	$2.64	$2.42	$2.20	$1.76
29306	SPDT#	3.80	2.85	2.61	2.38	1.90
29312	DPDT#	4.92	3.69	3.38	3.08	2.46

*To order locking type, add suffix "L" to part number; same prices apply. #Three position type, action per section.

Hi-D SWITCH PUSHBUTTON SWITCHES

Small, momentary action switches for mounting singly or in rows or arrays on ⅝" centers. Contacts, 250 mA, 30 W, max. AC, non-inductive load. Mounts in ⅜" dia. hole in panels up to 5/32" thick. Mtg. hardware supplied. Series H-100 has red pushbutton; Series H-200 has black pushbutton.

H-101	SPST-NO	$1.20	$0.90	$0.825	$0.75	$0.60
H-201	SPST-NO	1.20	.90	.825	.75	.60
H-203	SPDT	1.40	1.05	.963	.875	.70

"TF-SWITCH" PUSHBUTTON SWITCHES

Rugged, tiny frame design is recommended for low level circuits where contact resistance is unimportant. Requires only 1 19/32" behind panel. Action is momentary (No. 976) or push-lock/pull-release (No. 976L). Button is black; mounts in ¼" dia. hole.

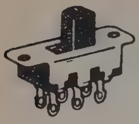
Part No.	Form	Net Each, Lots of				
		1-9	10-24	25-49	50-99	100-249
976	2-C	$1.96	$1.47	$1.35	$1.23	$0.98
976L	2-C	2.24	1.68	1.54	1.40	1.12

"CORDETTE" PENDANT SWITCHES

Small, lightweight pendant, momentary action (cord) switch. One-piece gray molded body contrasts with black pushbutton. Integral brass, hard gold contacts are rated 0.5 A, 50 W max. AC, non-inductive load (not recommended for high voltage circuits). Switching is SPST-NO (1-A). Supplied with 6', 2-conductor, unshielded gray cable molded to body. Overall dim., 1 3/16" w. x 2 15/16" lg. (less cable).

Part No.	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
921K	$5.64	$4.23	$3.88	$3.53	$2.82

SWITCHCRAFT® INC. SLIDE, PUSHBUTTON AND ROCKER SWITCHES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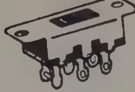
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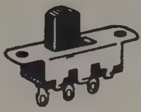
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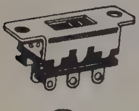
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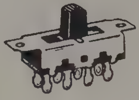
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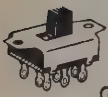
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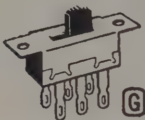
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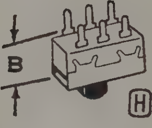

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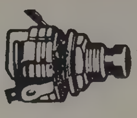
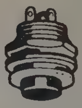
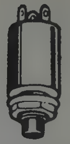

Littel Switch


903, 913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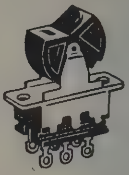
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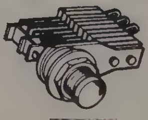
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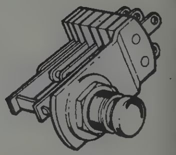

"FF-SWITCH"

"DOUBLE-WIPE" SLIDE SWITCHES

Precision switches use special "U" shaped bifurcated contacts to assure continuous wiping action. Contacts rated at 0.5 amp DC, 3 amps AC, 125 V, non-inductive. Solder lug terminals. Most switches furnished with black 1½₂" knob and .140" dia. mounting holes. U.L. approved.

SERIES 46000R AND 46000E
TWO- AND THREE-POSITION TYPES

All switches have shutter type dust cover to prevent dust and dirt from contaminating contacts. Three position types have positive center detent action. Switches have non-shorting contacts. Part Nos. ending in **LFR** and **LFE** have flush actuators. Part Nos. ending in **LFE** feature glass-filled nylon terminal boards.

Part No.	Fig.	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
46201MR	A	SPST-NO	$0.84	$0.63	$0.578	$0.525	$0.42
46202LR	A	SPST	.60	.45	.413	.375	.30
46203LR	A	SPDT	.64	.48	.44	.40	.32
46203MR	A	SPDT	.88	.66	.605	.55	.44
46204LR	A	DPST-NO	.68	.51	.468	.425	.34
46204MR	A	DPST-NO	.92	.69	.633	.575	.46
46206LFE	B	DPDT	.96	.72	.66	.60	.48
46206LFR	B	DPDT	.88	.66	.605	.55	.44
46206LR	A	DPDT	.72	.54	.495	.45	.36
46206MR	C	DPDT#	1.00	.75	.688	.625	.50
46256LFE	D	DPDT	1.00	.75	.688	.625	.50
46256LFR	B	DPDT	.92	.69	.633	.575	.46
46311LDR*	E	SPTT	.88	.66	.605	.55	.44
46313LDR*	E	DPTT	.92	.69	.633	.575	.46
46313MDR	E	DPTT	1.00	.75	.688	.625	.50

#Momentary action; all others locking. *Three position type; locking in all positions.

SERIES 50000 TWO-POSITION TYPES

Non-shorting contacts.

Part No.	Fig.	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
50209L	F	3PDT	$1.28	$0.96	$0.88	$0.80	$0.64
50209M	F	3PDT	1.44	1.08	.99	.90	.72
50212L#	F	3PDT	1.32	.99	.908	.825	.66

"TINI-SLIDE" SUBMINIATURE SLIDE SWITCHES

Subminiature locking slide switches have non-shorting "double-wipe" contacts with special "lifting" action for extended life. Contacts are rated 0.5 A, 125 V, AC/DC, non-inductive load. Minimum switch life is 6000 cycles. Black knob has serrated crown for easy operation. Nos. 56206L1 and 56313L1 have .295" lg. solder lugs. Nos. 56206L2 and 56313L2 have shorter .146" lg. solder lugs. Nos. C56206L1 and C56313L1 have "B" dimensions of .573"; Nos. C56206L2 and C56313L2 have "B" dimensions of .352". Plastic parts are self-extnguishing per UL and ASTM specs.

Part No.	Fig.	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
56206L1	G	DPDT	$1.04	$0.78	$0.715	$0.65	$0.52
56206L2	G	DPDT	1.04	.78	.715	.65	.52
56313L1	G	DPTT	1.48	1.11	1.02	.925	.74
56313L2	G	DPTT	1.48	1.11	1.02	.925	.74
C56206L1	H	DPDT	1.04	.78	.715	.65	.52
C56202L2	H	DPDT	1.04	.78	.715	.65	.52
C56313L1	H	DPTT	1.48	1.11	1.02	.925	.74
C56313L2	H	DPTT	1.48	1.11	1.02	.925	.74

Littel-Switch® SWITCHES

Tiny, momentary contact, pushbutton switches with rugged, dependable action. All contacts insulated from panel bushing with interlocking phenolic washers. Springs are of nickel silver, recommended only for low-level circuits where contact resistance is not important. One-piece plastic button and shaft in red, **Series 100**, or black, **Series 200**. Mount in ⅜" hole in panels up to ¼" thick. "S" in Part No. denotes fine silver contacts rated at 3 A, 300 W max. AC, non-inductive.

Part No.	Color	Form	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
101	Red	1-A	$1.04	$0.78	$0.715	$0.65	$0.52
201	Black	1-A	1.04	.78	.715	.65	.52
202	Black	1-B	1.04	.78	.715	.65	.52
103	Red	1-C	1.28	.96	.88	.80	.64
203	Black	1-C	1.28	.96	.88	.80	.64
203S	Black	1-C	1.72	1.29	1.18	1.08	.86

"BUTTON-SWITCH" SWITCHES

Unusually small, momentary action pushbutton switches in metal housing. Series 903 for back-of-panel mounting in 1⁵⁄₃₂" hole in panels up to 1⁹⁄₆₄" thick. Series 923, 933 for front-of-panel mounting in ¼" hole in panels up to ⁵⁄₃₂" thick. Rated 250 mA, 30 watts, AC, non-inductive.

903	Red	1-C	$1.60	$1.20	$1.10	$1.00	$0.80
913	Black	1-C	1.60	1.20	1.10	1.00	.80
913D	Black	1-D	1.60	1.20	1.10	1.00	.80
923	Red	1-C	1.68	1.26	1.16	1.05	.84
933	Black	1-C	1.68	1.26	1.16	1.05	.84

NON-LOCKING FLAT FRAME SWITCHES

Flat frame construction provides multiple pole switching with minimum depth behind panel. Ideal for use in ultra-compact equipment. Only ½" wide and 1⅝" long. Mounts in ⅜" hole in panels up to ⁵⁄₃₂" thick. Fine silver contacts rated 3 amps, 300 watts, AC, non-inductive. One piece black button and shaft.

Part No.	Action	Form	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
4004	DPST-NO	2-A	$1.84	$1.38	$1.27	$1.15	$0.92
4006	DPDT	2-C	2.20	1.65	1.51	1.38	1.10

SERIES 51000R ROCKER SWITCHES

Compact two-position locking rocker switches offer same quality and dependability as standard slide switches. Black rocker knobs have legend area and serrations on operating faces. U.L. listed. "S" in Part No. denotes fine silver contacts rated at 3 A, 300 W max. AC, non-inductive.

Part No.	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
51204LR	DPST	$1.20	$0.90	$0.825	$0.75	$0.60
51206LR	DPDT	1.24	.93	.853	.775	.62
51206MR#	DPDT	1.36	1.02	.935	.85	.68

#Momentary action; all others locking.

"FF-SWITCH" PUSHBUTTON SWITCH

Rugged, flat frame construction; needs only ⅞" behind panel. Contacts are fine silver rated at 3 A, 300 W max. AC non-inductive load. Black pushbutton; mounts in single ⅜" dia. hole.

Part No.	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
1006	DPDT	$2.20	$1.65	$1.51	$1.38	$1.10

CAMBRIDGE THERMIONIC CORPORATION

CAMBION® COILS AND COIL FORMS

CERAMIC, PHENOLIC, MOLDED AND SHIELDED ASSEMBLY COIL FORMS

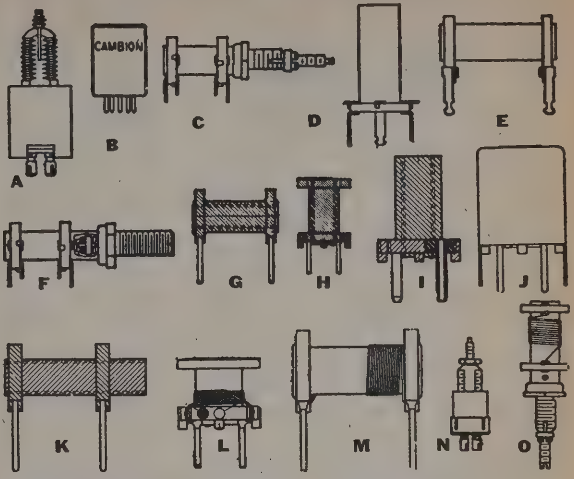
Cambion Part No.	Suffix* No. 1	Suffix* No. 2	Description	Fig.	Net Each, Lots of 10-99	Net Each, Lots of 100-499	Net Each, Lots of 500-999
533-1150	†	-01/05	Shielded assembly	A	$2.67	$2.48	$2.20
533-1155	†	-01/05		A	2.75	2.56	2.27
533-1160	†	-01/03		A	2.33	2.17	1.92
533-1165	†	-01/05		A	2.67	2.48	2.20
533-1181	#	-03/04		B	3.10	2.88	2.56
533-1187	†	-03/04		B	2.12	1.97	1.75
533-1189	†	-03/04		B	3.55	3.30	2.95
530-1531‡	•	-01	Ceramic coil form	C	1.24	1.07	.93
530-1531‡	•	-02/03		C	1.57	1.35	1.18
530-1531‡	•	-04/05		C	1.40	1.20	1.05
530-1532	•	-01		C	1.16	.99	.87
530-1532	•	-02/03		C	1.49	1.27	1.12
530-1532	•	-04/05		C	1.33	1.14	1.00
530-1534	•	-01		C	1.43	1.22	1.07
530-1534	•	-02/03		C	1.89	1.62	1.42
530-1534	•	-04/05		C	1.67	1.43	1.25
530-2535‡	•	-01		C	1.30	1.12	.98
530-1535‡	•	-02/03		C	1.63	1.40	1.22
530-1535‡	•	-04/05		C	1.46	1.25	1.10
530-1536	•	-01		C	1.24	1.07	.93
530-1536	•	-02/03		C	1.57	1.35	1.18
530-1536	•	-04/05		C	1.40	1.20	1.05
531-2173‡	•	-01/03	Phenolic, PC	D	.61	.53	.46
530-2175†	•	-01/02	Ceramic, PC	D	.70	.60	.52
530-2175‡	•	-03/05		D	.71	.61	.54
530-2270‡	•	-00		E	1.40	1.20	1.05
530-2271‡	•	-00		E	1.59	1.36	1.19
530-2770	•	-01	Ceramic, stud	F	1.92	1.64	1.44
530-2770	•	-02/03		F	2.27	1.94	1.70
530-2770	•	-04/05		F	2.11	1.81	1.58
534-3602‡	•	-00	Molded polypro	G	1.95	1.67	1.46
534-3603‡	•	-00		G	1.97	1.69	1.48
534-3609‡	§§	-00	Horiz. PC, polyester	J	1.97	1.69	1.48
534-3613‡	•	-00	3602; no top flange	H	1.95	1.67	1.46
534-3614‡	•	-00	3613, but .48″ h.	H	1.97	1.69	1.48
534-3618‡	•	-00	3613 w/solid pins	H	1.95	1.67	1.46
534-3619‡	•	-00	3614 w/solid pins	H	1.97	1.69	1.48
534-3623‡	•	-00	Molded polypro	G	1.95	1.67	1.46
534-3624‡	•	-00		G	1.97	1.69	1.48
533-3651	†	-00	PC, shielded, polypro	I	2.23	2.07	1.84
533-3652	†	-00	3651, but .48″ h.	I	2.18	2.03	1.80
534-3706‡	•	-00	3618, but polyester	H	1.43	1.22	1.07
534-3707‡	•	-00	3619, but polyester	H	1.46	1.25	1.10
534-3731	•	-00	Molded diallyl, horiz. PC (Replaces 3104)	G	1.73	1.48	1.30
533-3742	†	-00	PC, shielded, polyester	I	1.82	1.70	1.51
533-3743	†	-00	3742, but .48″ h.	I	1.87	1.74	1.54
534-3744‡	§§	-00	3609 w/.34″ wdg.	J	1.97	1.69	1.48
534-4460	•	-00	3624; 5 pins	G	2.03	1.74	1.52
534-4461	•	-00	3614; 5 pins	H	2.03	1.74	1.52
533-4462	†	-00	4461, shielded	I	2.51	2.34	2.07

*ORDERING INFORMATION

Cambion part numbers must contain full 13 digits; necessary for electronic data processing. Order by Part No., 7 digits, followed by 3 suffixes of 2 digits each: Suffix no. 1 for frequency range, suffix no. 2 for terminal and collar or terminal board type. Since suffix no. 3 does not apply to these items, use-**00** for that suffix. e.g., 530-1531-03-02-**00** for 1531 form with 20-50 MHz slug and with 2 collars with 2 terminals each. Consult chart for desired suffixes.

SUFFIX NO. 1 Dash No.	SUFFIX NO. 1 Slug Color	SUFFIX NO. 1 Freq. Range, MHz	SUFFIX NO. 2 Dash No.	SUFFIX NO. 2 Terminal-Collar Locations	SUFFIX NO. 2 Type Term. Bd. (Shielded Forms)
-01	Yellow	.2–1.5	-01	2 ring terminals	2 term. bd.
-02	Red	1–20	-02	2 collars—2 term. ea.	3 term. bd.
-03	Green	20–50	-03	2 collars—1 term. ea.	4 term. bd.
-04	White	50–200	-04	1 top collar—2 term.	5 term. bd.
-05	Black	100 up	-05	1 bot. collar—2 term.	6 term. bd.
-06	Purple	2–50			
-07	Blue	40–300			
-08	Orange	.1–4.5			
-09	Gray	4.5–15.0			

†Dash Nos. **-01** thru **-04**, **-06** and **-07** only. #Dash Nos. **-01** thru **-04** and **-06** thru **-09** only. •Dash Nos. **-01** thru **-07** only. ‡Available without slug; specify by using **-00** for **Suffix No. 1.**



CAMBION supplies both variable and fixed inductance coils, wound on ceramic or molded forms, or supplied in electromagnetic and electrostatic shielded housings. This listing comprises the more popular items. Ask for complete catalog or for further information if you do not see what you want listed. Variable inductance ranges are supplied in standard EIA 10% overlapping incrementals, within overall ranges shown. Order by part and dash number or specify inductance range wanted if you do not know correct dash number.

STANDARD COILS

Cambion Part Number§§	Fig.	Inductance Range, µH Min.	Inductance Range, µH Max.	Net Each, Lots of 1-9	Net Each, Lots of 10-99	Net Each, Lots of 100-499
558-1505-01/-04*	N	.55	8.3	$7.30	$5.50	$4.90
558-1505-05/-06*	N	7.8	33.0	7.85	5.90	5.25
558-1505-07/-10*	N	30.0	1000.0	7.15	5.35	4.80
558-1506-01/-02*	N	1.0#	4.7#	7.85	5.90	5.25
558-1506-03/-05*	N	4.5#	40.0#	8.60	6.45	5.75
558-1507-01/-07*	N	.11	8.1	7.15	5.35	4.80
556-2060-01/-02†	O	2.0	7.0	3.30	2.48	2.21
556-2060-03/-04†	O	6.5	18.0	3.60	2.70	2.41
556-2060-05†	O	16.0	30.0	3.85	2.89	2.58
556-2060-06†	O	28.0	63.0	4.20	3.15	2.81
556-2060-07†	O	61.0	122.0	4.40	3.30	2.95
556-2060-08†	O	120.0	243.0	4.80	3.60	3.20
556-2060-09/-10†	O	238.0	800.0	5.25	3.95	3.50
558-3387-01/-34*	J	1.27	39.5#	6.15	4.60	4.10
558-3387-35/-37*	J	47.0#	120.0#	7.25	5.45	4.85
556-3642-01/-32†	J	.090	45.5	5.05	3.80	3.40
556-3642-33/-41†	O	39.0	255.0	5.15	3.85	3.45
556-3642-42/-49†	O	224.0	1170.0	5.55	4.15	3.70
556-7105-01/-25†	L	.090	2.97	3.50	2.63	2.35
556-7105-26/-36‡	L	2.97	31.5	3.80	2.85	2.55
556-7105-37/-58‡	L	31.4	254.0	3.90	2.93	2.61
556-7105-59/-73‡	L	254.0	1050.0	4.00	3.00	2.68
558-7107-01/-25*	J	.090	11.0	3.75	2.81	2.51
558-7107-26/-49*	J	12.0	1100.0	4.40	3.30	2.95
556-7120-01/-61§	M	.095	11000.0	5.15	3.85	3.45

*Shielded. †Ceramic form. ‡Molded polypropylene/diallyl form. #mH. §Molded diallyl form.
§§Add suffix **-00-00** to Cambion Part No.

MICRO-MINIATURE INDUCTORS

Fixed and variable inductors designed for substrate compatibility. Epoxy encapsulated except 1072 and 1199 Series are shielded.

Cambion Part Number	Illus.	Size, Inches	Min.-Max. Inductance Range, µH	Net Ea., Lots of 1-9	Net Ea., Lots of 10-99	Net Ea., Lots of 100-499
556-1050-01/-05		.080 dia. x .188	0.06–3.9	$4.40	$3.30	$2.95
556-1050-06/-08			3.5–95.0	5.05	3.80	3.40
556-1050-09/-10			90.0–20000.0	5.85	4.40	3.90
556-1056-01/-13		2.60 x .160 x .100	.07–13.0	11.30	8.50	7.55
556-1056-14/-25			12.0–1300.0	16.90	12.70	11.30
556-1052-01/-08		.100 x .160 x .125*	0.1–95.0	8.20	6.15	5.50
556-1052-09/-10			90.0–2000.0	9.00	6.75	6.05
555-1053-01/-32		.090 x .160 x .125*	0.1–1000.0 fixed	7.70	5.80	5.15
555-1053-33/-44				8.20	6.15	5.50
555-1053-45/-49				8.35	6.25	5.60
555-1054-01/-24		.075 dia. x .170	0.10–3300.0 fixed	4.40	3.30	2.95
555-1054-25/-37				5.05	3.80	3.40
555-1054-38/-48				5.30	4.00	3.55
555-1054-49/-55				5.85	4.40	3.90
555-1072-01/-12		.125 x .155 x .125	0.1–10,000.0 fixed	8.60	6.45	5.75
555-1072-13/-44				9.25	6.95	6.20
555-1072-45/-73				9.90	7.45	6.65
558-1199-01/-10		3.44 x .344 x .270	0.8–3.9	4.85	3.65	3.25
558-1199-11/-19			3.9–120.0	5.15	3.85	3.45
558-1199-20/-25			120.0–1200.0	5.95	4.45	4.00

*1052-7/-10 and 1053-38/-49 size .125″ x .160″ x .125″.
§§Add **-00-00** to Cambion Part No.

CAMBRIDGE THERMIONIC CORPORATION

CAMBION®

CHOKES—CAPACITORS TUNING SLUGS & CORES

MS (MILITARY STANDARD) RF MOLDED CHOKES—QPL APPROVED

Molded epoxy, type LT4K chokes, conforming to MS spec indicated, per MIL-C-15305C. Tolerance (suffix -2, ±10%; suffix -3, ±20%) is as called out by MS spec. Popular ratings only listed. **All** MS nos. are available under each series. Order items not listed by applicable MS number. **Minimum standard package, 25 pieces.**

Cambion Part No. 550-§§	Military Standard Number	Inductance µH	Min. Q	Net Each, Lots of 10-99	100-499	500-999
2950-14-02	MS 91189-14	1.2	60	$0.73	$0.44	$0.33
2950-17-02	MS 91189-17	2.2	60	.73	.44	.33
2950-29-02	MS 91189-29	22.0	50	.86	.52	.39
2950-33-02	MS 91189-33	47.0	65	.86	.52	.39
2950-37-02	MS 91189-37	100.0	75	.86	.52	.39
2950-38-02	MS 91189-38	120.0	95	.86	.52	.39
2960-21-03	MS 75008-21	.15	55	.68	.41	.31
2960-22-03	MS 75008-22	.22	50	.68	.41	.31
2960-24-03	MS 75008-24	.47	50	.68	.41	.31
2960-26-02	MS 75008-26	.68	45	.67	.40	.30
2960-28-02	MS 75008-28	1.00	40	.67	.40	.30
2960-32-02	MS 75008-32	2.20	30	.67	.40	.30
2960-34-02	MS 75008-34	3.30	30	.67	.40	.30
2960-36-02	MS 75008-36	4.70	30	.67	.40	.30
2960-37-02	MS 75008-37	5.60	30	.67	.40	.30
2960-38-02	MS 75008-38	6.8	30	.67	.40	.30
2960-40-02	MS 75008-40	10.0	30	.67	.40	.30
2960-41-02	MS 75008-41	12.0	50	.67	.40	.30
2960-44-02	MS 75008-44	22.0	60	.67	.40	.30
3640-01-03	MS 18130-1	.15	50	.59	.36	.27
3640-05-03	MS 18130-2	.22	50	.59	.36	.27

Cambion Part No. 550-§§	Military Standard Number	Inductance µH	Min. Q	Net Each, Lots of 10-99	100-499	500-999
3640-09-03	MS 18130-3	.33	45	$0.59	$0.36	$0.27
3640-13-03	MS 18130-4	.47	45	.59	.36	.27
3640-21-02	MS 18130-8	1.00	50	.67	.40	.30
3640-23-02	MS 18130-9	1.20	33	.67	.40	.30
3640-25-02	MS 18130-10	1.50	33	.67	.40	.30
3640-27-02	MS 18130-11	1.80	33	.67	.40	.30
3640-29-02	MS 18130-12	2.20	33	.67	.40	.30
3640-31-02	MS 18130-13	2.70	33	.67	.40	.30
3640-33-02	MS 18130-14	3.30	33	.67	.40	.30
3640-35-02	MS 18130-15	3.90	33	.67	.40	.30
3640-39-02	MS 18130-17	5.60	45	.67	.40	.30
3640-45-02	MS 18130-20	10.0	55	.67	.40	.30
3640-47-02	MS 18130-21	12.0	65	.67	.40	.30
3640-53-02	MS 18130-24	22.0	75	.67	.40	.30
3640-57-02	MS 18130-26	33.0	65	.77	.46	.35
3710-03-02	MS 75052-3	68.0	70	.70	.42	.32
3710-05-02	MS 75052-5	100.0	65	.95	.57	.43
3711-02-02	MS 75053-2	220.0	80	.99	.59	.45
3712-01-02	MS 75054-1	470.0	80	.99	.59	.45
3712-04-02	MS 75054-4	820.0	75	1.06	.64	.48
3712-05-02	MS 75054-5	1000.0	70	1.06	.64	.48

§§Add -00 to Cambion Part No.

OTHER CHOKES

Order by CAMBION or MS Part and Dash No. If correct dash no. not known, state inductance rating desired. **Minimum standard package, 25 pieces.**

Cambion Part Number§§	Fig.	Size, Inches	Description	Min.-Max. Inductance Range, µH	Net Each, Lots of 10-99	100-499	500-999
533-3115-01/-02	A	.188 dia. x .625	VHF encapsulated	.09–.40	$0.68	$0.61	$0.57
533-3115-03/-04	A			.62–.80	.92	.82	.77
551-3201-01/-12	B	.180 dia. x .395	MS 75087-1/-12*	.10–.82	1.29	1.15	1.08
551-3201-13/-26	B		MS 75088-1/-14*	1.0–12.0	1.29	1.15	1.08
551-3201-27/-37	B		MS 75089-1/-11*	15.0–100.0	1.29	1.15	1.08
551-3201-38/-65	B		MS 75089-12/-39*	120.0–22,000.0	2.48	2.21	2.08
551-3201-66/-73	B		MS 75089-40/-47*	27,000.0–100,000.0	2.89	2.58	2.43
550-3399-01/-13	C	.095 dia. x .250	MS 75083-1/-13†	.10–1.0	.99	.59	.45
550-3399-14/-30	C		MS 75084-1/-17†	1.2–27.0	1.76	1.05	.80
550-3399-31/-40	C		MS 75085-1/-10†	33.0–180.0	2.03	1.22	.93
550-3399-41/-49	C		MS 75085-11/-49†	220.0–1000.0	2.16	1.30	.98
550-3628-01/-21	§	.155 dia. x .375	MS 95038-1/-21†	36.0–240.0	1.47	.88	.67
553-3635-01/-13	D	.375 dia. x .375	Encapsulated/ shielded	1.0–10.0	1.62	1.45	1.36
553-3635-14/-35	D			12.0–680.0	1.89	1.69	1.59
533-3635-36/-48	D			820.0–8.2‡	2.15	1.92	1.81
533-3635-49/-61	D			10.0‡–100.0‡	2.40	2.14	2.02
551-7108-01/-25	E	.125 x .228 x .365	Molded	.10–10.0	1.27	1.13	1.06
551-7108-26/-30	E			12.0–27.0	1.73	1.54	1.45
551-7108-31/-49	E			33.0–1000.0	2.06	1.84	1.73

*Conform to electrical parameters of MS specification indicated. CAMBION mechanical design provides slightly larger case (dia.) to provide more reliable unit. †Conform to MS specification indicated and to MIL-C-15305. Qualification in process. ‡mH. §Similar to MS Series 3640, above. §§ADD suffix **-00-00** to Cambion Part No.

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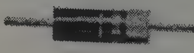
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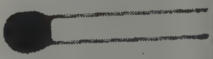
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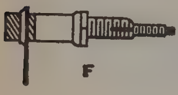
FIXED AND VARIABLE CAPACITORS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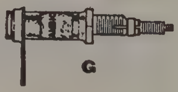
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J

Fixed and variable; feed thru and standoff types in both glass and ceramic.

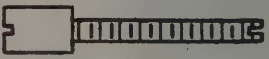
Cambion Part Number§§	Fig.	Description	Capacitance pF	Net Each, Lots of 1-9	10-99	100-499
561-1869-01-00	F	Variable, glass	.85–7.0	$5.30	$4.00	$3.55
562-2068-01-00	G	Variable, ceramic	.5–4.5	....	2.29	2.04
562-2069-01-00	G	Variable, ceramic	.5–4.5	....	2.29	2.04
562-2098-01-00	G	Variable, ceramic	1.0–8.0	....	2.36	2.11
560-3251-25-01	H	Fixed, ceramic, standoff	100	....	1.47	1.31
560-3252-37-02	H	Fixed, ceramic, standoff	1000	....	1.38	1.23
560-3252-39-02	H	Fixed, ceramic, standoff	1500	....	1.38	1.23
560-3265-37-02	J	Fixed, ceramic, feed thru	1000	....	2.09	1.87

§§Add suffix -00 to Cambion Part No.

TUNING SLUGS, CORES AND TUNING TOOLS

Cambion Type Number§§	Fig.	Material	Color	Frequency MHz	Net Each, Lots of 10-99	100-499	500-999	1000-2499
515-3225-02-21	M	Powdered iron	Red	1.0– 20.0	$0.09	$0.075	$0.065	$0.06
515-3225-03-21	M	Powdered iron	Green	20.0– 50.0	.09	.075	.065	.06
515-3225-04-21	M	Powdered iron	White	50.0–200.0	.09	.075	.065	.06
515-3226-02-21	N	Powdered iron	Red	1.0– 20.0	.09	.075	.065	.06
515-3226-03-21	N	Powdered iron	Green	20.0– 50.0	.09	.075	.065	.06
515-3226-04-21	N	Powdered iron	White	50.0–200.0	.09	.075	.065	.06
515-3227-02-21	O	Powdered iron	Red	1.0– 20.0	.13	.115	.10	.09
515-3227-03-21	O	Powdered iron	Green	20.0– 50.0	.13	.115	.10	.09
515-3227-04-21	O	Powdered iron	White	50.0–200.0	.13	.115	.10	.09
576-2063-02-07	P	Powdered iron	Red	1.0– 20.0	.32	.27	.24	.22
576-2063-05-07	P	Powdered iron	Red	1.0– 20.0	.32	.27	.24	.22
576-2063-07-07	P	Powdered iron	White	50.0–200.0	.32	.27	.24	.22
576-2063-08-07	P	Powdered iron	Red	1.0– 20.0	.32	.27	.24	.22
576-2063-15-07	P	Powdered iron	Green	20.0– 50.0	.32	.27	.24	.22
576-2063-19-07	P	Powdered iron	Red	1.0– 20.0	.32	.27	.24	.22

§§Add suffix -00 to Cambion Part No.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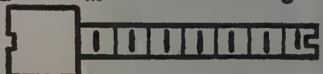

§§Add suffix -00 to Cambion Part No.

Cambion Part No. 435-§§	Tip	Overall Length	Net Each
1971-01-00	Brass	4⅜″	$1.17
2033-01-00	Brass	4″	1.17
2230-01-00	Nylon	4³⁄₁₆″	1.49
2375-01-00	Brass	4″	1.17

§§Add suffix -00 to Cambion Part No.

CORCOM RFI POWER LINE FILTERS

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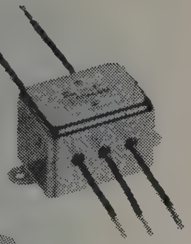
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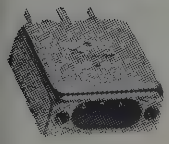
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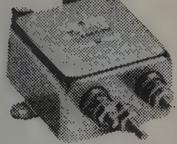
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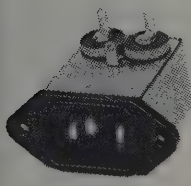
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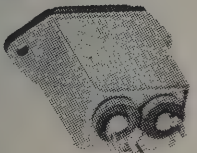
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SERIES B FILTERS

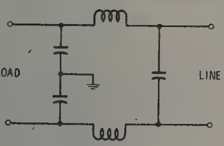
Series B general purpose filters effectively provide RFI control of line to ground noise in a small size at a low cost. Designed to meet a variety of electronic and electrical applications. UL recognized. **Rated Voltage:** 115–250 VAC, 50–60 Hz. **Maximum Leakage Current:** 0.5 mA at 115 VAC, 60 Hz; 1.5 mA at 250 VAC, 60 Hz. Leakage current measured between line to ground. **Capacitance:** 9,000 pF between line to ground. **Operating Frequency:** 50–400 Hz. **Test Voltage:** 2250 VDC.

Corcom Type	Fig.	Max. Line Current Amps	Size, Inches L. x W. x H.	Net Each, Lots of			
				1-24	25-49	50-99	100-499
1B1	A	1	2.50 x 2.25 x 0.65	$ 7.35	$ 6.31	$ 5.61	$ 4.91
1B3	B	1	2.50 x 0.94 x 0.65	7.65	6.57	5.83	5.11
1B4	C	1	2.00 x 2.50 x 0.75	8.50	6.91	6.15	5.38
2B1	A	2	2.50 x 2.25 x 0.65	6.70	5.75	5.11	4.46
2B3	B	2	2.50 x 0.94 x 0.65	6.81	5.55	4.93	4.33
2B4	C	2	2.00 x 2.50 x 0.75	7.68	6.59	5.86	5.12
3B1	A	3	2.50 x 2.60 x 0.75	7.68	6.59	5.86	5.12
3B3	B	3	2.50 x 1.31 x 0.75	8.06	6.92	6.15	5.38
3B4	C	3	2.00 x 2.75 x 0.75	8.77	6.86	6.35	5.55
5B1	A	5	2.50 x 2.50 x 0.75	6.81	5.84	5.19	4.54
5B3	B	5	2.50 x 1.31 x 0.75	7.24	6.22	5.52	4.83
5B4	C	5	2.00 x 2.75 x 0.75	7.95	6.82	6.06	5.29
10B1	A	10	2.50 x 2.16 x 1.13	7.52	6.45	5.73	5.01
10B3	B	10	2.50 x 1.31 x 1.13	7.79	6.69	5.94	5.19
10B4	C	10	2.00 x 2.75 x 1.13	8.61	7.39	6.56	5.74
10B6	D	10	2.50 x 2.57 x 1.13	9.00	7.73	6.86	6.00
20B1	A	20	2.78 x 3.35 x 1.13	12.37	10.62	9.43	8.24
20B6	D	20	2.78 x 3.38 x 1.13	13.89	11.93	10.60	9.27
30B6	D	30	4.12 x 5.13 x 1.50	24.75	20.44	18.22	15.96

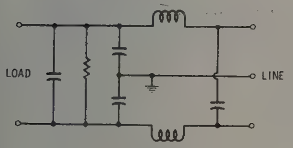
SERIES K FILTERS WITH LINE-TO-LINE CAPACITORS

Series K filters are similar to series B filters. These filters have added feature of being extremely effective in the control of line to line as well as line to ground RFI interference. Series K filters are particularly suited where pulsed, continuous and/or intermittent RFI interference is present. Can also be used where line to line interference protection is required. UL recognized. **Rated Voltage:** 115–250 VAC, 50–60 Hz. **Maximum Leakage Current:** 0.5 mA at 115 VAC, 60 Hz; 1.5 mA at 250 VAC, 60 Hz. Maximum leakage current measured between line to ground. **Capacitance:** 11,000 pF between line to ground. **Operating Frequency:** 50–400 Hz. **Test Voltage:** 2250 VDC.

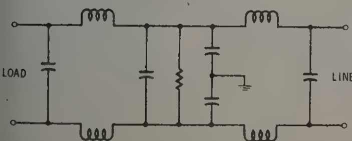
Corcom Type	Fig.	Max. Line Current Amps	Size, Inches L. x W. x H.	Net Each, Lots of			
				1-24	25-49	50-99	100-499
1K1	A	1	2.78 x 3.13 x 0.875	$ 8.61	$ 6.94	$ 6.27	$ 5.65
1K2	B	1	2.78 x 2.47 x 0.875	8.85	6.81	6.18	5.55
1K4	C	1	2.00 x 2.75 x 0.875	9.56	7.43	6.73	6.03
2K1	A	2	2.78 x 3.13 x 0.875	8.01	6.46	5.83	5.25
2K3	B	2	2.78 x 1.81 x 0.875	8.14	6.56	5.93	5.34
2K4	C	2	2.00 x 2.75 x 0.875	8.84	6.81	6.18	5.55
3K1	A	3	2.78 x 3.13 x 1.13	8.84	7.13	6.44	5.79
3K3	B	3	2.78 x 1.81 x 1.13	9.19	7.40	6.69	6.02
3K4	C	3	2.00 x 2.75 x 1.13	9.79	7.63	6.91	6.18
5K1	A	5	2.78 x 3.13 x 1.13	8.14	6.56	5.93	5.34
5K3	B	5	2.78 x 1.81 x 1.13	8.49	6.83	6.18	5.56
5K4	C	5	2.00 x 2.75 x 1.13	9.08	7.32	6.61	5.95
10K1	A	10	2.78 x 3.38 x 1.13	8.72	7.03	6.34	5.71
10K3	B	10	2.78 x 2.06 x 1.13	8.95	6.91	6.27	5.63
10K6	D	10	2.78 x 3.25 x 1.13	9.96	8.03	7.25	6.53
20K1	A	20	3.32 x 3.38 x 1.50	13.24	10.99	9.88	8.76
20K6	D	20	3.32 x 3.38 x 1.50	15.05	12.88	11.55	10.23
30K6	D	30	4.12 x 5.13 x 1.50	26.31	22.55	20.23	17.86



SERIES B



SERIES K



SERIES R

SERIES EF INTERNATIONAL FILTERS

Type EF international series incorporates the special IEC (International Electrotechnical Commission) power line connector. Connector has 4 mm minimum pin spacing and complies with all current and proposed requirements for industrial and test equipment in the European market where a detachable power cord is a part of the equipment design. Series EF features extremely low leakage current. Meets requirements of IEC, BSI, VDE, CSA, and ASA for data processing. UL Recognized. **Rated Voltage:** 115–250 VAC, 50–60 Hz. **Maximum Leakage Current:** 0.25 mA at 115 VAC, 60 Hz; 0.50 mA at 250 VAC, 60 Hz. Leakage current measured between line and ground. **Capacitance:** 5,000 pF between line to ground. **Operating Frequency:** 50/60 Hz. **Test Voltage:** 2250 VDC.

Corcom Type	Fig.	Max. Line Current Amps	Size, Inches L. x W. x H.	Net Each, Lots of			
				1-24	25-49	50-99	100-499
1EF1	E	1	1.97 x 1.97 x 0.79	$9.79	$7.92	$6.99	$6.05
3EF1	E	3	1.97 x 1.97 x 0.79	9.24	7.48	6.59	5.71
6EF1	E	6	1.97 x 1.97 x 0.79	8.69	7.03	6.20	5.37
1EF2	F	1	1.97 x 1.55 x 1.31	9.79	7.92	6.99	6.05
3EF2	F	3	1.97 x 1.55 x 1.31	9.24	7.48	6.59	5.71
6EF2	F	6	1.97 x 1.55 x 1.31	8.69	7.03	6.20	5.37

These filters recognized under the components program of Underwriters Laboratories, Inc.

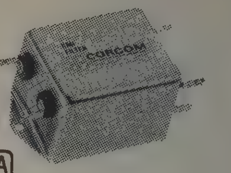
CORCOM RFI POWER LINE FILTERS

SERIES R FILTERS

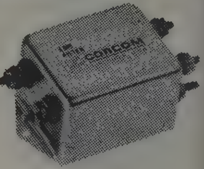
Series R dual T-section RFI power line filters provide premium performance at moderate cost. Well suited for low impedance loads where noisy RFI environments are present. At frequencies as low as 150 kHz, series R has an insertion loss as high as 45 dB. These filters control pulsed, continuous and/or intermittent interference insuring protection of equipment from power line noise in addition to protecting line from equipment noise. Ideal replacement for Pi filters while incorporating the "value added" concept. Series R dual T type provides extremely low leakage current without deterioration of insertion loss characteristics. **Rated Voltage:** 115–250 VAC, 50–60 Hz. **Maximum Leakage Current:** 0.5 mA at 115 VAC, 60 Hz; 1.5 mA at 250 VAC, 60 Hz. Leakage current measured from line to ground. **Capacitance:** 11,000 pF from line to ground. **Operating Frequency:** 50–400 Hz. **Test Voltage:** 2250 VDC.

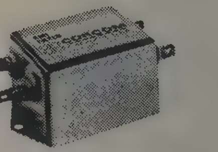
Corcom Type	Fig.	Max. Line Current Amp	Size, Inches L. x W. x H.	Net Each, Lots of			
				1-24	25-49	50-99	100-499
1R1	A	1	3.38 x 1.75 x 1.13	$13.62	$11.63	$10.33	$ 9.08
1R3	B	1	2.75 x 1.75 x 1.13	13.92	11.89	10.55	9.28
2R1	A	2	3.38 x 1.75 x 1.13	12.94	11.04	9.81	8.62
2R3	B	2	2.75 x 1.75 x 1.13	13.07	10.65	9.46	8.30
3R1	A	3	3.88 x 2.00 x 1.13	13.92	11.89	10.55	9.28
3R3	B	3	3.32 x 2.00 x 1.13	14.33	11.67	10.37	9.07
5R1	A	5	3.88 x 2.00 x 1.13	13.07	11.16	9.91	8.72
5R3	B	5	3.32 x 2.00 x 1.13	13.48	10.98	9.77	8.55
10R1	A	10	3.88 x 2.00 x 1.50	13.78	11.76	10.44	9.18
10R3	B	10	3.32 x 2.00 x 1.50	14.05	12.00	10.65	9.37
10R6	C	10	3.80 x 2.00 x 1.50	15.24	13.01	11.55	10.16
20R1	A	20	3.88 x 2.00 x 1.50	28.75	23.40	20.80	18.20
20R6	C	20	5.13 x 4.12 x 1.50	30.20	25.89	22.97	20.21

These filters recognized under the components program of Underwriters Laboratories, Inc.


A

B


C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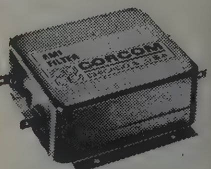

E

SERIES S, V AND W FILTERS

These filters combine line-to-ground RFI filters with additional circuitry to reduce low-frequency line-to-line noise. They are designed to protect equipment from malfunctions due to conducted line interference coming into the equipment from the line (susceptibility). They also provide needed noise suppression to allow most equipment to meet VDE, CISPR and CSA specifications for conducted emission. They are particularly effective when applied in equipment using switching type power supplies, SCR and TTL circuits.

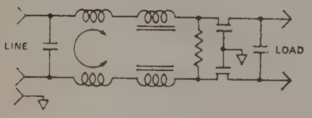
Corcom Type	Fig.	Max. Line Cur. Amps	Size, Inches L. x W. x H.	Net Each, Lots of			
				1-24	25-49	50-99	100-499
3S1	D	3	3.13 x 1.75 x 1.13	$12.83	$ 9.54	$ 8.48	$ 7.42
6S1	D	6	3.13 x 2.00 x 1.50	11.99	8.91	7.92	6.93
10S1	D	10	3.13 x 2.00 x 1.50	12.71	9.45	8.40	7.35
20S1	E	20	4.15 x 5.01 x 1.49	28.68	21.33	18.96	16.59
3V1	D	3	3.13 x 1.75 x 1.13	14.04	10.44	9.28	8.12
6V1	D	6	3.13 x 2.00 x 1.50	13.20	9.81	8.72	7.63
10V1	D	10	3.13 x 2.00 x 1.50	13.92	10.35	9.20	8.05
20V1	E	20	4.15 x 5.01 x 1.49	29.89	22.23	19.76	17.29
3W1	D	3	3.13 x 1.75 x 1.13	15.25	11.34	10.08	8.82
6W1	D	6	3.13 x 2.00 x 1.50	14.25	10.71	9.52	8.33
10W1	D	10	3.13 x 2.00 x 1.50	15.13	11.25	10.00	8.75
20W1	E	20	4.15 x 5.01 x 1.49	31.10	23.13	20.56	17.99

3-CONDUCTOR LINE CORDS

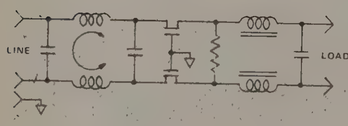
Corcom Type 80-1245—Mates with EF international filters. Net Each, 1–49.... **$3.43**
Net Each, 50 Up... **2.75**

Corcom Type 80-1255—Mates with Series B and Series K filters.
Net Each, Lots of 1–49.................**$2.86**; 50 Up.................**$2.29**

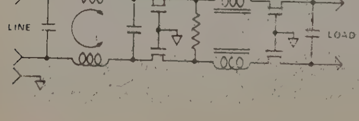
FILTER SCHEMATICS



Series S



Series V



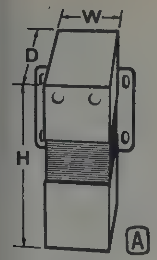
Series W

THE VS & F VOLTAGE SELECTING AND FUSED CONNECTOR

Available to the industry for the first time in one unit—a voltage selector switch, a connector and a fuse. The VS & F allows equipment to operate anywhere in the world. The VS & F and a simple transformer modification allows the equipment to operate at 100, 120, 220 or 240 volts, 50 to 400 Hz. Voltage selection is made with a unique voltage selector card. Only one rectangular cutout is needed for easy snap-in mounting. The fuse and voltage selector card are enclosed behind a see-thru plastic cover which cannot be moved until the power cord is removed from the equipment. The VS & F has an IEC approved connector, UL SE-01 fire retardant polyester housing and complies with UL and IEC requirements. Available with RFI filter (see EF series for electrical data). Minimum insertion loss at 0.5 MHz is 24 dB, at 2.0 MHz to 5.0 MHz it is 50 dB.

Corcom Model 6J1 Unfiltered—Net Each, 1-99........**$ 5.95**
Net Each, 100-Up.................................... **4.95**
Corcom Model 6J4 Filtered—Net Each, 1-99.......... **10.95**
Net Each, 100-Up.................................... **9.75**

VOLTAGE REGULATING TRANSFORMERS—UL LISTED



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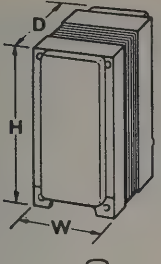


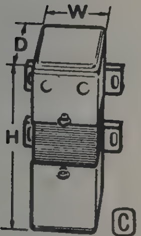
B

CVN SERIES NORMAL HARMONIC CONSTANT VOLTAGE TRANSFORMERS

Output contains an average of 20% rms harmonic content. Units are recommended for electrical loads not affected by harmonics, such as solenoids, relays, filaments and where rectification is required. Regulation is ± ½% for an input voltage range of ±15%. Power ratings to 5 KVA are available; consult factory for pricing and delivery.

Sola Number	Fig.	Volt-Amps	Voltage Input	Voltage Output	Kit Code*	Overall Size, In. H. W. D.	Net Each★
20-13-060-2	A	60	95-130	120	c	6 11/32x5 3/16 x3 1/4	$ 66.90
20-14-060	B	60	95-130	120	......	3 1/8 x4 13/16x3 7/8	56.30
20-14-112	B	120	95-130	120	......	3 1/8 x4 13/16x4 13/16	87.60
20-13-112-2	A	120	95-130	120	c	7 3/8 x5 3/16 x3 1/4	87.60
20-21-112-2	A	120	190-260	240	c	7 3/8 x5 3/16 x3 1/4	87.60
20-13-115	A	150	95-130	120	a	8 3/4 x7 7/16 x4 1/2	106.20
20-22-125	A	250	95-130x190-260	120	b	11 1/16 x6 7/16 x5 29/32	129.50
20-23-125	A	250	190-260x380-520	120	b	11 1/8 x6 7/16 x5 29/32	131.40
20-22-150	A	500	95-130x190-260	120	b	12 5/16 x6 7/16 x5 29/32	197.80
20-26-150	A	500	190-260x380-520	120x240	b	12 5/16 x6 7/16 x5 29/32	212.50
20-22-210	A	1000	95-130x190-260	120	......	15 1/8 x6 7/16 x5 29/32	328.10

*Cord/Receptacle Adapter Kits available; see listing for code explanation.



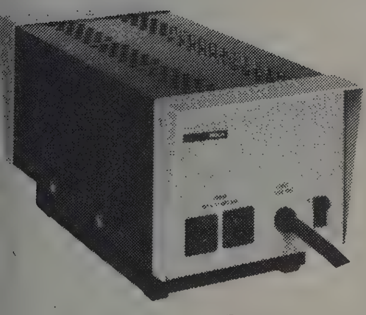
C

CVS SERIES HARMONIC NEUTRALIZED CONSTANT VOLTAGE TRANSFORMERS

Output contains less than 3% total rms harmonic content at full load operation. Units are recommended for all applications where harmonics can affect operation. CVS types are the only constant voltage transformers with built-in harmonic neutralizing circuits. They use no filters, therefore do not need extra capacitors and chokes. Smaller and more rugged than transformers employing filters for waveshape improvement. Regulation is ± ½% for an input voltage range of ±15%. Power ratings to 7.5 KVA are available; consult factory for pricing and delivery.

Sola Number	Fig.	Volt-Amps	Voltage Input	Voltage Output	Kit Code*	Overall Size, In. H. W. D.	Net Each★
23-13-030-2	A	30	95-130	120	c	6 1/8 x5 3/16 x3 1/4	$ 65.10
23-13-060-2	A	60	95-130	120	c	6 15/16x5 3/16 x3 1/4	77.00
23-23-060-2	A	60	190-260x380-520	120	c	6 15/16x5 3/16 x3 1/4	84.00
23-22-112-2	A	120	95-130x190-260	120	c	8 1/8 x5 3/16 x3 1/4	99.10
23-23-112-2†	A	120	190-260x380-520	120	c	8 1/8 x5 3/16 x3 1/4	104.50
23-22-125	A	250	95-130x190-260	120	a	6 5/8 x7 7/16 x4 1/2	134.40
23-23-125	A	250	190-260x380-520	120	a	9 5/8 x7 7/16 x4 1/2	142.70
23-22-150	A	500	95-130x190-260	120	b	12 7/16 x6 7/16 x7 25/32	218.70
23-26-150	A	500	190-260x380-520	120x240	b	12 7/16 x6 7/16 x7 25/32	216.70
23-25-175	A	750	95-130x175-235 x190-260	120x240	b	16 13/16x6 7/16 x7 25/32	279.80
23-25-210	A	1000	95-130x175-235 x190-260	120x240	......	17 7/8 x6 7/8 x7 25/32	340.80
23-26-210	A	1000	95-130x175-235x 190-260x380-520	120x240	......	17 7/8 x6 7/16 x7 25/32	341.60
23-25-215	C	1500	190-260	120x240	......	19 5/16 x9 1/32 x10 9/16	459.20
23-25-220	C	2000	95-130x175-235 x190-260	120x240	......	19 7/8 x9 1/32 x10 9/16	580.10
23-26-220	C	2000	190-260x380-520	120x240	......	19 7/8 x9 1/32 x10 9/16	581.70
23-25-230-3	C	3000	95-130x175-235 x190-260	120x240	......	21 [illegible]/8 x9 1/16 x10 9/16	806.30

†Item not normally stocked; ask for delivery information.



D

AC POWER LINE REGULATORS FOR MINICOMPUTERS (FIG. D)

A portable, quiet power line regulator suitable for installation in the typical business office utilizing minicomputers. Improved transient protection. **Operating Temperature Range:** −20° C to +50° C. **Common Mode Noise Rejection:** 60 dB. **Full Load Efficiency:** 85%. On-Off switch and dual output receptacles. No loss of output for line loss of 3 milliseconds. UL listed.

Sola Number	Voltage Input	Voltage Output	VA	Dimensions L	Dimensions W	Dimensions D	Net Each, Lots of 1-4	5-9	10-49	50-99
FOR 60 Hz, SINGLE PHASE										
63-13-150	120	95–130	500	18.6	8.9	8.7	$244.00	$229.40	$214.75	$185.45
63-13-175	120	95–130	750	18.6	8.9	8.7	312.00	293.30	274.60	237.15
63-13-210	120	95–130	1000	18.6	8.9	8.7	360.40	338.80	317.15	273.90
63-13-220	120	95–130	2000	18.6	8.9	8.7	613.55	576.75	539.95	466.30
FOR 50 Hz, SINGLE PHASE										
63-13-650	110	90–130	500	18.8	11.4	9.6	$299.10	$281.15	$263.20	$227.35
63-13-710	110	90–130	1000	18.8	11.4	9.6	434.80	408.75	382.65	330.45
63-13-720	110	90–130	2000	18.8	11.4	9.6	740.20	695.80	651.40	562.55

EXTENDED POWER RANGES FOR MINICOMPUTERS (FIG. C)

Hard wired. UL listed. For 60 Hz, single phase.

Sola Number	Voltage Input	Voltage Output	VA	Net Each, Lots of 1-4	5-9	10-49	50-99
63-25-230-3	120, 205, 240	120–240	3000	$ 887.00	$ 833.80	$ 780.60	$ 674.15
63-26-230	240, 480	120–240	3000	887.00	833.80	780.60	674.15
63-25-250	120, 205, 240	120–240	5000	1385.40	1302.30	1219.15	1052.90
63-26-250	240, 480	120–240	5000	1385.40	1302.30	1219.15	1052.90
63-28-275	240, 480	120–240	7500	1704.60	1602.35	1500.05	1295.50

CORD/RECEPTACLE ADAPTER KITS

Provide convenience of input plug and output receptacle for most Series CVS and CVN single housed transformers. To determine the correct adapter kit for a given transformer, refer to Kit Code column in the CVS/CVN tables at right. Description column below indicates 2-wire or 3-wire input cord and output receptacle connections.

Kit Code	Sola Kit No.	Description	Net Each
a	999-005	2-wire	$ 9.90
a	999-019	3-wire	9.90
b	999-009	2-wire	9.90
b	999-020	3-wire	9.90
c	999-104	2-wire	10.50
c	999-105	3-wire	10.50

★QUANTITY DISCOUNTS

Quantity	Discounts
1–9	None
10–49	− 9%
50–99	−19%

CVDC SERIES CONSTANT VOLTAGE SUPPLIES

Rugged, simple and dependable power supplies in both modular and rack-mounted styles. Designed for computers, data processing, measurement, telemetering and wherever isolation from line fluctuation is required. Contains a constant-voltage transformer, rectifier and filter circuit. Provides tight regulation, quick response, isolation and current limiting. **Regulation:** ±1% or less for input variations as great as ±15%. **Rated Input Voltage:** 100–130 volts, 60 Hz. **Response Time:** 25 milliseconds. **Load Regulation:** Less than 4% from 20% to full load. **Efficiency:** Approx. 75%. **Ripple:** Less than 1%. **Operating Temperature:** 0° C to +50° C. Units may be connected in series or parallel for higher current or voltage.

MODULAR STYLE (FIG. A)

Sola Number	Output		% Load Regulation		Size, Inches			Net Each
	V.	A.	25% f.l.	50% f.l.	H.	W.	D.	
28-04-315	4	15	0.8	0.5	3.5	5.25	13	$126.80
28-05-315	5.2	15	0.8	0.5	3.5	5.25	13	126.80
28-06-315	6.3	15	0.8	0.5	3.5	5.25	13	126.80
28-10-312	10	12	1.0	0.6	3.5	5.25	13	126.80
28-12-310	12	10	1.0	0.6	3.5	5.25	13	126.80
28-15-280	15	8	1.3	0.8	3.5	5.25	13	126.80
28-18-267	18	6.7	1.3	0.8	3.5	5.25	13	126.80
28-24-250	24	5	1.7	1.0	3.5	5.25	13	126.80
28-28-243	28	4.3	2.0	1.2	3.5	5.25	13	126.80
28-48-225	48	2.5	3.4	2.0	3.5	5.25	13	126.80
28-04-325	4	25	0.8	0.5	6.9	4.94	9.75	188.60
28-05-325	5.2	25	0.8	0.5	6.9	4.94	9.75	188.60
28-06-325	6.3	25	0.8	0.5	6.9	4.94	9.75	188.60
28-10-318	10	18	1.0	0.6	6.9	4.94	9.75	188.60
28-12-315	12	15	1.0	0.6	6.9	4.94	9.75	188.60
28-15-312	15	12	1.0	0.6	6.9	4.94	9.75	188.60
28-18-310	18	10	1.0	0.6	6.9	4.94	9.75	188.60
28-24-280	24	8	1.2	0.7	6.9	4.94	9.75	188.60
28-28-270	28	7	1.2	0.7	6.9	4.94	9.75	188.60
28-48-240	48	4	1.7	1.0	6.9	4.94	9.75	188.60

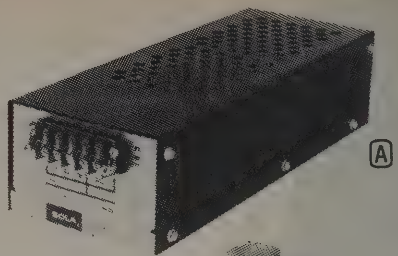
RACK MOUNTING STYLE (FIG. B)

Sola Number	Output		% Load Regulation		Size, Inches			Net Each
	V.	A.	20% f.l.	50% f.l.	H.	W.	D.	
28-1513-2	6	10	9	7	3½	......	7⅝	$222.20
28-2123-1	6	15	10	7	5¼	......	7¼	257.00
28-1514-2	12	5	7	5	3½	......	7⅝	222.20
28-2124-1	12	10	9	5	5¼	......	7¼	222.20
28-1845-2	12	15	10	7	5¼	......	7¼	257.00
28-1515-2	18	5	5	4	3½	......	7⅝	222.20
28-2125-1	18	10	7	5	5¼	......	7¼	257.00
28-1024-1	24	6	5	4	5¼	......	9¾	222.20
28-2126-1	24	10	6	4	5¼	......	8¾	257.00
28-1203-2	24	15	7	5	7	......	7¼	276.40
28-2127-1	24	25	7	5	8¾	......	9	359.70
28-626-2	28	8	6	4	5¼	......	8¾	257.00
28-2128-1	28	15	7	5	7	......	7¼	276.40
28-1048	48	4	3.5	2.5	5¼	......	9¾	222.20
28-1561-2	48	10	4	2	5¼	......	9¾	257.00
28-2129-1	48	20	4	2.5	8¾	......	9¾	359.70
28-1125-1	125	2	2.5	1.5	5¼	......	9¾	257.00
28-1150-1	150	2	2	1.5	5¼	......	9¾	257.00
28-1200	200	1	3	2	5¼	......	9¾	257.00
28-1250	250	1	3	2	5¼	......	9¾	257.00

OEM SERIES MODULAR SUPPLIES (FIG. C)

Series regulated DC supplies for bench or rack use in powering computers, data processing, process control, electronic measuring, telemetering and others. Completely protected short-circuit proof with automatic current limiting. Convection cooled. Complete serviceability. Remote sensing. **Input:** 108–132 or 216–264 VAC, 50–400 Hertz. **Regulation:** ±.05%, line or load. **Ripple:** 10 mV rms. **Operating Temperature:** 0° C to +55° C. **Recovery Time:** Less than 50 microseconds. Optional crowbar protection devices are available for this series; ask for pricing and availability. UL listed.

Sola Number	Input Voltage	Output		Net Each
		Voltage Range	Current Amps	
15 WATT SERIES				
81-05-230-1	115	5–6	3.0–2.5	$31.15
81-12-215-1	115	12–15	1.5–1.2	31.15
81-24-180-1	115	24	0.8	31.15
30 WATT SERIES				
83-05-230-2	230	4.8–5.5	3.0	$35.00
83-12-218-2	230	11.5–12.5	1.8	35.00
83-15-216-2	230	14.5–15.5	1.6	35.00
83-24-212-2	230	23–25	1.2	35.00
60 WATT SERIES				
83-05-260-2	115	4.8–5.5	6.0	$72.10
83-12-250-2	115	11.5–12.5	5.0	72.10
83-15-240-2	115	14.5–15.5	4.0	72.10
83-24-225-2	115	23–25	2.5	72.10
120 WATT SERIES				
83-05-312-2	115	4.8–5.5	12.0	$109.20
83-12-310-2	115	11.5–12.5	10.0	109.20
83-15-280-2	115	14.5–15.5	8.0	109.20
83-24-260-2	115	23–25	6.0	109.20
83-48-230-2	115	46–50	3.0	109.20



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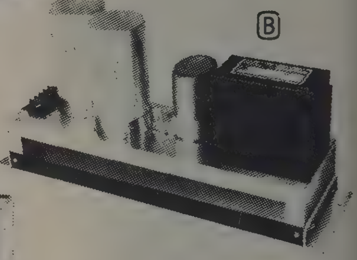

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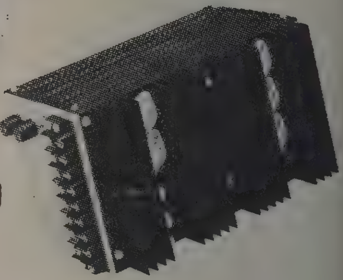

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PREMIUM SERIES SUPPLIES (FIG. D)

For data processing, process control, electronic measuring and others. Completely protected short circuit proof with automatic current limiting. Convection cooled. Complete serviceability. Remote sensing. **Input:** 120/240 VAC, 47–420 Hertz. **Regulation:** ±.02%. **Ripple:** ±.01% rms. **Operating Temperature:** 0° C to +55° C. Automatic cutoff if heat sink temperature is exceeded. **Recovery Time:** Less than 50 microseconds.

Sola Number	Output		Each
	Voltage Range	Current Amps	
82-05-315-1	4.8–5.5	15	$209.50
82-12-270-1	11.5–12.5	7	209.50
82-15-258-1	14.5–15.5	5.8	209.50
82-24-240-1	23–25	4	209.50
82-05-325-1	4.8–5.5	25	272.30
82-12-312-1	11.5–12.5	12	272.30
82-15-296-1	14.5–15.5	9.6	272.30
82-24-260-1	23–25	6	272.30
82-48-230-1	46–50	3	272.30

PREMIER SERIES SUPPLIES (FIG. D)

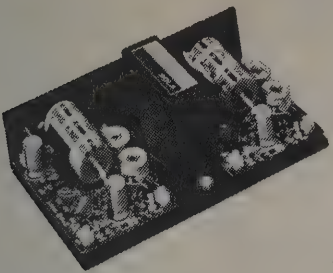
A low cost version of the Premium series. For data processing, process control, electronic measuring and others. Completely protected short circuit proof with automatic current limiting. Convection cooled. Complete serviceability. Remote sensing. **Input:** 120/240 VAC, 47–420 Hertz. **Regulation:** ±.2%, line or load. **Ripple:** ±.1% rms. **Operating Temperature:** 0° C to +55° C. **Recovery Time:** Less than 50 microseconds.

Sola Number	Output		Each
	Voltage Range	Current Amps	
82-05-315-50	4.8–5.5	15	$151.10
82-12-270-50	11.5–12.5	7	151.10
82-15-258-50	14.5–15.5	5.8	151.10
82-24-240-50	23–25	4	151.10
82-05-325-50	4.8–5.5	25	209.50
82-12-312-50	11.5–12.5	12	209.50
82-15-296-50	14.5–15.5	9.6	209.50
82-24-260-50	23–25	6	209.50
82-48-230-50	46–50	3	209.50

SOLA ELECTRIC SB
IVISION OF SOLA BASIC INDUSTRIES

H. F. SWITCHING REGULATORS, MICROPROCESSOR POWER SUPPLIES

MICROPROCESSOR POWER SUPPLIES



C regulated power supplies with fully isolated, independent out-
uts for either positive or negative operation. Designed to operate
nost of the microprocessors on the market today. Versatile
ackaging allows vertical or horizontal mounting in a rack or on
he bench. Outputs can be connected in series or parallel. Com-
letely protected short circuit proof; automatic current limiting;
vervoltage protection available for all outputs—standard on
+5 V outputs. **Input Voltage Range:** 104–127/208–254 VAC.
nput Frequency Range: 50–400 Hz (derate load 75% at 400 Hz).
utput Ripple: 0.05% peak-to-peak, 0.01% rms. **Regulation**
ine and Load Combined: ±0.1%. **Output Noise:** 0.01% rms
10 MHz bandwidth). **Input/Output Isolation:** 1000 megohms
C, 2500 VAC. **Temperature Coefficient:** 0.01%/°C. **Overvoltage**
rotection: Standard on all +5 V outputs; optional on others.
olarity: May be used either positive or negative. **Operating**
emperature: 0° C to +55° C without derating; −20° C to
+80° C with performance derating (consult factory). **Storage**
emperature: −40° C to +85° C. **Recovery Time:** Less than 50
icroseconds from half-load to full load. **Minimum Output**
djustment Range: ±5% at full rated load. **Maximum Output**
urrent: 120% of rated current. **Maximum Short Circuit Cur-**
ent: 30% of rated current. **Maximum Allowable Lead Drop for**
emote Sensing: 5%.

Sola No.	Output Voltage	Output Current	Net Each
83-05-230-2	5 V	3 A	$35.00
83-05-260-2	5 V	6 A	72.10
83-12-218-2	12 V	1.8 A	35.00
83-15-216-2	15 V	1.6 A	35.00
83-12-250-2	12 V	5 A	72.10
83-15-240-2	15 V	4 A	72.10
83-81-2225	+5 V 9 to 12 V	2.5 A -0.5 A	49.60
83-82-2230	+5 V −5 V	3 A 0.1 A	49.60
83-81-2250	+5 V 9 to 12 V	5 A 0.8 A	88.20
83-82-2250	+5 V −5 V	5 A 0.1 A	88.20
83-83-3225	+5 V +9 to +12 V −9 to −12 V	2.5 A .25 A .25 A	77.20
83-84-3225	+5 V 9 to 12 V −5 V	2.5 A .25 A 0.1 A	77.20
83-83-3250	+5 V +9 to +12 V −9 to −12 V	5 A 0.5 A 0.5 A	98.10
83-84-3250	+5 V 9 to 12 V −5 V	5 A 0.5 A 0.1 A	98.10

SERIES REGULATED POWER SUPPLIES DUAL AND TRIPLE OUTPUTS

Completely interchangeable power supplies with remote sensing and short circuit protection. **Input:** 120/240 VAC ±10%, 47-420 Hz. **Regulation:** Line and load combined, ±0.1%. **Ripple:** 0.01% rms. **Operating temperature:** 0° C to 55° C. **Recovery time:** Less than 50 microseconds.

Sola No.	Output		Net Each
	Volts	Amps	
83-12-2180	±12	.8	$ 47.70
83-15-2170	±15	.7	47.70
83-12-2218	±12	1.8	73.15
83-15-2216	±15	1.6	73.15
83-12-2250	±12	5.0	143.10
83-15-2240	±15	4.0	143.10
83-12-3218	±12 5	1.8 6.0	119.80
83-15-3216	±15 5	1.6 6.0	119.80

SOLA® SOLIDS PC BOARD DC SUPPLIES

SOLA SOLIDS
SOLA ELECTRIC

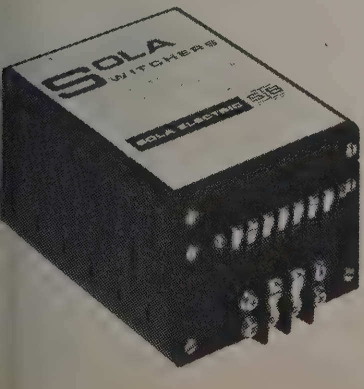
A series regulated solid power supply specifically designed for printed circuit board mounting. Output can be shorted without damaging supply. **Input:** 115 VAC ± 10 VAC, 50–400 Hz. **Output voltage accuracy:** ±2%. **Line/Load regulation:** .02% or 2.5 mV. **Operating temp.:** −25° C to +71° C.

Sola No.	DC Output		PARD mVrms	Size			Net Each
	Volts	Amps		H″	W″	D″	
84-05-150	5	.5	1	.875	2.5	3.5	$59.40
84-05-210	5	1.0	1	1.25	2.5	3.5	83.75
84-05-220	5	2.0	1	1.62	2.5	3.5	107.10
84-12-110	12	.1	.5	1.0	1.75	2.25	35.00
84-15-110	15	.1	.5	1.0	1.75	2.25	35.00
84-12-2112	±12	.12 ea.	.5	.875	2.5	3.5	59.40
84-12-2124	±12	.24 ea.	.5	1.25	2.5	3.5	83.75
84-12-2140	±12	.4 ea.	.5	1.62	2.5	3.5	120.85
84-15-2025	±15	.025 ea.	2.0	.875	2.5	3.5	35.00
84-15-2110	±15	.1 ea.	.5	.875	2.5	3.5	59.40
84-15-2120	±15	.2 ea.	.5	1.25	2.5	3.5	83.75
84-15-2135	±15	.35 ea.	.5	1.62	2.5	3.5	120.85

OVERVOLTAGE PRODUCTION

A low-cost option for Sola Class 81 and 83 power supplies.

Power Supply	Overvoltage Protection	Sola Number	Net Each, Lots of		
			1-4	5-9	10-49
15 Watts	5 V/6 V	999-226-5	$ 9.80	$ 9.25	$ 8.65
	12 V/15 V	999-226-12	9.80	9.25	8.65
	24 V	999-226-24	9.80	9.25	8.65
30 Watts	5 V	999-219-5	9.80	9.25	8.65
	12 V	999-219-12	9.80	9.25	8.65
	15 V	999-219-15	9.80	9.25	8.65
	24 V	999-219-24	9.80	9.25	8.65
60 Watts	5 V	999-189-5	15.00	14.10	13.20
	12 V	999-189-12	15.00	14.10	13.20
	15 V	999-189-15	15.00	14.10	13.20
	24 V	999-189-24	15.00	14.10	13.20
120 Watts	12 V	999-189-12	15.00	14.10	13.20
	15 V	999-189-15	15.00	14.10	13.20
	24 V	999-189-24	15.00	14.10	13.20
	48 V	999-189-48	15.00	14.10	13.20

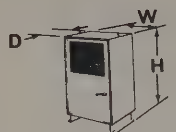


HIGH FREQUENCY POWER SUPPLY SWITCHING REGULATORS

Compact, light-weight units. Convection cooled. High efficiency; 75% at 5 volts output and full load. Low ripple (PARD). Short-circuit proof; for indefinite period. Tracking outputs. Fast load transient recovery. No audible noise. **Regulation:** 0.1% max. for ±10% change in line voltage. Ripple and noise average 35 mVp-p for 5 volt supply with a temperature coefficient of 0.01%/° C typical. **Temperature Range:** 0° C to +71° C; derate 2.5%/° C above 45° C. **Input Voltage Range:** 95–130 VAC (115 VAC nominal) or 180–260 VAC (230 VAC nominal), 47–450 Hz. **Switching Frequency:** 25 kHz at normal load to 2 kHz at short circuit or below 0.5 Ampere load. **Over-Voltage Protection:** Trips at 6.0 volts output; current limited. **Input Isolation:** 50 megohms (900 Vrms minimum breakdown).

Sola Model No.	Input Voltage VAC	Output Voltage VDC	Output Current @ 45° C	PARD mVp-p	Net Each, Lots of			
					1-4	5-9	10-49	50-99
86-05-310	115	4.5–5.5	10 A	25	$199.00	$189.05	$179.10	$169.15
86-05-310-50	230	4.5–5.5	10 A	25	199.00	189.05	179.10	169.15
86-05-320	115	4.5–5.5	20 A	50	299.00	284.05	269.10	254.15
86-05-320-50	230	4.5–5.5	20 A	50	299.00	284.05	269.10	254.15
86-12-2215	115	±11.5–15.5	1.5 A*	3	199.00	189.05	179.10	169.15
86-12-2215-50	230	±11.5–15.5	1.5 A*	3	199.00	189.05	179.10	169.15

*Each side; 3 Amperes total (sum of positive and negative outputs).



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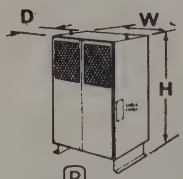

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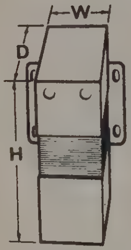

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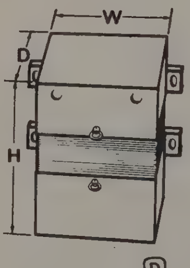


D

50 Hz UNITS AVAILABLE ON REQUEST

SOLATRON FOR COMPUTERS

Improved Solatron LVR for computers designed to meet stringent requirements of ED
equipment. **Input:** 208/230 V, 3-phase, 57-62 Hz. +10%/-20%. **Output:** 208/230
±1% for any combination of line, load, thermal drift, warm-up and frequency. Capable
remote sensing. **Response Time:** Begins immediately, complete within 5 cycles. **Eff**
ciency: Watts, 95% typ.; VA, 75% typ. **Harmonics:** Balanced line and load, 3% max
unbalanced line and load, 6% max.

Sola Number	Fig.	Output kVA	Overall Size, Ins. H.	W.	D.	Shpg. Wt., Lbs.	Net Each
39-59-310	A	10	50	27	20	540	$ 4932.00
39-59-315	A	15	50	27	20	700	5519.00
39-59-325	B	25	65	36	27	1080	6078.00
39-59-350	B	50	65	36	27	1510	9704.00
39-59-375	B	75	65	36	27	1785	14558.00
39-59-410#	B	100	65	36	27	1200	18483.00
39-59-415#	B	150	65	36	27	1385	26849.00
39-59-422#	B	225	65	36	27	1585	37093.00

#Consists of three cabinets; size and weight specifications are for each cabinet.

SOLATRON® SINGLE-PHASE, ½%, LINE-VOLTAGE REGULATORS

The Solatron LVR static-magnetic line voltage regulator combines fast response, "tight
regulation, adjustable output, remote sensing, high KVA capacity, using no moving part
Regulation: ±0.5% for line changes. ±1% maximum for any combination of line, loa
temperature and frequency changes within limits. **Variation Limits:** Line, ±10%
+10%/-20%; frequency, 57-63 Hertz, zero load to full load; temperature, +15° to +40
Output Voltage: Adjustable ±10% of nominal output voltage. Single-phase 50 Hz an
Wye 50 Hz units are available on request.

Sola Number	Max. Output kVA	Nominal Output Voltage	Output Voltage Range	App. Shpg. Wt., Lbs.	Fig.	Overall Size, Ins. H.	W.	D.	Net Each
33-16-250-6	5	120	108-132	127	C	21 3/8 x	8 37/64 x	9 3/16	$1390.00
33-26-250-6	5	208/240	208-250	127	C	21 3/8 x	8 37/64 x	9 3/16	1390.00
33-46-250-6†	5	480	432-528	127	C	21 3/8 x	8 37/64 x	9 3/16	1390.00
33-16-275-6	7.5	120	108-132	168	C	23 3/4 x	8 37/64 x	9 3/16	1723.00
33-26-275-6†	7.5	208/240	208-250	168	C	23 3/4 x	8 37/64 x	9 3/16	1723.00
33-46-275-6†	7.5	480	432-528	168	C	23 3/4 x	8 37/64 x	9 3/16	1723.00
33-16-310-6	10	120	108-132	193	C	23 3/4 x	8 37/64 x	9 3/16	1855.00
33-26-310-6	10	208/240	208-250	193	C	23 3/4 x	8 37/64 x	9 3/16	1855.00
33-46-310-6†	10	480	432-528	193	C	20 3/4 x	8 37/64 x	9 3/16	1855.00
33-16-315	15	120	108-132	400	D	23 5/8 x	15 1/2	x 13 15/16	2020.00
33-06-315†	15	208	188-228	400	D	23 5/8 x	15 1/2	x 13 15/16	2020.00
33-26-315†	15	240	216-264	400	D	21	x 15 1/2	x 13 15/16	2020.00
33-16-325	25	120	108-132	520	D	31 5/8 x	15 1/2	x 13 15/16	2684.00
33-06-325†	25	208	188-228	520	D	31 5/8 x	15 1/2	x 13 15/16	2684.00
33-26-325†	25	240	216-264	520	D	31 5/8 x	15 1/2	x 13 15/16	2684.00
33-46-325†	25	480	432-528	520	D	24 3/8 x	15 1/2	x 13 15/16	2684.00

†Item not normally stocked; ask for delivery information.

SINGLE-PHASE (60 Hz ±3 Hz) THREE-PHASE WYE (60 Hz ±3 Hz)

Sola No.	Max. Output, kVA	Input Voltage	Output Voltage Adj.	Approx. Shpg. Wt., Lbs.	Net Each
39-06-215†	1.5	+10/−20%	108–132	210	$ 1823.00
39-06-230†	3	+10/−20%	108–132	265	2014.00
39-06-260-6	6	+10/−20%	108–132	325	2552.00
39-06-290-6	9	+10/−20%	108–132	370	2840.00
39-06-315-6	15	+10/−20%	108–132	452	3484.00
39-46-315-6†	15	+10/−20%	250–304	452	3484.00
39-06-322-6†	22.5	+10/−20%	108–132	558	4232.00
39-46-322-6†	22.5	+10/−20%	250–304	558	4232.00
39-06-330-6	30	+10/−20%	108–132	610	4719.00
39-46-330-6†	30	+10/−20%	250–304	610	4719.00
39-06-345†	45	+10/−20%	108–132	787	5574.00
39-46-345†	45	+10/−20%	250–304	787	5574.00
39-06-375†	75	+10/−20%	108–132	960	7395.00
39-46-375†	75	+10/−20%	250–304	960	7395.00
37-46-410-5†	100	+10/−10%	264–290	2100	8907.00
37-06-411-8†	112.5	+10/−10%	108–132	2660	10120.00
37-06-415-5†	150	+10/−10%	114–126	3450	10607.00
37-46-415-5†	150	+10/−10%	264–290	3450	10607.00
37-06-422-5†	225	+10/−10%	114–126	3700	11820.00
37-46-422-5†	225	+10/−10%	264–290	3700	11820.00
37-06-430-5†	300	+10/−10%	114–126	4800	13182.00
37-46-430-5†	300	+10/−10%	264–290	4800	13182.00
37-06-450-5†	500	+10/−10%	114–126	6000	17028.00
37-46-450-5†	500	+10/−10%	264–290	6000	17028.00

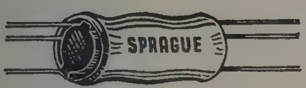
THREE-PHASE DELTA (60 Hz ±3 Hz)

Sola No.	Max. Output, kVA	Input Voltage	Output Voltage Adj.	Approx. Shpg. Wt., Lbs.	Net Each
39-29-217†	1.7	+10/−20%	216–264	265	$ 2035.00
39-29-235-6†	3.5	+10/−20%	216–264	325	2552.00
39-29-252-6†	5.2	+10/−20%	216–264	370	2840.00
39-09-285-6†	8.5	+10/−20%	188–228	452	3486.00
39-29-285-6†	8.5	+10/−20%	216–264	452	3486.00
39-49-285-6†	8.5	+10/−20%	432–528	452	3486.00
39-09-313-6†	13	+10/−20%	188–228	558	4232.00
39-29-313-6†	13	+10/−20%	216–264	558	4232.00
39-49-313-6†	13	+10/−20%	432–528	558	4232.00
39-09-317-6†	17	+10/−20%	188–228	1000	4719.00
39-29-317-6†	17	+10/−20%	216–264	1000	4719.00
39-49-317-6†	17	+10/−20%	432–528	1000	4719.00
39-09-326†	26	+10/−20%	188–228	1300	5574.00
39-29-326†	26	+10/−20%	216–264	1300	5574.00
39-49-326†	26	+10/−20%	432–528	1300	5574.00
39-09-343†	43	+10/−20%	188–228	1645	7393.00
39-29-343†	43	+10/−20%	216–264	1645	7393.00
39-49-343†	43	+10/−20%	432–528	1645	7393.00
37-29-365†	65	+10/−10%	216–264	1660	6694.00
37-49-365†	65	+10/−10%	432–528	1660	6694.00

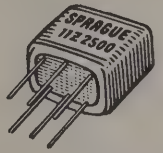
†Item not normally stocked; ask for delivery information.

SPRAGUE PULSE AND TRIGGER TRANSFORMERS

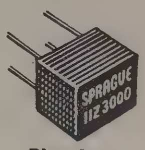
TYPE 11Z TRIGATE® PULSE TRANSFORMERS



Flexible 6-Lead Type



Plug-In, Thermoplastic Sheath



Plug-In, Pre-molded Case

Trigate pulse transformers are specifically designed for commercial and industrial SCR triggering applications where low cost and excellent performance are required. Unique features offered by these devices include: Balanced pulse characteristics and energy transfer from the primary to secondary and tertiary windings; minimum saturation effect to allow operation where increased pulse widths are required; fast pulse rise time and increased current capability to prevent SCR di/dt failure; increased energy transfer efficiency. **Operating Temperature Range:** −10° C to +70° C; transformers for −40° C to +105° C operation are available on request. **Dielectric Test:** 1600 volts rms at 60 Hz. **AC Line Voltage:** 240 volts rms max. at 60 Hz. Choice of flexible lead and printed wiring board designs.

Flexible Lead 240-VAC Types—Leads are polyurethane-insulated magnet wire for direct soldering to terminals or other circuit components without removal of wire insulation. Mount with plastic clip or bracket such as Weckesser Etho-Loc snap clips. Case size, 0.593″ dia. x 0.828″ lg. with flexible leads 1.500″ lg. min.

Sprague No.	Turns Ratio	Min. L_p, µH	Max. L_L, µH	Max. C_C, pF	Max. DCR, Ohms	No. of Leads	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
11Z12	1:1	200	3	800	1.5–1.5	4	$2.70	$1.737	$1.137	$0.78	$0.72	$0.66
11Z13	1:1:1	200	3	800	2–2–2	6	3.15	2.026	1.326	.91	.84	.77
11Z14	2:1	1000	10	1300	10–2	4	3.81	2.461	1.611	1.105	1.02	.935
11Z15	2:1:1	1000	15	1300	10–2–2	6	4.26	2.751	1.80	1.235	1.14	1.045
11Z16	5:1	5000	1500	400	19–3	4	4.02	2.605	1.705	1.17	1.08	.99

Horizontal Plug-In Thermoplastic Sheath 240-VAC Types—Self-supporting, single-ended pulse transformers with leads especially designed for mounting on printed wiring boards. Case size, 0.968″ w. x 0.775″ d. x 0.800″ h. max. with No. 20 AWG pretinned copper wire leads 0.250″ lg. min.

11Z2000	1:1	200	3	800	1.5–1.5	4	$4.71	$3.04	$1.989	$1.365	$1.26	$1.155
11Z2001	1:1	1000	12	2000	8–8	4	4.92	3.184	2.084	1.43	1.32	1.21
11Z2003	2:1	1000	10	1300	10–2	4	6.03	3.908	2.558	1.755	1.62	1.485
11Z2004	5:1	5000	1500	400	19–3	4	5.37	3.474	2.274	1.56	1.44	1.32
11Z2100	1:1:1	200	3	800	2–2–2	6	5.58	3.619	2.368	1.625	1.50	1.375
11Z2101	1:1:1	1000	12	2000	10–10–10	6	5.82	3.763	2.463	1.69	1.56	1.43
11Z2103	2:1:1	1000	15	1300	10–2–2	6	6.93	4.487	2.937	2.015	1.86	1.705
11Z2104	5:1:1	5000	1500	400	20–4–4	6	6.27	4.053	2.653	1.82	1.68	1.54

Horizontal Plug-In, Pre-molded Case 240-VAC Types—Same as above. Case size, .950″ w. x .775″ d. x .750″ h.

Sprague Number	Turns Ratio	Min. L_p, µH	Max. L_L, µH	Max. C_C, pF	Max. DCR, Ohms	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
11Z3000	1:1	200	3	800	1.5–1.5	$5.25	$3.387	$2.217	$1.521	$1.404	$1.287
11Z3001	1:1	1000	12	2000	8–8	5.46	3.532	2.312	1.586	1.464	1.342
11Z3002	1:1	5000	15	3500	18–18	5.67	3.677	2.406	1.651	1.524	1.397
11Z3003	2:1	1000	10	1300	10–2	6.57	4.256	2.785	1.911	1.764	1.617
11Z3004	5:1	5000	1500	400	19–3	5.91	3.821	2.501	1.716	1.584	1.452
11Z3100	1:1:1	200	3	800	2–2–2	6.12	3.966	2.596	1.781	1.644	1.507
11Z3101	1:1:1	1000	12	2000	10–10–10	6.36	4.111	2.691	1.846	1.704	1.562
11Z3102	1:1:1	5000	15	3500	27–27–27	7.02	4.545	2.975	2.041	1.884	1.727
11Z3103	2:1:1	1000	15	1300	10–2–2	7.47	4.835	3.164	2.171	2.004	1.837
11Z3104	5:1:1	5000	1500	400	20–4–4	6.81	4.40	2.88	1.976	1.824	1.672

TYPE 66Z SCR TRIGGER TRANSFORMERS

Pre-molded construction permits slightly lower cost than fully-molded units without sacrifice in humidity resistance. Small size for use on PC boards and in encapsulated modular packages. Size, .400″ w. x .785″ l. x .312″ h.

Sprague Number	Turns Ratio	Min. L_p µH	Max. L_L µH	Max. C_C pF	Output Winding*	rms Volts†	Line VAC‡	Net Each, Lots of 1-24	25-49	50-99	100-249
66Z900	1:1:1	700	300	25	60	1000	240	$6.475	$5.088	$3.33	$2.405
66Z903	1:1:1	700	300	25	60	2200	550	6.65	5.225	3.42	2.47
66Z930	1:1:1	4800	25	50	110	1000	240	7.525	5.913	3.87	2.795
66Z932	1:1:1	4800	25	50	110	2200	550	7.70	6.05	3.96	2.86

*Typical Vµsec. †60-cycle dielectric test. ‡Max. 60 Hz AC line voltage.

ESSEX STANCOR Transformers

UNIVERSAL OUTPUT TRANSFORMERS

Termination: Primary, leads except A-3849, A-3880, A-3870; secondary, lugs.

Stancor No.	Impedance, Ohms		Watts	Mtg. Type	Net Each, Quantities of			
	Primary	Sec.			1-9	10-24	25-49	50-99
A-3856*†	4000–14000	.05–122	4	A	$5.00	$4.50	$4.05	$3.75
A-3823*†	4000–14000	.05–122	8	A	5.83	5.25	4.72	4.37
A-3849*	1500–10000	.02–21	10	A	5.83	5.25	4.72	4.37
A-3852†	4000–14000	.05–122	18	S	8.00	7.20	6.48	6.00
A-3830†	3000–10000	.04–122	20	S	7.92	7.13	6.42	5.94

*Single plate. †Push-pull plate.

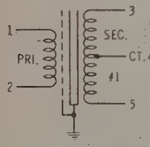
CATHODE-RAY TUBE POWER TRANSFORMER

For use in half-wave circuits. Primary 117 V, 60 Hz. May be operated from a 400 Hz source with no change in output. Lead termination except P-8179, lug.

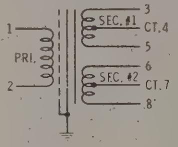
Stancor No.	Plate Windings		Rec. Fil.		Other Winding		Mtg.	Size, Inches W. x D. x H.	Net Each, Quantities of			
	VAC	mADC	V	A	V	A			1-9	10-24	25-49	50-99
P-8150	1550	1.5	2.5	1.75	....	...	SC	3 x2½x3 1/16	$12.00	$10.80	$ 9.72	$ 9.00
P-8179	1600	3.0	...	....	6.3/5/2.5 6.3/5/2.5	1.0 3.0	M	2½x3 x3½	21.17	19.05	17.15	15.88
P-8151	2400	5.0	2.5	2.0	2.5	2.0	C	3 7/16x3⅞x4¼	20.84	18.76	16.88	15.63

PERIPHERAL COMPUTER ACCESSORY TRANSFORMERS

Designed for supplies delivering regulated positive and negative DC voltages for OP-AMPS and separate 5 to 6 volt regulated DC voltages for logic circuits. All transformer ratings are for continuous duty with a 105° C maximum operating temperature limit. Primary, 120 V, 50–60 Hz. Tested to 1500 V rms. All transformers have lug terminations.



PCA-1, -2



PCA-3, -4

Stancor No.	Output		Input Filter MFD
	VDC	mA	
PCA-1	+21 −21	150* 150*	500 500
PCA-2	+21 −21	250* 250*	500 500
PCA-3	+21 −21 +8.5	150* 150* 2000†	500 500 1000
PCA-4	+21 −21 +8.0	250* 250* 4000†	500 500 3000

*Secondary No. 1 with full-wave bridge rectifier.
†Secondary No. 2 with full-wave center-tapped rectifier.

Stancor No.	Style	Secon. #1		Secon. #2		Wght. Lbs.	Size, Inches	Net Each, Quantities of			
		Volts	Amps	Volts	Amps		W. x D. x H.	1-9	10-24	25-49	50-99
PCA-1	S	35 CT	.21	......	.....	1.0	2⅞ x 1⅝ x 2⅜	$ 4.75	$ 4.28	$ 3.85	$3.56
PCA-2	S	33 CT	.35	......	.....	1.4	3½ x 1⅞ x 2 11/16	5.58	5.02	4.52	4.19
PCA-3	NV	33 CT	.21	18 CT	1.25	3.0	2½ x 2⅝ x 3⅛	10.25	9.23	8.30	7.69
PCA-4	NV	34 CT	.35	19 CT	2.5	3.9	2 13/16 x 2⅞ x 3 7/16	12.42	11.18	10.06	9.32

PRINTED CIRCUIT POLYCHROMATRANS

Printed circuit board transistor transformers. Test volts, 500 rms. Color-coded by application. Up to 50% reduction in distortion over other brands. Improved lower-end frequency response. Leads are fatigue resistant gold-plated nickel-iron alloy, .020″ dia., 5/16″ long and have multiples of 0.1″ grid spacing for PC application. Size .410″ w. x .310″ d. x .480″ h.

Stancor No.	Power Level mW	Use	Matching Impedance, Ohms		Max. mA DC*	Net Each, Quantities of			
			Primary	Secondary		1-9	10-24	25-49	50-99
PCT-14	15	Input	200K CT	1K CT	0	$13.42	$12.08	$11.19	$10.47
PCT-17	15	Input	200K	1K	0	12.67	11.40	10.56	9.88
PCT-54	75	Output	600 CT	12	4.5	11.42	10.28	9.52	8.91
PCT-76	75	Output Isolation	10K CT	10K CT	1	12.42	11.18	10.36	9.69
PCT-77	75	Output Isolation	600 CT	600 CT	3	10.92	9.83	9.10	8.52

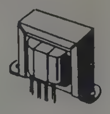
*Unbalanced in primary.

No. SPCT-10—Magnetic alloy shield for all PCT transformers. Net Each, Quantities of 1–9..... **$2.33**
Net Each, Quantities of 10–24.......... **$2.10**; 25–49........... **$1.89**; 50–99............. **1.75**

AUTOMATION CONTROL/RECTIFIER TRANSFORMERS

May be operated from a 400 Hz source with no change in output ratings. By connecting primaries in series (for 230 V) but using only 115 input, a series of half voltage output ratings becomes available at the full rated current from each secondary. Solder lug termination.

Stancor No.	Secondary		VA Rating	Mtg. Type	Wt., Lbs.	Net Each, Quantities of			
	Parallel	Series				1-9	10-24	25-49	50-99
P-6375	6 V at 2 amps	12 V at 1 amp	12	S	1	$ 5.42	$ 4.88	$ 4.39	$ 4.07
P-6376	6 V at 4 amps	12 V at 2 amps	24	S	1.5	6.50	5.85	5.27	4.88
P-6377	12 V at 4 amps	24 V at 2 amps	48	S	2.5	8.34	7.51	6.76	6.26
P-6378	12 V at 8 amps	24 V at 4 amps	96	NV	4.2	13.75	12.38	11.14	10.31
P-6379	12 V at 16 amps	24 V at 8 amps	192	NV	8	25.01	22.51	20.26	18.76
P-8615	24 V at 0.5 amp	48 V at 0.25 amp	12	S	1.0	6.00	5.40	4.86	4.50
P-8616	24 V at 1 amp	48 V at 0.5 amp	24	S	1.5	6.83	6.15	5.53	5.12
P-8617	24 V at 2 amps	48 V at 1 amp	48	S	2.5	8.34	7.51	6.76	6.26
P-8618	24 V at 4 amps	48 V at 2 amps	96	NV	4.2	13.50	12.15	10.94	10.13
P-8619	24 V at 8 amps	48 V at 4 amps	192	NV	8.0	20.00	18.00	16.20	15.00



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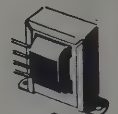

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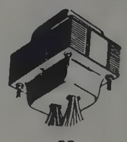

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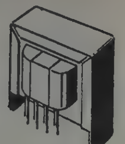
PRICES ARE FOR INDIVIDUALLY BOXED UNITS.

STANCOR Transistor Transformers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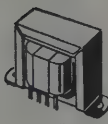
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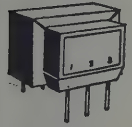
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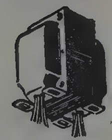
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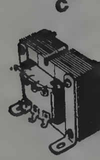
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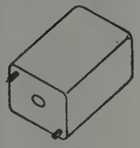
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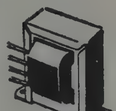
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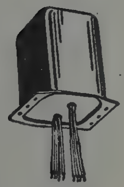
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PRICES ARE FOR INDIVIDUALLY BOXED UNITS. SEE LAST PAGE OF LISTING FOR OEM BULK-PACKED PRICING.

MINIATURE TRANSISTOR AUDIO TRANSFORMERS

.150 Watt Group—Dimensions: 13/16″ w. x ⅝″ d. x 21/32″ h. Mtg. tabs 25/32″ centers, 3/16″ w. Weight, 0.65 oz. Mtg. Type A1.

Stancor No.	Application	Impedance, Ohms		DC Resis., Ohms		Net Each, Quantities of			
		Primary	Secondary	Primary	Secondary	1-9	10-24	25-49	50-99
TA-18	Input	30 CT	50,000	14.7	4060	$8.42	$7.58	$6.82	$6.32
TA-19	Interstage	100 CT	10 CT	19	1.27	4.67	4.20	3.78	3.50
TA-20	Output	350 CT	4, 12	38	1.45	6.00	5.40	4.86	4.50
TA-21	Output	500 CT	4, 8, 16	75.3	3.55	5.42	4.88	4.39	4.07
TA-22	Interstage	500 CT	50	59.7	7.9	4.83	4.35	3.91	3.62
TA-23	Output	600 CT	4, 8, 16	73.2	3.2	5.83	5.25	4.72	4.37
TA-24	Interstage	500 CT	50,000	76.8	5135	4.83	4.35	3.91	3.62
TA-25	Output	825 CT	4, 8, 16	74	2.7	6.00	5.40	4.86	4.50
TA-26	Output	1,250	4, 12	132.5	1.4	5.17	4.65	4.19	3.88
TA-27	Interstage	1,200	20,000 CT	142	1860	6.50	5.85	5.27	4.88
TA-28	Interstage	1,500	500 CT	104	46.5	5.33	4.80	4.32	4.00
TA-29	Output	2,500	4, 16	370	2.3	4.83	4.35	3.91	3.62
TA-30	Interstage	5,000 CT	7,500 CT	650	790	5.17	4.65	4.19	3.88
TA-31	Interstage	5,000 CT	10,000 CT	635	825	5.17	4.65	4.19	3.88
TA-32	Interstage	5,000 CT	80,000 CT	500	5200	5.50	4.95	4.46	4.13
TA-33	Output	10,000 CT	4, 8, 16	1174	2.6	5.17	4.65	4.19	3.88
TA-34	Interstage	10,000	200 CT	1200	25.0	4.33	3.90	3.51	3.25
TA-35	Interstage	10,000	2,000 CT	1200	257	5.00	4.50	4.05	3.75
TA-36	Interstage	10,000	3,000 CT	1200	385	5.00	4.50	4.05	3.75
TA-37	Output	400 CT	11	71.5	1.5	7.17	6.45	5.81	5.38
TA-38	Interstage	500 CT	150 CT	62	21.2	4.83	4.35	3.91	3.62
TA-54	Interstage	20,000	800 CT	1350	95	5.17	4.65	4.19	3.88

.300 Watt Group—Dimensions: 1⅝″ w. x ¾″ d. x 13/16″ h. Mtg. centers, 1⅜″. Weight, 1.2 oz. Mtg. Type A.

Stancor No.	Application	Impedance, Ohms		DC Resis., Ohms		Net Each, Quantities of			
		Primary	Secondary	Primary	Secondary	1-9	10-24	25-49	50-99
TA-39	Output	100 CT	4, 8, 16	10.9	1.45	$5.42	$4.88	$4.39	$4.07
TA-40	Output	160	4, 8, 16	18.7	1.4	5.33	4.80	4.32	4.00
TA-41	Output	400 CT	4, 8, 16	34	1.5	5.17	4.65	4.19	3.88
TA-42	Output	500 CT	4, 8, 16	47	.85	5.83	5.25	4.72	4.37
TA-43	Output	700 CT	4, 8, 16	77	1.15	5.00	4.50	4.05	3.75
TA-44	Output	2,500	4, 8, 16	172	1.15	7.33	6.60	5.94	5.50
TA-45	Output	3,000	4, 8, 16	192	1.2	5.83	5.25	4.72	4.37
TA-46	Interstage	100,000	1,500 CT	3250	143	5.67	5.10	4.59	4.25
TA-47	Input	1,000 CT	200,000 CT	123	1815	5.75	5.18	4.66	4.31
TA-52	Interstage	500 CT	500 CT	40	55	5.33	4.80	4.32	4.00
TA-55	Input	500,000	200 CT	12000	18	7.33	6.60	5.94	5.50
TA-63	Driver	20,000 CT	2,000 CT	2140	325	6.67	6.00	5.40	5.00

MINATURE TRANSISTOR AUDIO TRANSFORMERS FOR PRINTED CIRCUITS

.150 Watt Group—Dimensions: 13/16″ w. x .65″ d. x ¾″ h. Mtg. Type B.

Stancor No.	Application	Impedance, Ohms		DC Resis., Ohms		Net Each, Quantities of			
		Primary	Secondary	Primary	Secondary	1-9	10-24	25-49	50-99
TAPC-28	Interstage	1,500	500 CT	104	46.5	$6.83	$6.15	$5.53	$5.12
TAPC-32	Interstage	5,000 CT	80,000 CT	500	5200	6.00	5.40	4.86	4.50
TAPC-35	Interstage	10,000	2,000 CT	1200	257	5.00	4.50	4.05	3.75
TAPC-36	Interstage	10,000	3,000 CT	1200	385	6.25	5.63	5.06	4.69
TAPC-38	Interstage	500 CT	150 CT	62	21.2	5.00	4.50	4.05	3.75

.300 Watt Group—Dimensions: 1 1/32″ w. x 1″ d. x ⅞″ h. Mtg. Type B.

Stancor No.	Application	Impedance, Ohms		DC Resis., Ohms		Net Each, Quantities of			
		Primary	Secondary	Primary	Secondary	1-9	10-24	25-49	50-99
TAPC-47	Input	1,000 CT	200,000 CT	123	1815	$5.83	$5.25	$4.72	$4.37
TAPC-52	Interstage	500 CT	500 CT	40	55	5.58	5.02	4.52	4.19
TAPC-63	Driver	20,000 CT	2,000 CT	2140	325	5.42	4.88	4.39	4.07

TRANSISTOR AUDIO TRANSFORMERS

Special transformers for transistor applications. Mtg. Types: TA-56, TA-57 and TA-61, S; TA-13, SC; TA-60, TS; all others, Mtg. Type A.

Stancor Number	Impedance, Ohms		DC Res., Ohms		Max. Pri. mADC	Watts	Net Each, Quantities of			
	Pri.	Sec.	Pri.	Sec.			1-9	10-24	25-49	50-99
TA-1*	600 CT	10	42	.8	20	.05	$5.00	$4.50	$4.05	$3.75
TA-2†	100 CT	10 CT	4.3	.8	100	.25	3.33	3.00	2.70	2.50
TA-3†	100	1000 CT	5.8	45	100	.25	3.58	3.22	2.90	2.69
TA-4†	500 CT	5000 CT	37	250	12	.03	4.67	4.20	3.78	3.50
TA-5‡	1000	200 CT	400	115	10	.05	5.83	5.25	4.72	4.37
TA-6‡	2000	200 CT	720	115	5	.05	6.67	6.00	5.40	5.00
TA-7‡	100	100 CT	12	12	100	.5	4.17	3.75	3.38	3.13
TA-9§	1000	4/8/16	180	3.5	10	.2	5.58	5.02	4.52	4.19
TA-10§	2000 CT	4/8/16	250	4	....	.2	8.34	7.51	6.76	6.26
TA-11§	48 CT	8/16	5	1.5	275	5	6.25	5.63	5.06	4.69
TA-12§	20 CT	8	.55	.35	500	10	4.00	3.60	3.24	3.00
TA-13‡	200 CT	400 CT	4	7	10	.6	10.42	9.38	8.44	7.82
TA-56§#	48 CT	3.2/8/16	3.6	1.4	550	10	5.17	4.65	4.19	3.88
TA-57§	100 CT	3.2/8/16	6.6	1.5	500	10	5.17	4.65	4.19	3.88
TA-58‡	100	200 CT	6.5	15.5	200	.5	4.08	3.67	3.30	3.06
TA-59‡	500 CT	200 CT	36.5	15.5	50	.5	4.17	3.75	3.38	3.13
TA-60§	125 CT	8	7.5	0.9	50	1.5	7.92	7.13	6.42	5.94
TA-61‡	•	•	1.8	1.8	....	.....	4.00	3.60	3.24	3.00
TA-62§	25	4	1.5	0.4	400	4	3.33	3.00	2.70	2.50

*Input. †Interstage. ‡Driver. §Output. #Has lugs on secondary. •Trifilar wound ratio, 1:1:1.

TRANSISTOR POWER SUPPLY TRANSFORMERS

For transistor power supplies. Primary 117 VAC, 60 Hz. May be operated from a 400 Hz source with no change in output ratings. Lead wire termination. For rectifier circuits, for P-8193, P-8194, showing DC voltages and allowable DC current, write for Stancor Bulletin No. 587.

Stancor No.	Secondary No. 1		Secondary No. 2		Size, Inches W. x D. x H.	Mtg. Type	Net Each, Quantities of			
	V	A‡	V	A‡			1-9	10-24	25-49	50-99
P-8604#	20 CT	1.0	.....	.....	3¼ x 2⅛ x 2	A	$ 5.00	$ 4.50	$ 4.05	$ 3.75
P-8614#	30	3.0	.....	.....	2 13/16 x 3⅝ x 3½	C	12.00	10.80	9.72	9.00
P-8621†	24/26/28/30	15.0*	.....	.....	4½ x 5½ x 3 13/16	NH	33.34	30.01	27.01	25.01
P-8623§	18/20/22	2.0*	.....	.....	3⅝ x 2¼ x 3⅛	S	8.08	7.27	6.54	6.06
P-8197	50 CT	1.0	.....	.....	2½ x 2 11/16 x 3⅛	C	9.59	8.63	7.77	7.19
P-8198	54 CT	.5	6.3	.5	2 3/16 x 2 9/16 x 2⅝	C	7.83	7.05	6.34	5.87
P-8193	17/18	6.0	.....	.....	3⅛ x 3⅛ x 3 13/16	NV	18.17	16.35	14.72	13.63
P-8194	36	3.0	36	3.0	3¾ x 3¾ x 4 9/16	NV	30.01	27.01	24.31	22.51
P-8196	80 CT	1.5	.....	.....	2 13/16 x 3⅝ x 3½	C	12.67	11.40	10.26	9.50

*Secondary is one tapped winding. †Secondary leads have lugs attached. ‡rms. §Solder lug termination. #May be operated from 117 V, 50/60 Hz at full rated load.

POWER TRANSFORMERS FOR CAPACITOR INPUT SYSTEMS

Primary 117 V, 60 Hz; may be operated from a 400 Hz source with no change in output. Meets EIA requirements for electrical tolerances, dielectric strength, temperature rise and construction. Operating temperature 105° C max. All secondary AC voltages ±3%.

Stancor No.	Plate Windings		Rectifier Filament		Other Windings		Base Area, Inches	Mtg. Type	Wt., Lbs.	Net Each, Quantities of			
	AC V	mA DC	V	A	V	A				1-9	10-24	25-49	50-99
P-8379	115§	290	......	...	2.7/6.3	.45/8.0	3⁷⁄₁₆ x2¹³⁄₁₆	M*	5.7	$20.00	$18.00	$16.20	$15.00
PS-8415	125#	15	......	...	6.3	.6	2⅜ x1⅜	S	.7	4.58	4.12	3.71	3.44
P-8624	125#	15	......	...	12.6	.3	2⅜ x1⅜	S	.7	4.33	3.90	3.51	3.25
PS-8416	125-0-125	25	......	...	6.3	1.0	2¹³⁄₁₆x1¾	S	1.0	5.42	4.88	4.39	4.07
P-8625	125-0-125	25	......	...	12.6	.6	2¹³⁄₁₆x1¾	S	1.0	5.58	5.02	4.52	4.19
PA-8421	125#	50	......	...	6.3	2.0	3¹¹⁄₁₆x2⅛	A	1.5	6.67	6.00	5.40	5.00
P-8626	125#	50	......	...	12.6	1.0	3¹¹⁄₁₆x2⅛	A	1.5	6.67	6.00	5.40	5.00
P-8181	150#	25	......	...	6.3 CT	.5	2⅜ x1¹³⁄₁₆	VE	.8	5.83	5.25	4.72	4.37
P-8627	150#	25	......	...	12.6 CT	.3	2⅜ x1¹³⁄₁₆	VE	.8	6.33	5.70	5.13	4.75
P-8359	190-160-0 160-190	70	......	...	6.3 CT/ 6.3	3.0/.6	2⅝ x2½	C	2.8	13.00	11.70	10.53	9.75
P-8383	200-0-200	110	......	...	6.3/6.3 CT	2.0/4.0	3¼ x2½	C	3.0	14.00	12.60	11.34	10.50
PC-8417	220-0-220	50	......	...	6.3/25.2	.6/.5	2⅝ x2½	C	2.2	10.50	9.45	8.51	7.88
PC-8418	230-0-230	50	......	...	6.3	2.5	2⅝ x2½	C	2.2	8.75	7.88	7.09	6.56
PM-8418	230-0-230	50	......	...	6.3	2.5	3 x2½	M	2.2	10.00	9.00	8.10	7.50
PC-8401	235-0-235	40	5.0	2.0	6.3 CT	2.0	2⅝ x2½	C	2.2	11.34	10.21	9.19	8.51
PC-8402	240-0-240	55	5.0	2.0	6.3 CT	2.0	2¾ x2½	C	2.4	11.00	9.90	8.91	8.25
PC-8419	240-0-240	70	......	...	6.3	3.0	2⅞ x2½	C	2.6	9.67	8.70	7.83	7.25
P-8173	250-0-250	10	......	...	6.3/6.3	.6/1.2	2¼ x2⅞	C1	1.0	9.34	8.41	7.57	7.01
PC-8403	250-0-250	70	5.0	2.0	6.3 CT	2.5	3½ x2½	C	3.2	11.67	10.50	9.45	8.75
PC-8404	260-0-260	90	5.0	2.0	6.3 CT	3.0	3½ x2¹³⁄₁₆	C	4.0	13.00	11.70	10.53	9.75
PC-8420	260-0-260	90	......	...	6.3	4.0	3¼ x2¹³⁄₁₆	C	3.5	11.00	9.90	8.91	8.25
PC-8405	270-0-270	120	5.0	3.0	6.3 CT	3.5	3½ x3⅛	C	4.9	15.00	13.50	12.15	11.25
P-8356	270-0-270	260	5.0	3.0	6.3	8.8	3⅜ x3⅛	C*	6.5	23.34	21.01	18.91	17.51
P-8377	270-0-270	280	5.0	3.0	6.3	10.0	3¹⁵⁄₁₆x3⅛	M*	6.7	25.01	22.51	20.26	18.76
P-8373	280-0-280	280	5.0	3.0	6.3/24.0	10.0/2.6	3¾ x3⅛	M	8.0	23.34	21.01	18.91	17.51
P-8378	280-0-280 250-0-250	300	5.0/3.0	4.5	6.3/24.0	10.0/1.2	4⅝ x3⅛	C*	7.9	30.01	27.01	24.31	22.51
P-8355	285-0-285	250	5.0	3.0	6.3	9.5	3½ x3¾	C4*	6.5	23.34	21.01	18.91	17.51
P-6358	300-0-300	65	......	...	6.3 CT	2.7	2½ x2½	C	3.0	10.42	9.38	8.44	7.82
P-8175	300-0-300	70	5.0	3.0	6.3 CT	3.0	3½ x2⅞	C	4.0	22.50	20.25	18.23	16.88
P-8177	300-0-300	120	5.0	3.0	6.3 CT	3.0	3⅝ x3³⁄₁₆	C	5.8	20.17	18.15	16.34	15.13
PC-8406	325-0-325	40	5.0	2.0	6.3 CT	2.0	2¾ x2½	C	2.4	11.17	10.05	9.05	8.38
PC-8407	325-0-325	55	5.0	2.0	6.3 CT	2.0	3⅛ x2½	C	3.2	11.50	10.35	9.32	8.63
PC-8422	325-0-325	150	5.0	3.0	6.3 CT	5.0	3⅞ x3⅛	C	5.8	18.50	16.65	14.99	13.88
P-8339	325-0-325	255	5.0	3.0	12.6 CT	5.25	4⅜ x3¾	C	8.5	25.42	22.88	20.59	19.07
PC-8408	340-0-340	70	5.0	2.0	6.3 CT	2.5	3⅜ x2¹³⁄₁₆	C	3.8	14.09	12.68	11.41	10.57
P-6011	350-0-350	70	5.0 CT	3.0	6.3 CT	2.5	3 x2½	M	3.5	15.42	13.88	12.49	11.57
PC-8409	350-0-350	90	5.0	2.0	6.3 CT	3.0	3⅝ x2¹³⁄₁₆	C	4.5	15.50	13.95	12.56	11.63
P-8176	350-0-350	110	5.0	2.0	6.3 CT 6.3 CT	3.0 3.0	3⅛ x3¼	C	5.5	33.34	30.01	27.01	25.01
PC-8410	360-0-360	120	5.0	3.0	6.3 CT	3.5	3¾ x3⅛	C	5.5	17.00	15.30	13.77	12.75
PC-8411	375-0-375	150	5.0	3.0	6.3 CT	4.5	4 x3⁷⁄₁₆	C	5.8	19.92	17.93	16.14	14.94
PC-8412	400-0-400	200	5.0	3.0	6.3 CT	5.0	4 x3¾	C	8.2	25.01	22.51	20.26	18.76
PC-8413	400-0-400	250	5.0	4.0	6.3 CT	5.0	4½ x3¾	C	10.0	31.67	28.50	25.65	23.75
PC-8414	600-0-600	200	5.0	3.0	6.3/6.3	3.0/3.0	4¼ x3¾	C	8.3	29.17	26.25	23.63	21.88

*With copper shorting band to reduce external magnetic field. §For voltage doubler circuits. #For half-wave circuits.

ISOLATION TRANSFORMERS

Electrostatic shields grounded to core. Primary 50/60 Hz, line cord. May be operated from a 400 Hz source with no change in output.

STRAIGHT ISOLATION

Secondary female receptacle, except P-6411, P6411A, P-6412, P-6413 and P-8622 have lead wires.

Stancor No.	Cap. VA	Voltage		Mtg. Type	Size, Inches W. x D. x H.	Net Each, Quantities of			
		Input	Output			1-9	10-24	25-49	50-99
P-6413	0.6	115	115	A	2⅛ x 1¼ x 1¼	$ 3.50	$ 3.15	$ 2.84	$ 2.63
P-6411	15	115	115	A	3¼ x 1⅞ x 2	5.17	4.65	4.19	3.88
P-6411A	15	115	115	HE	3¼ x 1⅞ x 2	6.17	5.55	5.00	4.63
P-6412	35	115	115	A	3¾ x 2 x 2⅜	6.67	6.00	5.40	5.00
P-6410	50	115	115	C	2¹³⁄₁₆ x 3⅛ x 3½	14.00	12.60	11.34	10.50
P-6160*	100	105/115/125	115	C	3¾ x 3¾ x 4¹¹⁄₁₆	27.92	25.13	22.62	20.94
P-8622	150	115‡	115/230#	C	3⅛ x 4 x 3⅞	18.34	16.51	14.86	13.76
P-6161*	250	105/115/125	115	C	3¾ x 5½ x 4¹¹⁄₁₆	38.34	34.51	31.06	28.76
P-6298*	500	105/115/125	115	FS	5⅝ x 7¼ x 7⅝	91.69	82.52	74.27	68.77

STEP-DOWN ISOLATION

Secondary female receptacle. P-6406 has lead wires.

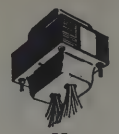
P-6406	50	115/230‡§	115	A	3¾ x 2⁵⁄₁₆ x 2⅜	$ 8.00	$ 7.20	$ 6.48	$ 6.00
P-6383*	100	210/230/250	115	C	3¾ x 3¾ x 4¹¹⁄₁₆	30.01	27.01	24.31	22.51
P-6385*	250	210/230/250	115	C	5½ x 3¾ x 4¹¹⁄₁₆	39.34	35.41	31.87	29.51
P-6387*	500	210/230/250	115	FS	7⅛ x 5⅝ x 7¾	100.02	90.02	81.02	75.02

*Has primary switch. †Has primary terminals. ‡Has electrostatic shield. §Primary is two separate windings. #Secondary is two separate 115 windings.

ISOLATION TESTING

Secondary three female receptacles.

P-6415	350	117	105/115/ 125	C	5¹³⁄₁₆ x 4⅝ x 5½	$46.18	$41.56	$37.41	$34.64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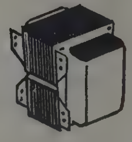
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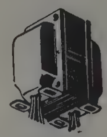
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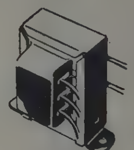
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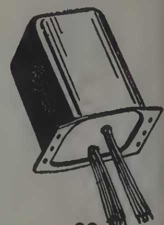
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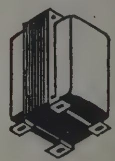
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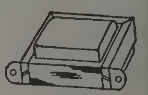
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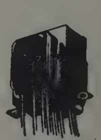
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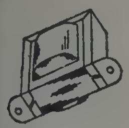

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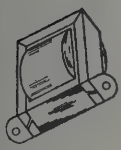

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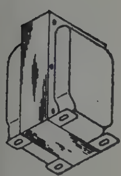

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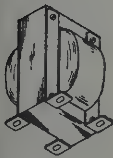

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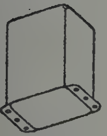

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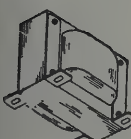

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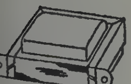

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RECTIFIER, CONTROL AND FILAMENT TRANSFORMERS

WITH SINGLE SECONDARY

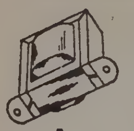
All primaries 50/60 Hz. May be operated from a 400 Hz source with no change in output rating. All secondary voltages ±3%. Insulation test voltage is twice allowable rms working voltage plus 1000 volts.

Stancor No.	Secondary		Insul. Test	Pri.	Termination		Mtg.	Size, Inches	Net Each, Quantities of			
	V	A	V rms	V	Pri.	Sec.		H. x W. x D.	1-9	10-24	25-49	50-99
P-8628	2.5 C.T.	0.3	1500	117	Leads	Leads	A	1¼ x2⅛ x1 5/16	$ 3.25	$ 2.93	$ 2.63	$ 2.44
P-8629	2.5	1.0	1500	117	Leads	Leads	A	1⅜ x2⅜ x1⅜	3.33	3.00	2.701	2.50
P-4026	2.5	1.5	2500	117	Leads	Leads	A	1⅝ x2⅞ x1⅝	4.00	3.60	3.24	3.00
P-4082	2.5 C.T.	2.5	2500	117/107	Leads	Leads	SC	2 11/16x2 11/16x2¼	10.92	9.83	8.85	8.19
P-6133*	2.5 C.T.	5.0	7500	117	Leads	Leads	S	2¾ x3⅛ x2¼	8.50	7.65	6.89	6.38
P-3024	2.5 C.T.	10.0	2500	117/107	Leads	Leads	C	3⅛ x2½ x2¾	10.42	9.38	8.44	7.82
P-6454	2.5 C.T.	10.0	7500	117/107	Leads	Leads	S	3⅛ x3⅝ x2½	7.42	6.68	6.01	5.57
P-3060	2.5 C.T.	10.0	10000	117	Lugs	Lugs	NV	3 7/16 x2 13/16x2⅜	12.84	11.56	10.40	9.63
P-6467	5.0 C.T.	3.0	2500	117	Leads	Leads	A	2 x3¼ x2⅛	5.17	4.65	4.19	3.88
P-6455	5.0 C.T.	6.0	2000	117/107	Leads	Leads	S	2¾ x3⅛ x2⅛	6.92	6.23	5.61	5.19
P-3062	5.0 C.T.	6.0	2500	117	Lugs	Lugs	NV	3⅛ x2½ x2¼	8.50	7.65	6.89	6.38
P-5000	5.0 C.T.	6.0	2500	117/107	Leads	Leads	C	3⅛ x2½ x3	12.09	10.88	9.79	9.07
P-6135	5.0 C.T.	10.0	2500	117	Leads	Leads	NV	3⅛ x2½ x2¾	10.34	9.31	8.38	7.76
P-6433	5.0 C.T.	15.0	2500	117	Leads	Leads	NV	3⅛ x2½ x2¾	13.00	11.70	10.53	9.75
F-516	5.0 C.T.	20.0	2500	115/230	Terms	Terms.	SC	4 11/16x4 7/16 x3 11/16	35.84	32.26	29.03	26.88
P-6492	5.0 C.T.	30.0	2500	117	Leads	Leads	C	4 11/16x3¾ x4	22.50	20.25	18.23	16.88
P-6468	5.0 C.T.	30.0	2500	117/107	Lugs	Lugs	C	4¼ x3 7/16 x3⅞	27.01	24.31	21.88	20.26
P-8385	6.3 C.T.	0.3	1500	117	Leads	Leads	A	1¼ x2⅛ x1¾	3.58	3.22	2.90	2.69
P-6465	6.3 C.T.	0.6	1500	117	Leads	Leads	A	1⅜ x2⅜ x1½	3.75	3.38	3.04	2.81
P-8705	6.3 C.T.	0.6	1500	230	Leads	Leads	A	1⅜ x2⅜ x1½	3.58	3.22	2.90	2.69
P-8389	6.3	1.0	1500	117	Leads	Leads	A	1⅝ x2⅞ x1½	3.75	3.38	3.04	2.81
P-6134	6.3 C.T.	1.2	3000	117	Leads	Leads	A	1⅝ x2⅞ x1⅞	3.75	3.38	3.04	2.81
P-8190	6.3	1.2	5000	117	Leads	Leads	A	2 x3¼ x1⅞	5.42	4.88	4.39	4.07
P-8191	6.3	1.2	5000	6.3	Leads	Leads	A	2 x3¼ x2	5.50	4.95	4.46	4.13
P-5014	6.3 C.T.	3.0	2500	117	Lugs	Lugs	NV	3⅛ x2½ x2½	7.92	7.13	6.42	5.94
P-6466	6.3 C.T.	3.0	2500	117	Leads	Leads	A	2 x3¼ x2⅛	5.42	4.88	4.39	4.07
P-6462	6.3	3.0	7000	117/107	Leads	Leads	S	3⅛ x3⅝ x2⅜	7.08	6.37	5.73	5.31
P-4019	6.3 C.T.	4.0	2500	117/107	Leads	Leads	C	3⅛ x2½ x2¾	10.59	9.53	8.58	7.94
P-8648	6.3 C.T.	4.0	1500	117	Leads	Leads	A	2⅜ x3¾ x2⅛	3.67	3.30	2.97	2.75
P-8649	6.3 C.T.	5.0	1500	117	Leads	Leads	A	2⅜ x3¾ x2⅛	6.00	5.40	4.86	4.50
P-3064*	6.3 C.T.	6.0	2500	117	Lugs	Lugs	NV	3⅛ x2½ x2⅜	9.59	8.63	7.77	7.19
P-4089	6.3 C.T.	6.0	2500	117/107	Leads	Leads	C	3½ x2 13/16x3¼	12.67	11.40	10.26	9.50
P-6456	6.3 C.T.	6.0	2000	117/107	Leads	Leads	A	2⅜ x3¾ x2⅜	7.33	6.60	5.94	5.50
P-8651	6.3 C.T.	8.0	1500	117	Leads	Leads	A	2⅝ x4 x2¼	7.92	7.13	6.42	5.94
P-6464	6.3 C.T.	10.0	2000	117	Leads	Leads	A	3½ x2 13/16x3¼	11.67	10.50	9.45	8.75
P-6308*	6.3 C.T.	10.0	2500	117/107	Leads	Leads	NV	3 7/16 x2 13/16x2⅝	12.09	10.88	9.79	9.07
P-8189	6.3 C.T.	20.0	2500	117	Leads	Leads	C	3⅞ x3⅛ x4¼	16.34	14.71	13.24	12.26
P-6309	6.3 C.T.	20.0	2500	117/107	Leads	Leads	NV	4 9/16 x3¾ x3⅜	19.00	17.10	15.39	14.25
P-5015*	7.5 C.T.	4.0	2500	117	Lugs	Lugs	NV	3⅛ x2½ x2¼	10.42	9.38	8.44	7.82
P-6138*	7.5 C.T.	8.0	2500	117	Leads	Leads	NV	3 13/16x3⅛ x2¾	13.84	12.46	11.21	10.38
P-6457	7.5 C.T.	21.0	2000	117/107	Leads	Leads	C	4⅝ x3¾ x4	24.59	22.13	19.92	18.44
P-8652	10.0 C.T.	1.0	1500	117	Leads	Leads	A	2 x3¼ x1⅝	4.00	3.60	3.24	3.00
P-8653	10.0 C.T.	2.0	1500	117	Leads	Leads	A	2 x3¼ x2	4.83	4.35	3.91	3.62
P-8380	10.0 C.T.	3.0	1500	117	Leads	Leads	A	2⅜ x3¾ x2¼	6.25	5.63	5.06	4.69
P-8654	10.0 C.T.	4.0	1500	117	Leads	Leads	A	2⅝ x4 x2⅛	7.17	6.45	5.81	5.38
P-5016*	10.0 C.T.	4.0	2500	117	Lugs	Lugs	NV	3 7/16 x2 13/16x2½	10.42	9.38	8.44	7.82
P-6458	10.0 C.T.	5.0	2000	117/107	Leads	Leads	NV	3 1/16 x2½ x2½	9.17	8.25	7.43	6.88
P-4096	10.0 C.T.	5.0	2500	117/107	Leads	Leads	C	3⅞ x3⅛ x3¼	16.67	15.00	13.50	12.50
P-8655	10.0 C.T.	6.0	1500	117	Leads	Leads	NV	3⅛ x2½ x2¾	9.17	8.25	7.43	6.88
P-8656	10.0 C.T.	8.0	1500	117	Leads	Leads	NV	3 7/16 x2 13/16x3	11.75	10.58	9.52	8.81
P-6139*	10.0 C.T.	8.0	2500	117	Leads	Leads	NV	3 13/16x3⅛ x3	14.17	12.75	11.48	10.63
P-4097	10.0 C.T.	8.0	2500	117/107	Leads	Leads	C	3⅞ x3⅛ x3¾	15.00	13.50	12.15	11.25
P-6461	10.0 C.T.	10.0	2000	117	Leads	Leads	C	3⅞ x3¼ x3 9/16	14.59	13.13	11.82	10.94
P-3020	11.0 C.T.	10.0	2500	117/107	Leads	Leads	C	4 11/16x3¾ x3⅝	21.67	19.50	17.55	16.25
P-8390	12.0	0.15	1500	117	Leads	Leads	A	1¼ x2⅛ x1¼	3.75	3.38	3.04	2.81
P-8391	12.0	0.35	1500	117	Leads	Leads	A	1⅜ x2⅜ x1⅜	3.75	3.38	3.04	2.81
P-8392	12.0	0.70	1500	117	Leads	Leads	A	1⅝ x2⅞ x2⅜	4.17	3.75	3.38	3.13
P-8393	12.0	1.2	1500	117	Leads	Leads	A	2 x3¼ x1⅝	5.17	4.65	4.19	3.88
P-8657	12.0	2.0	1500	117	Leads	Leads	A	2 x3¼ x2⅛	4.58	4.12	3.71	3.44
P-8658	12.0	4.0	1500	117	Leads	Leads	A	2⅝ x4 x2¼	7.25	6.53	5.87	5.44
P-8659	12.0	6.0	1500	117	Leads	Leads	NV	3 7/16 x2 13/16x2⅝	10.34	9.31	8.38	7.76
P-8660	12.0	8.0	1500	117	Leads	Leads	NV	3 13/16x3⅛ x2¾	12.25	11.03	9.92	9.19
P-8384	12.6 C.T.	1.0	1500	117	Leads	Leads	A	2 x3¼ x1¾	4.58	4.12	3.71	3.44
P-8130	12.6 C.T.	2.0	1500	117	Leads	Leads	A	2 x3¼ x2⅛	5.17	4.65	4.19	3.88
P-8715	12.6 C.T.	2.0	1500	230	Leads	Leads	A	2 x3¼ x2⅛	5.33	4.80	4.32	4.00
P-8358	12.6 C.T.	3.0	1500	117	Leads	Leads	A	2⅜ x3¾ x2¼	6.00	5.40	4.86	4.50
P-8641	12.6 C.T.	4.0	1500	117	Leads	Leads	A	2⅝ x4 x2⅜	7.25	6.53	5.87	5.44
P-8716	12.6 C.T.	4.0	2500	230	Leads	Leads	A	2⅝ x4 x2⅜	6.67	6.00	5.40	5.00
P-8642	12.6 C.T.	6.0	1500	117	Leads	Leads	C	3½ x2 13/16x3⅜	11.34	10.21	9.19	8.51
P-8643	12.6 C.T.	8.0	1500	117	Leads	Leads	C	3⅞ x3⅛ x3⅝	14.92	13.43	12.09	11.19
P-8644	12.6 C.T.	10.0	1500	117	Leads	Leads	C	4¼ x3 7/16 x3⅞	19.00	17.10	15.39	14.25
P-8394	24.0 C.T.	0.085	1500	117	Leads	Leads	A	1¼ x2⅛ x1¼	4.58	4.12	3.71	3.44
P-8720	24.0 C.T.	0.085	1500	230	Leads	Leads	A	1¼ x2⅛ x1¼	3.92	3.53	3.18	2.94
P-8395	24.0 C.T.	0.20	1500	117	Leads	Leads	A	1⅜ x2⅜ x1⅜	4.58	4.12	3.71	3.44
P-8721	24.0 C.T.	0.20	1500	230	Leads	Leads	A	1⅜ x2⅜ x1⅜	4.00	3.60	3.24	3.00
P-8396	24.0 C.T.	0.40	1500	117	Leads	Leads	A	1⅝ x2⅞ x1½	5.00	4.50	4.05	3.75
P-8722	24.0 C.T.	0.40	1500	230	Leads	Leads	A	1⅝ x2⅞ x1½	4.67	4.20	3.78	3.50
P-8397	24.0 C.T.	0.70	1500	117	Leads	Leads	A	2 x3¼ x1⅝	5.33	4.80	4.32	4.00
P-8723	24.0 C.T.	0.70	1500	230	Leads	Leads	A	2 x3¼ x1⅝	5.42	4.88	4.39	4.07
P-8661	24.0 C.T.	1.0	1500	117	Leads	Leads	A	2 x3¼ x2 1/16	4.67	4.20	3.78	3.50
P-8662	24.0 C.T.	2.0	1500	117	Leads	Leads	A	2⅝ x4 x2⅜	7.42	6.68	6.01	5.57
P-8663	24.0 C.T.	4.0	1500	117	Leads	Leads	NV	3 13/16x3⅛ x2 13/16	12.42	11.18	10.06	9.32
P-8664	24.0 C.T.	6.0	1500	117	Leads	Leads	NV	4 3/16 x3 7/16 x3	15.42	13.88	12.49	11.57
P-8665	24.0 C.T.	8.0	1500	117	Leads	Leads	NV	4 3/16 x3 7/16 x3⅜	18.25	16.43	14.78	13.69
P-8666	24.0 C.T.	12.0	1500	117	Leads	Leads	NV	4 9/16 x3¾ x4⅝	26.34	23.71	21.34	19.76

*Has electrostatic shield.

LISTING CONTINUED ON NEXT PAGE

ASK YOUR STANCOR DISTRIBUTOR FOR TRANSFORMER CATALOG #607



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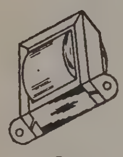

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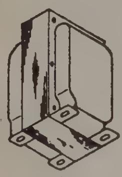

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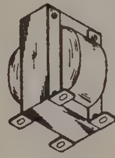

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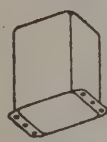

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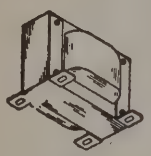

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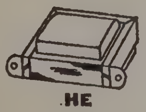

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PRICES ARE FOR INDIVIDUALLY BOXED UNITS.

RECTIFIER, CONTROL AND FILAMENT TRANSFORMERS (Continued)

WITH SINGLE SECONDARY

Stancor No.	Secondary V	Secondary A	Insul. Test V rms	Pri. V	Termination Pri.	Termination Sec.	Mtg.	Size, Inches H. x W. x D.	Net Each, Quantities of 1-9	10-24	25-49	50-9
P-6469	25.2	1.0	1500	117	Leads	Leads	A	2 x3¼ x2⅛	5.00	4.50	4.05	3.
P-8707	25.2	1.0	1500	230	Leads	Leads	A	2 x3¼ x2⅛	4.83	4.35	3.91	3.
P-8180	25.2 C.T.	1.0	1500	117	Leads	Leads	A	2 x3¼ x2⅛	5.00	4.50	4.05	3.
P-8357	25.2 C.T.	2.0	1500	117	Leads	Leads	A	2⅝ x4 x2¼	7.92	7.13	6.42	5.
P-8388	25.2 C.T.	2.8	1500	117	Leads	Leads	A	2⅝ x4 x2¼	9.34	8.41	7.57	7.
P-8645	25.2 C.T.	5.0	1500	117	Leads	Leads	C	4¼ x3 7/16 x3⅞	14.17	12.75	11.48	10.
P-8646	25.2 C.T.	7.5	1500	117	Leads	Leads	C	4¼ x3½ x4¼	18.84	16.96	15.26	14.
P-8647	25.2 C.T.	10.0	1500	117	Leads	Leads	C	4 11/16x3¾ x5	26.84	24.16	21.74	20.
P-8606	26.0 C.T.†	0.04	2500	117▲	Leads	Leads	A	1¼ x2⅛ x1⅜	6.00	5.40	4.86	4.
P-8607	26.0 C.T.†	0.25	2500	117▲	Leads	Leads	A	1⅝ x2⅞ x1¾	7.17	6.45	5.81	5.
P-8608	26.5 C.T.	0.6	2500	117	Leads	Leads	A	2 x3¼ x2⅛	4.83	4.35	3.91	3.
P-8609	26.8 C.T.	1.0	1500	117	Leads	Leads	A	2 x3¼ x2⅛	5.00	4.50	4.05	3.
P-8600	28.0 C.T	0.085	1500	117	Leads	Leads	A	1¼ x2⅛ x1¼	3.75	3.38	3.04	2.
P-8601	28.0 C.T.	0.175	1500	117	Leads	Leads	A	1⅜ x2⅜ x1⅜	4.42	3.98	3.58	3.
P-8602	28.0 C.T.	0.3	1500	117	Leads	Leads	A	1⅝ x2⅞ x2⅜	4.17	3.75	3.38	3.
P-8603	28.0 C.T.	0.8	1500	117	Leads	Leads	A	2 x3¼ x2	5.33	4.80	4.32	4.
P-8667	28.0 C.T.	1.0	1500	117	Leads	Leads	A	2 x3¼ x2⅛	5.08	4.57	4.11	3.
P-8668	28.0 C.T.	2.0	1500	117	Leads	Leads	NV	3⅛ x2½ x2½	8.59	7.73	6.96	6.
P-8669	28.0 C.T.	4.0	1500	117	Leads	Leads	NV	3 13/16x3⅛ x3¼	14.42	12.98	11.68	10.
P-8670	28.0 C.T.	6.0	1500	117	Leads	Leads	NV	4 3/16 x3 7/16 x3½	17.25	15.53	13.97	12.
P-8610	36.0 C.T.	0.065	1500	117	Leads	Leads	A	1¼ x2⅛ x1¼	3.75	3.38	3.04	2.
P-8728	36.0 C.T.	0.065	1500	230	Leads	Leads	A	1¼ x2⅛ x1¼	3.67	3.30	2.97	2.
P-8611	36.0 C.T.	0.135	1500	117	Leads	Leads	A	1⅜ x2⅜ x1⅜	3.67	3.30	2.97	2.
P-8612	36.0 C.T.	0.3	1500	117	Leads	Leads	A	1⅝ x2⅞ x1½	4.17	3.75	3.38	3.
P-8613	36.0 C.T.	0.55	1500	117	Leads	Leads	A	2 x3¼ x1⅝	5.33	4.80	4.32	4.
P-8671	36.0 C.T.	1.0	1500	117	Leads	Leads	A	2⅜ x3¾ x2¼	4.67	4.20	3.78	3.
P-8672	36.0 C.T.	2.0	1500	117	Leads	Leads	NV	3 7/16 x2 13/16x2¾	10.09	9.08	8.17	7.
P-8673	36.0 C.T.	4.0	1500	117	Leads	Leads	NV	4 3/16 x3 7/16 x2⅞	15.92	14.33	12.90	11.
P-8674	36.0 C.T.	6.0	1500	117	Leads	Leads	NV	4 9/16 x3¾ x3½	21.25	19.13	17.21	15.
P-8605	48.0 C.T.†	1.0	2500	117‡	Leads	Leads	A	2⅝ x4 x2⅜	9.67	8.70	7.83	7.

*Has electrostatic shield. †Nominal. ▲Primary tapped to provide secondary voltages of 24.5 C.T., 27.5 C. or 29.0 C.T. ‡Primary tapped to provide secondary voltages of 45 C.T., 51 C.T. or 54 C.T.

WITH DUAL C.T. SECONDARIES

All primaries 50/60 Hz, except as indicated (#). May be operated from 400 Hz source with no change output rating. All secondary voltages ±3%. Secondary windings may be connected in series or paral if properly phased. Insulation test voltage is twice allowable R.M.S. voltage plus 1000 volts.

Stancor No.	Secondaries■ V	Secondaries■ A	Insul. Test V rms	Pri. V	Termination Pri.	Termination Sec.	Mtg.	Size, Inches H. x W. x D.	Net Each, Quantities o 1-9	10-24	25-49	50-
P-8680	12.0 C.T. 12.0 C.T.	0.1 0.1	1500 1500	115	Lugs	Lugs	S	2 x2⅜ x1⅝	$ 5.00	$ 4.50	$ 4.05	$ 3.
P-8681	12.0 C.T. 12.0 C.T.	0.25 0.25	1500 1500	115	Lugs	Lugs	S	2⅜ x2⅞ x1¾	5.33	4.80	4.32	4.
P-8682	12.0 C.T. 12.0 C.T.	0.5 0.5	1500 1500	115	Lugs	Lugs	S	2⅜ x2⅞ x1⅞	5.75	5.18	4.66	4.
P-8683	12.0 C.T. 12.0 C.T.	1.0 1.0	1500 1500	115	Lugs	Lugs	S	2¾ x3⅛ x2⅛	6.58	5.92	5.33	4.
P-8676	12.0 C.T. 12.0 C.T.	1.0 1.0	1500 1500	115	Lugs	Lugs	NH	2½ x3 x2 9/16	11.17	10.05	9.05	8.
P-8677	12.0 C.T. 12.0 C.T.	2.0 2.0	1500 1500	115	Lugs	Lugs	NH	2½ x3 x3	10.34	9.31	8.38	7.
P-8678	12.0 C.T. 12.0 C.T.	4.0 4.0	1500 1500	115	Lugs	Lugs	NH	3⅛ x3¾ x2 15/16	12.17	10.95	9.86	9.
P-8679	12.0 C.T. 12.0 C.T.	6.0 6.0	1500 1500	115	Lugs	Lugs	NH	3½ x4⅛ x3 1/16	18.25	16.43	14.78	13.
P-8684	18.0 C.T. 18.0 C.T.	1.0 1.0	1500 1500	115#	Lugs	Lugs	NH	2½ x3 x2½	9.00	8.10	7.29	6.
P-8685	18.0 C.T. 18.0 C.T.	2.0 2.0	1500 1500	115#	Lugs	Lugs	NH	3¼ x3 13/16x3⅛	12.50	11.25	10.13	9.
P-8686	18.0 C.T. 18.0 C.T.	4.0 4.0	1500 1500	115#	Lugs	Lugs	NH	3 9/16 x4⅛ x3⅛	17.17	15.45	13.91	12.
P-8687	18.0 C.T. 18.0 C.T.	8.0 8.0	1500 1500	115#	Lugs	Lugs	NH	3⅞ x4½ x4⅛	22.17	19.95	17.96	16.
P-8688	18.0 C.T. 18.0 C.T.	12.0 12.0	1500 1500	115#●	Lugs	Lugs	NH	4 7/16 x5¼ x4¼	32.51	29.26	26.33	24
P-8675	34.0 C.T. 34.0 C.T.	4.0 4.0	1500 1500	115	Lugs	Lugs	NH	3¾ x4½ x4¼	28.76	25.88	23.30	21

#60 Hz operation only. ■R.M.S. values. ● Tapped at 100/105/110/115 volts.

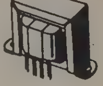
MULTIPLE SECONDARY FILAMENT TRANSFORMERS

Primary 117 V. Insul. test, 2500 V rms, except model P-6434, 1500 V rms. Mtg. "C". Lead terminatio

Stancor No.	Secondary Volts	Secondary Amps	Size, Inches W. x D. x H.	Net Each, Quantities of 1-9	10-24	25-49	50-9
P-6428*	6.3, 6.3, 6.3, 6.3†	1.75, 1.75, 1.75, 1.75	3⅛ x 2½ x 3⅛	$11.25	$10.13	$ 9.11	$ 8.
P-6430*	6.3†, 6.3†	3.0, 3.0	2⅞ x 2½ x 3⅛	10.50	9.45	8.51	7.
P-6429*	6.3, 6.3, 6.3, 6.3†	3.5, 3.5, 3.5, 3.5	3½ x 3⅛ x 3⅞	14.92	13.43	12.09	11.
P-6431*	6.3†, 6.3†	6.0, 6.0	3½ x 3⅜ x 3⅞	18.59	16.73	15.06	13.
P-6434*	12.6, 12.6†	2.5, 2.5	3¼ x 2 13/16 x 3½	10.84	9.76	8.78	8.
P-6144	2.5, 5.0, 6.3	3.5, 3.0. 3.0	3½ x 2 13/16x 3¼	13.92	12.53	11.28	10.
P-6463■	6.0, 6.5, 7.0	13.0, 13.0, 13.0	3 7/16 x 2 13/16x 2⅞	13.17	11.85	10.67	9.

*Has electrostatic shield. †Center tapped. •Windings may be connected in series or parallel if prope phased. ■Style NV, lug terminations.

PRICES LISTED ARE FOR GUIDANCE ONLY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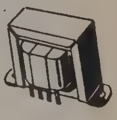
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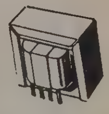
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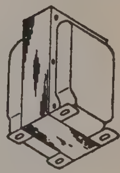
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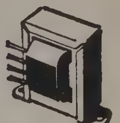
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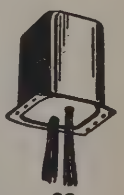
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PRICES ARE FOR INDIVIDUALLY BOXED UNITS.

LOW CURRENT "VERSATILE" CONTROL/RECTIFIER TRANSFORMERS

Primary 117 V, 50/60 Hz. Three isolated 12-volt secondaries (one with a center tap) provide many combinations of voltage and current with series or parallel connections. Ideal for pilot lamps, miniature relays, low current-low voltage power supplies, etc. Mounting type S.

Stancor No.	Secondary						Size, Inches W. x D. x H.	Net Each, Quantities of			
	No. 1		No. 2		No. 3			1-9	10-24	25-49	50-99
	V	A	V	A	V	A					
P-8361	12	.10	12	.10	12 CT	.10	2 x 1½ x 1¾	$5.42	$4.88	$4.39	$4.07
P-8362	12	.15	12	.15	12 CT	.15	2⅜ x 1¾ x 2	5.00	4.50	4.05	3.75
P-8363	12	.25	12	.25	12 CT	.25	2⅞ x 1¾ x 2⅜	5.50	4.95	4.46	4.13
P-8364	12	.50	12	.50	12 CT	.50	2⅞ x 2⅛ x 2⅜	6.25	5.63	5.06	4.69

MINIATURE POWER TRANSFORMERS

Primary, 115 V, 50–60 Hz. Insulation test voltage, 500 V rms between all windings and to core. Printed circuit board mounting with plug-in type terminals.

1.5 VA RATING

Size: 1³⁄₁₆″ h. x 1⅜″ w. x 1⅛″ d. Weight: 0.22 lb. Style PC.

Stancor No.	Output from two secondaries			Net Each, Quantities of			
	Individually	Parallel	Series	1-9	10-24	25-49	50-99
PPC-1	4 V @ .188 A	7 V @ .376 A	8 V @ .188 A	$5.50	$4.95	$4.46	$4.13
PPC-2	7.5 V @ .100 A	7.5 V @ .200 A	15 V @ .100 A	5.58	5.02	4.52	4.19
PPC-3	15 V @ .050 A	15 V @ .100 A	30 V @ .050 A	5.67	5.10	4.59	4.25
PPC-4	27 V @ .028 A	27 V @ .056 A	54 V @ .028 A	6.25	5.63	5.06	4.69
PPC-5	38 V @ .020 A	38 V @ .040 A	76 V @ .020 A	6.67	6.00	5.40	5.00
PPC-6	58 V @ .013 A	58 V @ .026 A	116 V @ .013 A	3.58	3.22	2.90	2.69
PPC-7	20 V @ .038 A	20 V @ .076 A	40 V @ .038 A	3.50	3.15	2.84	2.63

4.5 VA RATING

Size: 1⁷⁄₁₆″ h. x 2⅜″ w. x 1¼″ d. Weight: 0.47 lb. Style APC.

Stancor No.	Individually	Parallel	Series	1-9	10-24	25-49	50-99
PPC-11	4 V @ .562 A	4 V @ 1.13 A	8 V @ .562 A	$5.17	$4.65	$4.19	$3.88
PPC-12	7.5 V @ .300 A	7.5 V @ .600 A	15 V @ .300 A	5.42	4.88	4.39	4.07
PPC-13	15 V @ .150 A	15 V @ .300 A	30 V @ .150 A	5.58	5.02	4.52	4.19
PPC-14	27 V @ .084 A	27 V @ .168 A	54 V @ .084 A	5.75	5.18	4.66	4.31
PPC-15	38 V @ .060 A	38 V @ .120 A	76 V @ .060 A	5.83	5.25	4.72	4.37
PPC-16	58 V @ .033 A	58 V @ .066 A	116 V @ .033 A	3.92	3.53	3.18	2.94
PPC-17	20 V @ .112 A	20 V @ .224 A	40 V @ .112 A	3.92	3.53	3.18	2.94

7.5 VA RATING

Size: 1¹¹⁄₁₆″ h. x 2¹³⁄₁₆″ w. x 1⁷⁄₁₆″ d. Weight: 0.66 lb. Style APC.

Stancor No.	Individually	Parallel	Series	1-9	10-24	25-49	50-99
PPC-21	4 V @ .940 A	4 V @ 1.88 A	8 V @ .940 A	$5.50	$4.95	$4.46	$4.13
PPC-22	7.5 V @ .500 A	7.5 V @ 1.00 A	15 V @ .500 A	5.58	5.02	4.52	4.19
PPC-23	15 V @ .250 A	15 V @ .500 A	30 V @ .250 A	5.67	5.10	4.59	4.25
PPC-24	27 V @ .140 A	27 V @ .280 A	54 V @ .140 A	5.83	5.25	4.72	4.37
PPC-25	38 V @ .100 A	38 V @ .200 A	76 V @ .100 A	6.00	5.40	4.86	4.50
PPC-26	58 V @ .065 A	58 V @ .130 A	116 V @ .065 A	4.50	4.05	3.65	3.38
PPC-27	20 V @ .188 A	20 V @ .376 A	40 V @ .188 A	4.42	3.98	3.58	3.32

MINIATURE DUAL PRIMARY POWER TRANSFORMERS

Dual primaries can be connected for 115 or 230 VAC, 50 or 60 Hz. **PPC-8**, style PC, weight, .22 lbs; all others, style APC, weight .47 lbs.

Stancor No.	Output from two secondaries			Net Each, Quantities of			
	Individually	Parallel	Series	1-9	10-24	25-49	50-99
PPC-8	15 V @ .050 A	15 V @ .100 A	30 V C.T. @ .050 A	$6.67	$6.00	$5.40	$5.00
PPC-18	6.3 V @ .350 A	6.3 V @ .700 A	12.6 V C.T. @ .350 A	6.67	6.00	5.40	5.00
PPC-19	8 V @ .280 A	8 V @ .560 A	16 V C.T. @ .280 A	6.67	6.00	5.40	5.00
PPC-20	12 V @ .180 A	12 V @ .360 A	24 V C.T. @ .180 A	6.67	6.00	5.40	5.00
PPC-28	10 V @ .225 A	10 V @ .450 A	20 V C.T. @ .225 A	6.67	6.00	5.40	5.00
PPC-29	115 V @ .020 A	115 V @ .040 A	230 V C.T. @ .020 A	6.67	6.00	5.40	5.00

STEP-DOWN AUTOTRANSFORMERS

rimary 230 V, 50/60 Hz; line cord and plug. Secondary 115 V; standard female receptacle.

Stancor No.	Cap. VA	Mtg. Type	Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Quantities of			
					1-9	10-24	25-49	50-99
P-6287	40	C	2½ x 2⅝ x 3½	2.2	$12.17	$10.95	$ 9.86	$ 9.13
SD-50	50	SC	3½ x 2⅞ x 3½	2.8	15.00	13.50	12.15	11.25
SD-500	500	SC	5⅞ x 5⁵⁄₁₆ x 6¹⁄₁₆	14.5	40.01	36.01	32.41	30.01
P-8620*	50	A	3¹¹⁄₁₆ x 1⅞ x 2⁵⁄₁₆	1.5	4.83	4.35	3.91	3.62
P-8630	85	C	2⅝ x 2¾ x 3½	2.5	11.25	10.13	9.11	8.44
P-8631	125	C	2⅝ x 3 x 3½	3.0	11.75	10.58	9.52	8.81
P-8632	200	C	3⅛ x 3¾ x 3⅞	4.2	15.75	14.18	12.76	11.81
P-8633	300	C	3⅛ x 4⅛ x 3⅞	5.2	17.50	15.75	14.18	13.13
P-8634	400	C	3⅛ x 4¾ x 3⅞	7.0	21.00	18.90	17.01	15.75
P-8635	500	C	3¾ x 4¾ x 4⁹⁄₁₆	10.3	26.67	24.00	21.60	20.00
P-8636	1000	C	3¾ x 6⅜ x 4⁹⁄₁₆	17.0	37.67	33.90	30.51	28.25

Has lead wires.

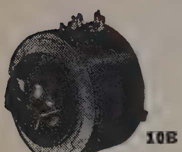
STEP-UP AUTOTRANSFORMERS

rimary 115 V, 50/60 Hz; line cord and plug. Secondary 230 V; standard female receptacle.

P-8637	85	C	2⅝ x 2¾ x 3½	2.5	$11.09	$ 9.98	$ 8.98	$ 8.32
P-8638	125	C	2⅝ x 3 x 3½	3.0	11.75	10.58	9.52	8.81
P-8639	300	C	3⅛ x 3⅞ x 3⅞	5.2	15.92	14.33	12.90	11.94
P-8640	500	C	3¾ x 4¾ x 4⁹⁄₁₆	10.3	27.92	25.13	22.62	20.94

Superior Electric POWERSTAT VARIABLE TRANSFORMERS

POWERSTAT® VARIABLE TRANSFORMERS WITH POWERKOTE® COILS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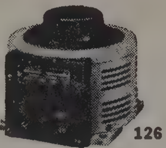
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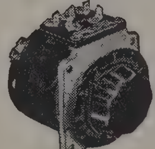
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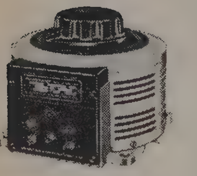
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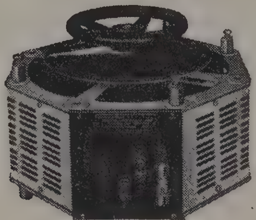
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SINGLE PHASE

Superior Number‡	Line Volts	Frequency Hz	Output			Net Each	
			Volts	Max. Amps	Max. kVA	Manual	Motor* Driven
•10B	120	60■	0–132	2.25#	0.30	$ 16.95	....
•21	120	50/60	0–140	5	0.63	26.00	$ 186.00
•116BU	120	50/60	0–140	10	1.4	34.50	194.50
•116B§	120	50/60	0–140	10	1.4	47.50	207.50
•117BT	120	60	0–120	12	1.4	49.10	209.10
•126U	120	50/60	0–140	15	2.1	64.80	274.80
•126	120	50/60	0–140	15	2.1	72.00	282.00
•3PN126	120	50/60	0–140	15	2.1	90.90	300.90
•136B	120	50/60	0–140	22	3.1	102.10	312.10
•3PN136B	120	50/60	0–140	22	3.1	132.20	342.20
•146	120	50/60	0–140	30	4.2	163.60	373.60
•1156D	120	50/60	0–140	50	7.0	230.60	440.60
136B-3‡	120	50/60	0–140	66	9.2	371.60	581.60
1156D-2P	120	50/60	0–140	100	14.0	501 00	711.00
1156D-3P	120	50/60	0–140	150	21.0	877.00	1087.00
1156D-4P	120	50/60	0–140	200	28.0	1165.00	1375.00
1156D-6P	120	50/60	0–140	300	42.0	1695.00	1905.00
•12	240	50/60	0–264	0.5	0.13	28.10	....
10B-2	240	60■	0–264	2.25#	0.59	53.00	....
•22	240	50/60	0–280	2.5	0.70	39.30	199.30
•216BU	240†	50/60	0–280	3.5	0.98	42.50	202.50
•216B§	240†	50/60	0–280	3.5	0.98	56.90	216.90
21-2	240	50/60	0–280	5	1.3	78.80	238.80
•217BT	240	60	0–240	5	1.2	55.70	215.70
•226U	240†	50/60	0–280	7.5	2.1	64.80	274.80
•226	240†	50/60	0–280	7.5	2.1	72.00	282.80
3PN226	240†	50/60	0–280	7.5	2.1	94.40	304.40
•116BU-2	240	50/60	0–280	10	2.8	92.90	252.90
116BT-2	240	50/60	0–280	10	2.8	118.10	278.10
•236B	240†	50/60	0–280	10	2.8	102.10	312.10
•3PN236B	240†	50/60	0–280	10	2.8	132.20	342.20
117BT-2	240	60	0–240	12	2.9	128.90	288.90
•246	240†	50/60	0–280	15	4.2	163.60	373.60
•126U-2	240	50/60	0–280	15	4.2	148.00	358.00
126-2	240	50/60	0–280	15	4.2	172.40	382.40
•136B-2▲	240†	50/60	0–280	22	6.2	239.50	439.50
•1256D	240†	50/60	0–280	28	7.8	230.60	440.60
146-2♦	240	50/60	0–280	30	8.4	373.30	583.30
•1156D-2S	240	50/60	0–280	50	14.0	454.00	664.00
•1256D-2P	240†	50/60	0–280	56	15.7	486.40	696.40
1256D-3P	240†	50/60	0–280	84	23.5	862.00	1072.00
1156D-4PS	240	50/60	0–280	100	28.0	1143.00	1353.00
1256D-4P	240†	50/60	0–280	112	31.4	1165.00	1375.00
1156D-6PS	240	50/60	0–280	150	42.0	1668.00	1878.00
1256D-6P	240†	50/60	0–280	168	47.0	1695.00	1905.00
12-2	480	50/60	0–528	0.5	0.26	78.80	....
22-2	480	50/60	0–560	2.5	1.4	105.90	265.90
216BT-2	480†	50/60	0–560	3.5	2.0	138.50	298.50
217BT-2	480	60	0–480	5	2.4	141.20	301.20
226-2	480†	50/60	0–560	7.5	4.2	172.40	382.40
•236B-2▲	480†	50/60	0–560	10	5.6	239.50	449.50
246-2▲	480†	50/60	0–560	15	8.4	373.30	583.30
•1256D-2S	480†	50/60	0–560	28	15.7	454.00	664.00
1256D-4PS	480†	50/60	0–560	56	31.4	1143.00	1353.00
1256D-6PS	480†	50/60	0–560	84	47.0	1668.00	1878.00

POWERSTAT Variable Transformers with POWERKOTE Coi give an average of 20% higher current ratings, 10:1 greater ove load capability, longer life, greater resistance to fungus, salt spra and other contaminating atmospheres. POWERKOTE Coil cor mutator bars are embedded in place, preventing steady-sta operating temperature and severe overloads from distorting tl commutator. POWERSTAT Variable Transformers deliver co tinuously adjustable voltage from AC lines; feature rugged co struction, precious metal-plated commutators, excellent regul tion, high efficiency and conservative ratings. They introduce ı waveform distortion. Manual and motorized single and gang assemblies are offered in ratings from .13 to 244 kVA. For cor plete technical data request current POWERSTAT catalog.

ADJUSTABLE SPEED DRIVES

Motor-driven units in Series 116B-216B, 117B-217B, 126-226, 136B-236B and 146-246 are available with adjustable speed drives which permit full range output voltage to be controlled at any speed, 5 to 200 secs. **To Order:** Add preffix **AM** to type number and **$220.00** to the motor driven price. For adjustable speed control **BHP65455-G1**, add **$17.00** to price.

THREE PHASE

Superior Number‡	Line Volts	Frequency Hz	Output			Net Each	
			Volts	Max. Amps	Max. kVA	Manual	Motor Drive
10B-2	120	60■	0–132	2.25#	0.51	$ 53.00	......
21-2	120	50/60	0–140	5	1.1	78.80	238.
•116BU-2	120	50/60	0–140	10	2.4	92.90	252.
116BT-2	120	50/60	0–140	10	2.4	118.10	278.
117BT-2	120	60	0–120	12	2.5	128.90	288.
•126U-2	120	50/60	0–140	15	3.6	148.00	358.
126-2	120	50/60	0–140	15	3.6	172.40	382.
•136B-2▲	120	50/60	0–140	22	5.3	239.50	449.
146-2♦	120	50/60	0–140	30	7.3	373.30	583.
1156D-2D	120	50/60	0–140	50	12.1	474.70	684.
1156D-4D	120	50/60	0–140	100	24.2	1114.00	1324.
1156D-6D	120	50/60	0–140	150	36.4	1668.00	1878.
12-2	240	50/60	0–264	0.5	0.23	78.80	......
•10B-3	240	60■	0–240	2.25#	0.94	82.50	......
22-2	240	50/60	0–280	2.5	1.2	105.90	265.
•216BU-2	240†	50/60	0–280	3.5	1.7	107.90	267.
216BT-2	240†	50/60	0–280	3.5	1.7	138.50	298.
21-3	240	60■	0–280	5	2.2	124.90	284.
217BT-2	240	60	0–240	5	2.1	141.20	301.
226-2	240†	50/60	0–280	7.5	3.6	172.40	382.
116BT-3	240	60■	0–280	10	4.8	169.70	329.
•236B-2▲	240†	50/60	0–280	10	4.8	239.50	449.
117BT-3	240	60	0–240	12	5.0	179.20	339.
126-3	240	60■	0–280	15	7.3	264.70	474.
136B-3‡	240	60■	0–280	22	10.7	371.60	581.
1256D-2D	240†	50/60	0–280	28	13.6	474.70	684.
146-3⁑	240	60■	0–280	30	14.5	556.00	766.
•1156D-3Y	240	60■	0–280	50	24.2	796.00	1006.
1256D-4D	240†	50/60	0–280	56	27.2	1114.00	1324.
1256D-6D	240†	50/60	0–280	84	40.7	1668.00	1878.
1156D-6Y	240	60■	0–280	100	48.5	1641.00	1851.
12-3	480	60■	0–528	0.5	0.46	120.80	......
22-3	480	60■	0–560	2.5	2.4	165.60	325.
216BT-3	480†	60■	0–560	3.5	3.4	188.70	348.
217BT-3	480	60	0–480	5	4.2	202.30	362.
226-3	480†	60■	0–560	7.5	7.3	264.70	474.
•236B-3‡	480†	60■	0–560	10	9.7	352.10	562.
246-3‡	480†	60■	0–560	15	14.5	557.00	767.
•1256D-3Y	480†	60■	0–560	28	27.2	796.00	1006.
1256D-6Y	480†	60■	0–560	56	54.3	1641.00	1851.

EXPLANATION OF FOOTNOTES

‡Letters in Part Numbers Indicate as Follows:

3PN—NEMA plug and receptacle.

Suffix letters and numbers (2, 2S, 4P, 6P, etc.), indicate gang units. Numeral shows number of units in assembly.

U—Supplied without protective screening, terminal enclosu input cord, output receptacle, fuse or switch.

*Add type number prefix from table below to Superior Powerst No. for full-range travel motor speed desired; e.g., type **5M21** 5-sec No. 21 Powerstat, **15MC**126 is 15-sec No. 126 Powerst etc. Four-gang or larger types not available in 5-sec speed.

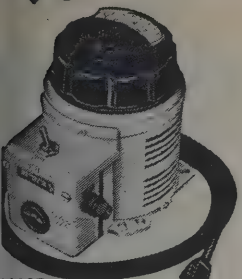
Superior Powerstat Series	Prefix for Full-Range Travel Motor Speed			
	5 Sec	15 Sec	30 Sec	60 Sec
21-22 116B-216B 117B-217B 146-246	5M	15M	30M	60M
1156D-1256D	5MB	15MB	30MB	60MB
126-226	5MC	15MC	30MC	60MC
136B-236B	5MD	15MD	30MD	60MD

†Also has terminals for operating at ½ this input voltage. ‡F parallel connection, order T5579B choke at $74.00 extra. §A available as 3PN type. #Metal panel mounted rating. See pu lished derating for brackets and nonmetallic panels. ▲For paral connection, order T5000B choke at $38.60 extra. ■If the maximu output voltage is limited to the input voltage, the frequency ran is 50–60 Hz. ♦For parallel connection, order T6053 choke at $52. extra. ⁑For parallel connection, order T6065 choke at $92.40 ext

• AVAILABLE OFF-THE-SHELF FROM STOCK.

Superior Electric POWERSTAT VARIABLE TRANSFORMERS

METERED KNOB POWERSTAT® VARIABLE TRANSFORMERS

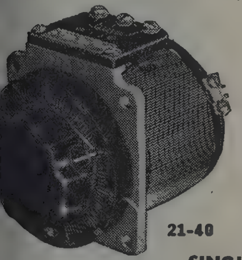

S116B

Stationary, direct-reading voltmeter on knob has accuracy of ±3% FS. Voltmeter does not turn with knob; insensitive to stray magnetic fields. Saves panel space, wiring and installation costs. Series 21-22 thru 146-246 back-of-panel mounted types may be combined with metered knob assemblies. Existing models can be retrofitted also.

Superior Type	Line Volts	Freq. Hz	Output Volts	Output Amps‡	Output kVA‡	Price Each
S116B*	120	50/60	0–140	10	1.4	$109.30
S117BT*	120	60	0–120	12	1.4	112.60
S126*	120	50/60	0–140	15	2.1	134.20
S136B*	120	50/60	0–140	22	3.1	164.60
S146	120	50/60	0–140	30	4.2	229.30
S216B*	240†	50/60	0–280	3.5	0.98	114.70
S217BT*	240	60	0–240	5	1.2	118.20
S226*	240†	50/60	0–280	7.5	2.1	137.90
S236B*	240†	50/60	0–280	10	2.8	161.60
S246	240†	50/60	0–280	15	4.2	229.30

lso available with cord-plugs shown in standard type chart. las terminals for operating at half input voltage. ‡Max. pe **VS150** (0–150 V Meter Scale) or **VS300** (0–300 V Meter Scale) Metered knob assembly only. Price Each............ **$64.10**

40-VOLT POWERSTAT VARIABLE TRANSFORMERS


21-40

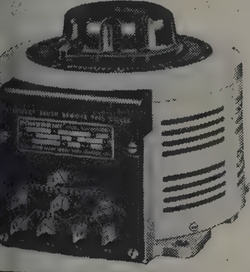
Meet the high current, low voltage requirements of low voltage power supplies and a wide range of transistor circuit applications. All types are open construction. Individual units in ganged assemblies have the same electrical ratings as single units of the corresponding type number.

SINGLE PHASE

Superior Type	Line Volts	Freq. Hz	Output Volts	Output Max. Amps	Output Max. kVA	Price Each Manual	Price Each Motor* Driven
0B-40	40	60	0–40	6	.24	$ 22.30	....
0B-40-2†	40	60	0–40	6	.24	70.40	....
0B-40-3†	40	60	0–40	6	.24	11.20	....
1-40	40	60	0–40	15	.6	30.80	$190.80
1-40-2†	40	60	0–40	15	.6	10.70	250.70
1-40-3†	40	60	0–40	15	.6	142.50	302.50
16BU-40	40	60	0–40	25	1.0	46.90	206.90
16BU-40-2†	40	60	0–40	25	1.0	119.60	279.60
16BU-40-3†	40	60	0–40	25	1.0	170.30	330.30

dd type number prefix for full range travel motor speed desired: for 5 sec.; **15M** for 15 sec.; **30M** for 30 sec.; **60M** for 60 sec. r example, **15M**21-40). †Ratings given apply separately to each it in assembly.

DOUBLE WOUND POWERSTAT VARIABLE TRANSFORMERS WITH ISOLATED SECONDARY



POWERSTAT type LW136B is a double wound assembly with an isolated secondary. When ordering (*) motor driven assemblies prefix type number with desired speed of either 5, 15, 30 or 60 seconds for full range travel and letters MD (for example, 5MDLW136B-3). Any of the ratings given below are possible simply by using the proper terminal connections. These are only a few of the many ratings that can be obtained. Data sheet on request.

Superior Type	Line Volts	Output Volts	Output Max. Amps	Output Max. kVA	Price Each Manual	Price Each Motor* Driven
W136B	120	0–30	25	.75	$146.60	$526.60
or	120	15–0–15	35	.52		
0/60 Hz	240	0–30	25	.75		
ingle	240	15–0–15	35	.52		
phase	120	105–135	35	4.7		
	107–137	120	35	4.2		
	240	225–255	35	8.9		
	226–256	240	35	8.4		
W136B-3	240	210–270	35	16.4	529.00	909.00
or 60 Hz	214–260	240	35	14.6		
hree-	480	450–510	35	31.0		
phase	452–512	480	35	29.1		

ENCLOSED L SERIES POWERSTAT VARIABLE TRANSFORMERS

L116B

Enclosed laboratory models are equipped with grounded NEMA cord/plug assembly, on-off switch, pilot light, fuse and output receptacle. Integral handle; recessed controls. Slot, provided at the rear, accepts wall hanger bracket. Meets OSHA requirements.

Superior Type	Input Freq., Hz	Output Volts	Output Amps	Output kVA	Price Each
•L10B	60	0–132	2.25	0.30	$40.50
•L21	50/60	0–140	4.5	0.63	51.60
•L116B	50/60	0–140	10	1.4	61.00

*Ratings for constant current load; for constant impedance load, ratings are 13 amps, 1.6 kVA.

COMPACT Q TYPE POWERSTATS

Ideally suited for applications where space is a critical factor. Compact, square frame units available only in manually operated open construction assemblies. Removable shafts may be extended from either end of unit.

SINGLE PHASE

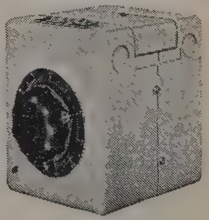
Superior Type*	Line Volts	Input Freq. Hz	Output Volts	Output Max. Amps	Output Max. kVA	Price Each
•Q116U	120	50/60	0–120 0–140	9 9	1.1 1.3	$ 34.50
•Q117U	120	60	0–120	10	1.2	38.00
•Q216U	240 120	50/60	0–280 0–260	3.5 3.5	0.98 0.42	42.80
•Q217U	240	60	0–240	5	1.2	45.00
Q116U-2	240	50/60	0–240 0–280	9 9	2.2 2.5	96.40
Q117U-2	240	60	0–240	10	2.4	106.50
Q216U-2	480 240	50/60	0–560 0–560	3.5 3.5	2.0 0.85	111.30
Q217U-2	480	60	0–480	5	2.4	120.40

THREE PHASE

Superior Type*	Line Volts	Input Freq. Hz	Output Volts	Output Max. Amps	Output Max. kVA	Price Each
Q116U-2	120	50/60	0–120 0–140	9 9	1.9 2.2	$ 96.40
Q117U-2	120	60	0–120	10	2.1	106.50
Q216U-2	240 120	50/60	0–280 0–280	3.5 3.5	1.7 0.74	111.30
Q217U-2	240	60	0–240	5	2.1	120.40
Q116U-3	240	50/60 60	0–240 0–280	9 9	3.8 4.4	134.40
Q117U-3	240	60	0–240	10	4.2	145.30
Q216U-3	480 240	60 60	0–560 0–560	3.5 3.5	3.4 1.5	153.40
Q217U-3	480	60	0–480	5	4.2	167.40

*Number suffix indicates ganged assembly; number is no. of units.

EN TYPE POWERSTATS



Wide application and mounting flexibility. Housed in lightweight, functional aluminum enclosures that permit easy installation, wiring and servicing. Single units and ganged assemblies available for 120, 240 and 480 volt, single and three phase service with loads up to 6.0 kVA. Data sheet on request. Single units below size: 5¾″ w. x 6″ d. x 6¹³⁄₁₆″ h. Shipping Weight, 15 lbs.

Superior Type†	Input Volts	Input Freq.	Output Volts	Output Amps	Output kVA	Price Each
EN116B	120	50/60	0–140	8	1.1	$73.30
EN117B	120	60	0–120	10*	1.7*	76.10
EN216B	240	50/60	0–280	3	0.84	82.30
EN217B	240	60	0–240	4.4*	1.4*	85.10

*Current is maximum for constant-current load; kVA is maximum for constant-impedance load. †For single phase service.

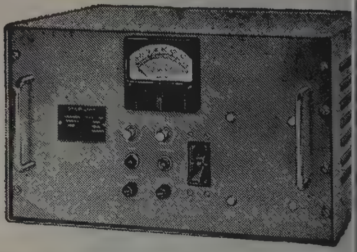
● AVAILABLE OFF-THE-SHELF FROM STOCK

STABILINE® AUTOMATIC VOLTAGE REGULATORS

Maintain a constant output voltage regardless of line or load changes. Several series are available for requirements from 0.25 to 275 kVA. A complete line of Stabilines for use on frequencies of 400 Hz and higher also available. Bulletins giving complete data on all series are available on request.

ELECTRO-MECHANICAL TRANSISTORIZED SERIES

Type EMT: Utilize transistorized control circuits, motor-driven Powerstat® variable transformers and buck-boost transformers to regulate line voltage. Widely used in industrial applications or where constant output voltage is required with zero waveform distortion. EMT Series types are offered in ratings from 2.3 to 118 kVA. For heavier load requirements, models of the EMS Series (not listed) are offered in ratings from 25 to 275 kVA. **Type EMK:** Stabiline automatic voltage regulators offer an extremely fast correction rate. Rugged construction assures dependable performance with little or no maintenance. Efficiency, approx. 99%; rated accuracy, ±0.75% for all variations of line voltage or load current within the stated range of the unit.



TYPE EMT4106C

INSTANTANEOUS ELECTRONIC SOLID STATE SERIES

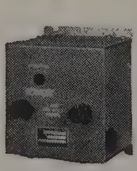
Highly accurate, fast-correcting units feature solid state circuitry which permits smaller and lighter units than comparable tube-type regulators. Other benefits include low distortion, high efficiency (up to 95%) and wide operating frequency range. Speed of correction can be considered instantaneous for most applications. Will maintain output voltage within 100 mV rms band for any combination of rated input voltage and/or load from 1.0 to 0 power factor lagging. With the exception of types IES9110, IES9115, IES9210 and IES9215, all models can be rack mounted by removing the cabinet feet.

TYPES IES910
AND IES920

Superior Number	Nom'l Output Voltage	AC Hz	Input Voltage Range*	Output Voltage Range	Max. Output Amps	Rated Output kVA	Correction Rate: Sec./Volt†	Approx. Wt., Pounds Net	Approx. Wt., Pounds Shpg.	Superior Number	Net Each
•EMT4102B‡■	115	50/60	95–135	110–120	20	2.3	.075	54	63	EMT4102B‡■	$ 767.
•EMT4106C■	115	50/60	95–135	110–120	57	6.6	.075	87	95	EMT4106C■	914.
•EMT4112B§■	115	50/60	105–125	110–120	114	13.0	.15	90	98	EMT4112B§■	896.
•EMT4115B	115	50/60	95–135	110–120	144	16.6	.125	258	280	EMT4115B	1135.
EMT4104B#★	120	60	108–137	110–120	35	4.2	.10	47	52	EMT4104B#★	945.
•EMT4207B⁑	230	50/60	195–255	220–240	36	8.3	.083	153	175	EMT4207B⁑	1007.
•EMT4228C▲	230	50/60	205–250	220–240	130	29.9	.111	253	275	EMT4228C▲	1226.
EMT4407B★	460	50/60	400–520	440–480	20	9.2	.041	165	187	EMT4407B★	1244.
EMT4418B★	460	50/60	400–520	440–480	45	20.7	.041	263	285	EMT4418B★	1388.
EMT6210YBⅠ♦★	230	50/60	195–255	220–240	33	13.1	.083	372	453	EMT6210YBⅠ♦★	1832.
EMT6215YBⅠ♦★	230	50/60	195–255	220–240	48	19.1	.083	374	455	EMT6215YBⅠ♦★	1898.
•EMT6220YBⅠ♦	230	50/60	195–255	220–240	63	25.1	.083	378	457	EMT6220YBⅠ♦	1966.
•EMT6245YBⅠ♦	230	50/60	195–255	220–240	145	57.8	.25	835	969	EMT6245YBⅠ♦	2654.
EMT6270DBⅠ♦★	230	50/60	195–255	220–240	188	74.9	.25	795	939	EMT6270DBⅠ♦★	3473.
EMT6412YB♦★	460	50/60	400–520	440–480	18	14.3	.041	350	430	EMT6412YB♦★	1971.
EMT6417YB♦★	460	50/60	400–520	440–480	24	19.1	.041	370	450	EMT6417YB♦★	2115.
•EMT6425YB♦	460	50/60	400–520	440–480	35	27.9	.041	390	470	EMT6425YB♦	1998.
EMT6450YB♦★	460	50/60	400–520	440–480	75	59.8	.125	771	905	EMT6450YB♦★	3041.
EMT6475YB♦	460	50/60	400–520	440–480	100	75	.125	820	954	EMT6475YB♦	3304.
•EMT64100YB♦	460	50/60	420–500	440–480	148	118	.188	841	975	EMT64100YB♦	3278.
EMK4105■Ⅰ★	115	50/60	105–125	110–120	46	5.3	.04	69	79	EMK4105■Ⅰ★	$ 939.
IES91005B	115	50/60	95–135	110–120	4.4	0.5	....	53	57	IES91005B	592.
•IES9101B	115	50/60	95–135	110–120	8.7	1.0	....	68	72	IES9101B	649.
•IES9103B	115	50/60	95–135	110–120	26.1	3.0	....	131	136	IES9103B	999.
•IES9106B	115	50/60	95–135	110–120	52.2	6.0	....	167	181	IES9106B	1151.
IES9110B★	115	50/60	95–135	110–120	87.0	10.0	....	360	380	IES9110B★	2053.
•IES9115B	115	50/60	95–135	110–120	130	15.0	....	360	382	IES9115B	2205.
IES9203B★	230	50/60	195–255	220–240	13	3.0	....	120	126	IES9203B★	1196.
•IES9206B	230	50/60	195–255	220–240	26.1	6.0	....	139	153	IES9206B	1274.
IES9210B★	230	50/60	195–255	220–240	43.5	10.0	....	330	350	IES9210B★	2232.
IES9215B	230	50/60	195–255	220–240	65	15.0	....	350	372	IES9215B	2707.

*At nominal output voltage; input voltage range shifts proportionally with output voltage setting. †Motor drive travel time in secor divided by input range in volts. ‡Can also be operated with an input range of 105–125 volts, output rating of 40 amps, 4.6 kVA a correction rate of .15 sec/V. §Can also be operated with an input range of 95–135 volts, output rating of 57 amps, 6.6 kVA and correcti rate of .075 sec/V. #60 Hz only. ⁑Can also be operated with a nominal 208 volt output, input range of 177–230 volts and output rar of 200–216 volts. ▲Can also be operated with a nominal 208 volt output, input range of 186–226 volts and output range of 200–216 vol ■Also available as rack models (add suffix **R**); prices on request. ♦Three-phase types; all others single-phase. ⅠCan also be operated on input range of 95–135 volts with rating of 23 amps, 2.6 kVA and correction of .02 sec/V. ★Units subject to setup charges available inquiry.

STABILINE OVERVOLTAGE DETECTOR



OVK100 Overvoltage Detector

Solid state voltage level detector protects connected equipment used with Stabiline Au matic Voltage Regulators in the event of an overvoltage condition. When the voltage be monitored exceeds a preset level, the device actuates an SPDT relay that can be used actuate protective equipment or a warning device. Relay contacts are rated 5 amps, re tive. Can be used in latching or nonlatching connection: In latching connection, the re closes when an overvoltage condition exists and remains closed even when the overvolt condition is removed; in nonlatching connection, it closes during overvoltage, but v automatically reset when overvoltage condition is removed. Trip level is adjustable, 1 to 150 volts. Operation at higher voltages is possible with use of an external stepdo transformer. Size: 4⁷⁄₁₆" w. x 3⅝" d. x 5¹¹⁄₁₆" h. overall.

Superior Type OVK100 Overvoltage Detector—Net Each.................**$139.**

STABILINE FULL-RANGE REGULATOR CONTROLLER

FR501B Controller

Designed for use with motor-driven Powerstat® variable transformers to maintain c stant output voltage. Adjustable to any value within the full range of the Powerstat us Regulates output from any motor-driven Powerstat rated 120 or 240 volts, 50/60 single-phase. Dependent on Powerstat used, unit may be used for 3-phase applicati maintaining one line-to-neutral or one line-to-line voltage. Can also be used in 480 vo 50/60 Hz, 3-phase, but an auxiliary step-down transformer is required for sensing li to-line voltage. Voltage output remains within 4-volt band when used with 240 V typ Voltmeter on front panel monitors Powerstat output in 0–300 volt range. Other contr include voltage adjust, on-off switch, pilot indicating when unit is energized, motor dan ing control and three fuses. Size: 11" h. x 6" w. x 7" d., overall. Mtg. centers 4½" x 10 maximum.

•Superior Type FR501B Regulator Controller—Net Each.......................**$333.**

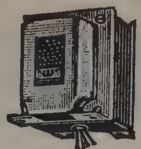
● AVAILABLE OFF-THE-SHELF FROM STOCK

Power Transformers

POWER SUPPLY, CONTROL AND FILAMENT TRANSFORMERS

SINGLE SECONDARY
PRIMARY 115 VOLTS—50-60 Hz.

Triad No.	Secondary Volts	Secondary Amps	Test Volts	Case Size, Ins. H. x W. x D.	Wt. Lbs.	Net Each
F-50X†‡§	6.3/5	2	5000	1 15/16 x 3 5/16 x 2	1.2	$ 6.60
F-1X#	2.5 CT	3	1500	1 5/8 x 2 13/16 x 1 5/8	.68	4.08
F-72Z#	2.5 CT	5	7500	2 23/32 x 3 1/8 x 2 1/8	1.7	7.08
F-6X#	2.5 CT	6	2500	1 15/16 x 3 5/16 x 1 3/4	1	5.65
F-3X#	2.5 CT	10	3000	2 9/32 x 3 3/4 x 2 1/8	1.7	6.87
F-5U	2.5 CT	10	7500	3 1/16 x 2 1/2 x 2 7/16	2.2	8.40
F-71U#	2.5 CT	10	10000	3 7/16 x 2 13/16 x 2 9/16	2.6	10.13
F-7X	5 CT	3	1500	1 15/16 x 3 5/16 x 2	1.3	5.07
F-8X	5 CT	6	1500	2 9/32 x 3 3/4 x 2 1/8	1.7	7.03
F-12X	5 CT	8	2500	2 19/32 x 4 x 2 1/4	2.5	7.80
F-10U#	5 CT	14	10000	3 13/16 x 3 3/16 x 3 1/4	4.75	14.03
F-15U#	5 CT	15	3000	3 1/2 x 2 7/8 x 2 11/16	3.25	14.80
F-9U	5.2 CT	13	1500	3 7/16 x 2 13/16 x 2 15/16	4	12.98
F-9A	5.2 CT	13	1500	3 5/8 x 2 5/8 x 3 1/8	4	10.77
F-11U	5.2 CT	24	1500	3 13/16 x 3 3/16 x 3 7/16	6.75	15.22
F-13X	6.3	.6	1500	1 3/8 x 2 3/8 x 1 3/8	.37	3.75
R-84K†	6.3	.6	3500	2 3/4 x 2 1/4 x 2 11/16	1.5	13.03
F-14X#	6.3 CT	1.2	2500	1 5/8 x 2 13/16 x 1 5/8	.7	4.12
F-14Z	6.3 CT	1.2	2500	1 15/16 x 2 1/8 x 1 5/8	.7	3.98
F-52X†	6.3	1.2	5000	1 15/16 x 3 5/16 x 1 3/4	1	5.35
F-51X#†	6.3/5	2	5000	1 15/16 x 3 5/16 x 2	1.25	6.20
F-53X	6.3	4	5000	2 19/32 x 4 x 2 1/4	2.1	6.57
F-43X#	6.3	4	1500	1 15/16 x 3 5/16 x 2	1.25	5.45
F-16X	6.3 CT	3	2500	1 15/16 x 3 5/16 x 2	1.3	5.32
F-18X	6.3 CT	6	1500	2 19/32 x 4 x 2 1/4	2.3	7.78
F-18A	6.3 CT	6	1500	3 3/32 x 2 21/32 x 2 5/8	2.5	9.18
F-19X*	6.3/6 CT	6	2000	2 19/32 x 4 x 2 1/4	2.3	7.88
F-21A	6.3 CT	10	1500	3 19/32 x 2 31/32 x 3 1/8	3.8	12.68
F-20U*	6.3/6 CT	11	3000	3 1/2 x 2 7/8 x 2 15/16	4	13.53
F-17U§	6.3 CT	15	10000	4 1/4 x 3 1/2 x 3 5/16	7.5	17.92
F-22A	6.3 CT	20	2000	3 7/8 x 3 9/32 x 3 7/8	7	16.82
F-24U*	7.5/6.3 CT	8	3000	3 1/2 x 2 7/8 x 2 13/16	3.65	11.02
F-28U*	7.5/ 6.3 CT	25	3000	4 5/8 x 3 13/16 x 3 5/8	7.5	24.18
F-180X	10 CT	1	1500	1 15/16 x 3 5/16 x 1 3/4	.9	5.77
F-31X	10 CT	3	2000	2 9/32 x 3 3/4 x 2 1/8	1.7	5.57
F-33U	10 CT	5	2000	2 1/2 x 2 1/2 x 3 1/16	3	10.13
F-23U	10 CT	7	1500	3 1/2 x 2 7/8 x 2 15/16	3.9	11.37
F-35U	10 CT	10	2000	3 7/8 x 3 1/4 x 3 9/16	5	16.72
F-113X	12	.15	1500	1 3/8 x 2 3/8 x 1 3/8	.4	3.75
F-114X	12	.7	1500	1 5/8 x 2 13/16 x 1 5/8	.8	5.32
F-29U*	12/11/ 10 CT	11	3000	4 3/8 x 3 1/2 x 3 3/8	6.5	17.68
F-70X	12.6 CT	1	1500	1 15/16 x 3 5/16 x 1 3/4	1.3	4.73
F-25X	12.6 CT	1.5	1500	1 15/16 x 3 5/16 x 2	1.3	4.97
F-44X#	12.6 CT	2	1500	1 15/16 x 3 5/16 x 2	1.25	4.85
F-26X#	12.6 CT	2.5	1500	2 9/32 x 3 11/16 x 2	1.55	5.50
F-181U	12.6 CT	4	1500	3 11/16 x 2 9/16 x 2 3/16	2.3	9.42
F-182U	12.6 CT	6	1500	3 3/8 x 2 13/16 x 2 7/16	3.8	11.75
F-183U	12.6 CT	8	1500	3 13/16 x 3 3/16 x 2 15/16	5	13.44
F-112X	14 CT	.25	1500	1 3/8 x 2 3/8 x 1 3/8	.4	3.93
F-250X	14 CT	1	1500	1 15/16 x 3 1/4 x 1 3/4	1.2	5.75
F-251X	14 CT	2	1500	2 1/4 x 3 11/16 x 1 15/16	1.5	6.33
F-252X	14 CT	4	1500	3 x 2 1/2 x 2 7/16	3	9.77
F-253X	14 CT	6	1500	3 3/8 x 2 13/16 x 2 7/8	4	12.25
F-254X	20 CT	1	1500	2 1/4 x 3 11/16 x 1 15/16	1.5	6.57
F-255X	20 CT	2	1500	2 9/16 x 4 x 2 1/4	2.5	8.08
F-256U	20 CT	4	1500	3 3/8 x 2 13/16 x 2 7/8	4	12.03
F-257U	20 CT	6	1500	3 3/4 x 3 1/8 x 3 1/8	5.7	15.08
F-258U	20 CT	8	1500	3 3/4 x 3 1/8 x 3 1/2	6.4	17.97
F-259U	20 CT	10	1500	4 1/8 x 3 7/16 x 3 1/2	7.4	20.80
F-115X	24 CT	.085	1500	1 3/16 x 2 1/16 x 1 1/4	.3	4.75
F-116X	24 CT	.2	1500	1 3/8 x 2 3/8 x 1 1/2	.45	5.05
F-117X	24 CT	.4	1500	1 5/8 x 2 13/16 x 1 5/8	.8	5.50
F-118X	24 CT	.7	1500	1 15/16 x 3 1/4 x 2	1.3	4.67
F-45X#	24 CT	1	1500	1 15/16 x 3 5/16 x 2	1.3	4.98
F-46X#	24	1	1500	1 15/16 x 3 11/16 x 2 1/8	1.4	4.55
F-192X	24 CT	2	1500	2 9/16 x 4 x 2 1/4	2.3	6.72
F-193U	24 CT	4	1500	3 13/16 x 3 1/8 x 2 13/16	4	11.82
F-260U	24 CT	6	1500	3 3/4 x 3 1/8 x 3 1/2	6.4	15.97
F-261U	24 CT	8	1500	4 1/8 x 3 7/16 x 3 1/2	7.4	20.72
F-57X	25.2 CT	1	1500	1 15/16 x 3 5/16 x 2	1.5	5.52
F-41X#	25.2 CT	2	1500	2 19/32 x 4 x 2 1/4	2.2	6.52
F-56X	25.2 CT	2.8	1500	2 21/32 x 4 x 2 1/4	2.5	9.12
F-119X	26.8 CT	.15	1500	1 3/8 x 2 3/8 x 1 1/2	.45	4.83
F-120X	26.8 CT	.5	1500	1 15/16 x 3 1/4 x 2	1.3	4.52
F-40X#	26.8 CT	1	1500	1 15/16 x 3 5/16 x 2	1.3	4.95
F-55X	26.8 CT	1.7	1500	2 19/32 x 4 x 2 1/4	2.3	6.28
F-121X	28 CT	0.085	.....	1 3/16 x 2 1/16 x 1 3/8	.....	4.63
F-122X	28 CT	0.175	.....	1 3/8 x 2 3/8 x 1 1/2	.....	5.00
F-123X	28 CT	0.300	.....	1 5/8 x 2 13/16 x 1 5/8	.....	5.12
F-124X	28 CT	0.0800	.....	1 15/16 x 3 1/4 x 2	.....	4.88
F-184X	28 CT	1	1500	2 1/4 x 3 3/4 x 2 1/8	1.4	6.43
F-185U	28 CT	2	1500	3 1/16 x 2 1/2 x 2 7/16	2.9	8.67
F-187U	28 CT	4	1500	3 1/2 x 2 7/8 x 3 1/16	5.3	11.62
F-262X	30 CT	1	1500	2 1/4 x 3 11/16 x 1 15/16	1.5	6.80
F-210X	30 CT	1.7	1500	2 9/16 x 4 x 2 1/4	1.55	7.53
F-263U	30 CT	2	1500	3 x 2 1/2 x 2 9/16	3.2	10.63
F-264U	30 CT	4	1500	3 3/4 x 3 1/8 x 3 1/8	5.7	14.67
F-265U	30 CT	6	1500	4 1/8 x 3 7/16 x 3 1/2	7.4	19.05
F-266U	30 CT	8	1500	4 1/2 x 3 3/4 x 4	10	26.20
F-188X	35 CT	.1	1500	1 5/8 x 2 13/16 x 1 7/16	.35	4.38
F-189X	35 CT	.5	1500	2 5/16 x 3 11/16 x 1 15/16	1	5.85
F-54X	35 CT	1.5	1500	2 19/32 x 4 x 2 1/4	2.2	6.65
F-190U	35 CT	2	1500	3 3/8 x 2 13/16 x 2 3/4	3.5	10.42
F-191U	35 CT	4	1500	3 13/16 x 3 3/16 x 3 3/16	6	13.57
F-267U	35 CT	6	1500	4 1/8 x 3 7/16 x 3 1/2	7.4	19.72
F-268U	35 CT	8	1500	4 1/2 x 3 3/4 x 4 1/4	11	27.08
F-269U	35 CT	10	1500	5 1/4 x 4 3/8 x 4 1/8	12	30.77
F-270X	40 CT	1	1500	2 9/16 x 4 x 2 1/4	2.6	8.37
F-271U	40 CT	2	1500	3 3/8 x 2 13/16 x 2 7/8	4	11.25
F-272U	40 CT	4	1500	3 3/4 x 3 1/8 x 3 1/2	6.4	16.37
F-273U	40 CT	6	1500	4 1/2 x 3 3/4 x 4	10	23.97
F-274U	40 CT	8	1500	4 1/2 x 3 3/4 x 4 1/4	10.5	30.58
F-275U	40 CT	10	1500	5 1/4 x 4 3/8 x 4 1/2	14.5	34.87
F-276X	50 CT	1	1500	2 9/16 x 4 x 2 1/4	2.4	7.90
F-277U	50 CT	2	1500	3 3/4 x 3 1/8 x 2 7/8	4.7	13.25
F-278U	50 CT	4	1500	4 1/8 x 3 7/16 x 3 1/2	7.4	19.00
F-58A	50 CT	5	1500	4 5/8 x 3 15/16 x 4 1/2	10	22.47
F-59X	60 CT	.4	1500	1 15/16 x 3 5/16 x 2	1.3	4.78
F-279U	60 CT	1	1500	3 x 2 1/2 x 2 5/8	3.4	10.10
F-280U	60 CT	2	1500	3 3/4 x 3 1/8 x 3 1/8	5.6	14.72
F-281U	60 CT	4	1500	4 1/2 x 3 3/4 x 4	10	23.50
F-282U	60 CT	6	1500	5 1/4 x 4 3/8 x 4 1/8	12.5	31.08
F-283U	70 CT	1	1500	3 3/8 x 2 13/16 x 2 5/8	4	10.95
F-284U	70 CT	2	1500	3 3/4 x 3 1/8 x 3 1/2	6	15.52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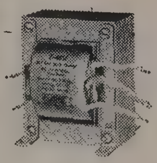
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PRIMARY 115/230 VOLTS—50/60 Hz

Triad No.	Secondary Volts	Secondary Amps	Test Volts	Case Size, Ins. H. x W. x D.	Wt. Lbs.	Net Each
F-301X	2.5 CT	3	1500	1 5/8 x 2 13/16 x 1 5/8	.68	$ 4.78
F-306X	2.5 CT	6	2500	1 15/16 x 3 5/16 x 1 3/4	1	6.23
F-313X	6.3	.6	1500	1 3/8 x 2 3/8 x 1 3/8	.37	4.72
F-314X	6.3 CT	1.2	2500	1 5/8 x 2 13/16 x 1 5/8	.7	4.83
F-316X	6.3 CT	3	2500	1 15/16 x 3 5/16 x 2	1.3	6.55
F-318X	6.3 CT	6	1500	2 5/8 x 4 x 2 1/4	2.3	9.10
F-325X	12.6 CT	1.5	1500	1 15/16 x 3 5/16 x 2	1.3	5.67
F-344X	12.6 CT	2	1500	1 15/16 x 3 5/16 x 2	1.25	7.80
F-326X	12.6 CT	2.5	1500	2 1/4 x 2 11/16 x 2	1.55	7.10
F-3181U	12.6 CT	4	1500	3 1/16 x 2 9/16 x 2 3/16	2.3	12.18
F-3116X	24 CT	.2	1500	1 3/8 x 2 3/8 x 1 1/2	.45	5.90
F-3117X	24 CT	.4	1500	1 5/8 x 2 13/16 x 1 1/2	.75	6.10
F-345X	24 CT	1	1500	1 15/16 x 3 5/16 x 2	1.3	5.67
F-341X	25.2 CT	2	1500	2 5/8 x 4 x 2 1/4	2.2	9.78
F-340X	26.8 CT	1	1500	1 15/16 x 3 5/16 x 2	1.3	7.98
F-355X	26.8 CT	1.7	1500	2 5/8 x 4 x 2 1/4	2.3	7.33
F-3185U	28 CT	2	1500	3 1/16 x 2 1/2 x 2 7/16	2.9	12.97
F-354X	35 CT	1.5	1500	2 5/8 x 4 x 2 1/4	2.2	7.08

PRIMARY 440 VOLTS—50-60 Hz.

Triad No.	Secondary Volts	Secondary Amps	Test Volts	Case Size, Ins. H. x W. x D.	Wt. Lbs.	Net Each
F-230X	24 CT	1	1500	2 1/4 x 3 11/16 x 1 15/16	1.7	$ 6.67
F-231X	24 CT	2	1500	2 9/16 x 4 x 2 1/4	2.4	8.08
F-232U	24 CT	4	1500	3 3/4 x 3 1/8 x 2 7/8	4.6	13.23

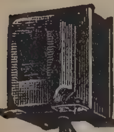
*Tapped primary to produce lower voltages. †Static shield. #60 Hz. operation. ‡Filament line matching transformer; primary 6.3/5 volts.

MULTIPLE SECONDARY
PRIMARY 115 VOLTS—50-60 Hz.

Triad No.	Secondary Volts	Secondary Amps	Test Volts	Case Size, Ins. H. x W. x D.	Wt. Lbs.	Net Each
F-27U	10 CT 2.5 CT	10 10	1500 7500	4 3/8 x 3 1/2 x 3 1/16	6.2	$19.68
F-34A	6.3 CT† 6.3† 6.3† 6.3†	1.75 1.75 1.75 1.75	1500	3 5/16 x 2 11/16 x 3	3.3	11.30
F-32A	6.3 CT† 6.3 CT†	3 3	1500	3 5/16 x 2 21/32 x 2 5/8	2.5	9.42
F-36A	6.3 CT† 6.3† 6.3† 6.3†	3.5 3.5 3.5 3.5	1500	3 7/8 x 3 9/32 x 3 1/4	5	16.55
F-38A*	6.3 CT† 6.3† 6.3 5 CT 5	5 5 1 2 4	1500	3 7/8 x 3 9/32 x 3 1/2	6	16.40
F-42A	12.6 CT† 12.6†	2.5 2.5	1500	3 19/32 x 2 31/32 x 3 1/8	3.7	10.42
F-83A*	12.6 CT† 12.6 CT†	5 5	2500	3 7/8 x 3 9/32 x 3 3/4	6	16.97
F-194X	32 CT 15.5 CT	.05 .2	1500	1 5/8 x 2 7/8 x 1 3/8	.45	5.48
F-195X	32 CT 15.5 CT	.25 .75	1500	2 1/4 x 3 3/4 x 1 7/8	1.3	7.10
F-196U	32 CT 15 CT	1 2	1500	3 3/8 x 2 13/16 x 2 5/8	4	11.92
F-197U	32 CT 15 CT	1 4	1500	3 3/4 x 3 1/8 x 2 15/16	4.7	14.13
F-198U	32 CT 15 CT	1 6	1500	3 3/4 x 3 1/8 x 3 3/16	6.2	16.80
F-199U	32 CT 15 CT	1.5 10	1500	4 1/8 x 3 7/16 x 3 1/2	7.4	21.20

*Primary tapped for 105/115/125 volts; 60 Hz operation. †Windings may be connected in series or in parallel.

Power Transformers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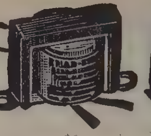
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INSTRUMENT POWER SUPPLY TRANSFORMERS PRIMARY 115 VOLTS,* FOR PREAMPS, VTVM, ETC.

Triad No.‡	Plate Supply AC Volts	Plate Supply mA DC	Filament Windings Volts and Amps	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each*
R-68A	800 CT	30	5v.-2a., 6.3†-1.2a., 6.3†-1.2 a.	3 3/32 x2 31/32x3⅛	3	$13.40
R-23B	250 CT	22	6.3 v.-.8 a. 15.5/12.6 v.-.6 a.	1⅞ x2⅝ x2 3/16	1¾	9.17
R-2C	135	15	6.3 v.-.9 a.	1¾ x1⅞ x1 9/16	1	8.32
R-3A	500 CT	20	6.3 CT-2 a.	2 25/32x2 11/32x2½	1¾	9.63
R-53Z	500 CT	25	6.3-1A.	2 5/16x2⅞x2	1	7.37
R-55Z	250 CT	25	6.3v.-1a.	2 5/16 x2⅞ x1¾	1	6.25
R-29A	230 CT	40	6.3 CT-1.5 a.	2 25/32x2 11/32x2⅜	1¾	8.12
R-30X	135	50	6.3 v.-1.5 a.	2 9/32 x3¾ x2⅛	1½	7.50
R-54X	115	15	6.3 v.-.6 a.	1⅝ x2 13/16x1⅝	1	4.88
R-54Z	115	15	6.3v.-.6a.	1 15/16x2 7/16 x1⅝	1	5.17
R-56A	130	20	0/15/22.5/30-.6 a.	2 25/32x2 11/32x2¾	2	8.78

*50–60 Hz (R-55Z, 60 Hz). †Series or parallel. ‡Static shield.

FOR CATHODE RAY TUBES (115 V 50-60 Hz)

Triad No.	Plate Supply AC Volts	Plate Supply mA DC	Filament Windings Volts and Amps	Case Size, Inches H. x W. x D.	Net Each*
R-41C	440-0-440-1250	125/5	5 v.-3 a., 2.5 v.†-1.75 a., 2.5 v.†-1.75 a., 6.3 v.-.6 a.	3¼x4 3/16 x3½	$24.48
R-45C	400-0-400-800	30/5	5 v.†-2 a., 5 v.†-2 a., 6.3 v.-.6 a., 6.3 CT-3 a., 6.3 v.-1 a.	2⅝x3¾ x3⅛	22.12
R-43C	1600	3	6.3/5/2.5/0 v.-1 a. 6.3/5/2.5/0 v.-3 a.	2⅜x3 1/16 x2 9/16	16.77
R-83A*	800 CT 650	70 3	6.3 CT-3.5 a. 6.3-.6 a., 1.25‡-.3 a.	3 19/32 x 2 31/32 x 3¾	23.52
R-84K	....	......	6.3-.6 a.	2¾x2¼ x2¾	13.03

*60 Hz operation. †Windings may be connected in series or parallel. ‡2-ohm resistor (2 W) in series with filament when 1V2 is used. §rms.

FOR REGULATED POWER SUPPLIES

All have static shield; 115 volts, 50–60 Hz.

Triad No.	Plate Supply AC Volts	Plate Supply mA DC	Filament Windings Volts and Amps	Case Size, Inches H. x W. x D.	Net Each*
R-70A	880†	75	6.3 v.-.6 a., 6.3 v.-.9 a., 6.3 v.-.3 a., 6.3 v.-3 a.	3 15/16x3 9/32x3⅜	$20.17
R-26A	880-720†	200	6.3†-8 a., 6.3 v.-3 a., 6.3 v.-1 a., 5 v.-3 a.	4⅝x3 15/16x4⅝	34.57
R-28A	1250†	300	6.3†-8 a., 6.3 v.‡-3 a., 6.3 v.‡-3 a., 5 v.-6 a.	5 5/16x4½ x5⅝	40.08
R-46A	1250† 130*	350 50	5 v.-4 a., 6.3 v.-4 a., 6.3v.‡-1a., 6.3v.‡-1a.	5 5/16x4½ x5⅝	35.78

*For bias using sel. rect.; supplies 550 v. DC using 2-5R4GY rect. tubes, choke input, filament windings regulate screen voltages. †Center tapped. ‡Windings may be connected in series or parallel.

ISOLATION TRANSFORMERS—50-60 Hz

Triad No.	VA Output	Input Volts	Output Volts	Case Size, In. H. x W. x D.	Net Each*
N-48X	15	115	115	1 15/16 x 3 3/16 x 2	$ 5.03
N-49X	35	115	57.5-115‡	2 9/32 x 3 11/16 x 2⅛	6.95
N-51X†	35	115	115	2 9/32 x 3 11/16 x 2⅛	6.22
N-68X	50	115/230‡	115	2 9/32 x 3 11/16 x 2⅛	8.03
N-53M#	85	115	115	3 19/32 x 2 31/32 x 3⅝	14.65
N-54M#	150	115	115	3⅞ x 3 9/32 x 4¼	18.57
N-73A	150	115	115/230‡	3⅞ x 3 9/32 x 4	15.55
N-74A	150	115	57.5/115‡	3⅞ x 3 9/32 x 4	15.40
N-67A	150	115/230‡	115	3⅞ x 3 9/32 x 4⅛	15.40
N-55M#▲	250	115	115	4⅝ x 3 15/16 x 5	32.22
N-66A	250	115/230‡	115	4⅝ x 3 15/16 x 4⅝	24.93
N-57M#▲	500	115	115	5 5/16 x 4½ x 6¼	71.28
N-59M#▲	1000	115	115	5 5/16 x 4½ x 8	77.00
N-52M*	350	95–130§	115	4⅝ x 3 15/16 x 7¾	91.35
N-469A†	50	220/440‡	115	3 3/16 x 2 21/32 x 2½	9.07
N-470A†	150	220/440‡	115	3⅞ x 3 9/32 x 3⅝	13.92
N-471A†	300	220/440‡	115	4⅝ x 3 15/16 x 4⅜	23.95

*With cord, switch and meter for primary voltage control. †60 Hz. ‡Split winding. §5-volt steps. #Also available with 3-wire cord, plug, socket. ▲230 volt primary (MG).

UNIVERSAL ISOLATING AUTOFORMERS

For 50/60 Hz voltage control use.

Triad No.	Output Watts (VA) Isolation	Output Watts (VA) Auto-former	rms Test Voltage	Size, Inches H. x W. x D.	Net Each*
N-64AC	500	1000	1500	5 5/16x4½x4⅞	$ 43.78
N-62AC	1000	2000	1500	6½x5½x6	86.17
N-60SC	2000	4000	2500	4¾x8½x13½	174.43

COMBINED PLATE AND FILAMENT TRANSFORMERS

Static Shield; Primary 115 Volts—50–60 Hz

Triad No.	Secondary AC Volts	Secondary mA DC	Rect. Fil. V	Rect. Fil. A	Other Filament Volts	Other Filament A	Wt. Lbs.	Net Each*
R-22A*	380/ 320 CT	70	...	...	6.3 6.3 CT	.6 3	2¾	$11.2
R-22B*	380/ 320 CT	70	...	...	6.3 6.3 CT	.6 3	2¾	12.0
R-4A	500 CT	40	...	...	6.3 CT	2	1¾	9.0
R-4B	500 CT	40	...	...	6.3 CT	2	1¾	9.0
R-5A*	600 CT	65	...	...	6.3 CT	2.7	2¾	10.5
R-5B*	600 CT	65	...	...	6.3 CT	2.7	2¾	11.4
R-6A	480 CT	50	5	2	6.3 CT	2	2¾	10.4
R-7A*	600 CT	50	5	2	6.3 CT	2	2¾	10.9
R-7B*	600 CT	50	5	2	6.3 CT	2	2¾	11.4
R-8A	500 CT	75	5	2	6.3 CT	2.5	3	12.5
R-8B	500 CT	75	5	2	6.3 CT	2.5	3	12.5
R-9A	600 CT	75	5	2	6.3 CT	3	3½	14.4
R-10A	525 CT	90	5	2	6.3 CT	5	4½	13.8
R-11A	700 CT	90	5	3	6.3 CT	3.5	4¼	14.4
R-11B	700 CT	90	5	3	6.3 CT	3.5	4¼	15.4
R-12A	550 CT	110	5	2	6.3 CT	5	4½	14.7
R-14A	700 CT	125	5	3	6.3 CT	4.5	6	17.1
R-14B	700 CT	125	5	3	6.3 CT	4.5	6	18.5
R-16A	700 CT	160	5	3	6.3 CT	5	7	20.2
R-17A	750 CT 80 Tap	160	5	3	6.3 CT 2.5 CT	5 5	7¼	23.2
R-18A	750 CT	175	5	3	6.3 CT	8	8½	20.2
R-18B	750 CT	175	5	3	6.3 CT	8	8½	20.0
R-19A	750 CT 80 Tap	200	5	3	6.3 CT 25 CT	6 10	9½	20.6
R-20A	700 CT	200	5	3	6.3 CT	8	9¼	22.4
R-20B	700 CT	200	5	3	6.3 CT	8	9¼	18.6
R-72A*	800 CT	140	5	3	6.3 CT	4	5¾	18.2
R-21B	800 CT	200	5	3	6.3 CT	6	9¼	24.4
R-24A*	800 CT	300	5	6	6.3 CT	6	14	31.1
R-24B*	800 CT	300	5	6	6.3 CT	6	14	31.1
R-25A	800 CT	500	5	6	6.3 CT	7	19	44.5
R-71A*	900 CT	250	5	4	6.3 6.3 CT 6.3	3 2	12	26.5

*60 Hz.

COMBINED PLATE AND FILAMENT

Primary 115 Volts—60 Hz

"Climatite" treated coils and cores for protection against moistur and for elimination of lamination chatter. Small in size, yet loss i at a minimum. Temperature rise design is 55° C. Copper foil stati shields grounded to case and core.

Triad No.	Secondary AC Volts	Secondary mA DC	Rect. Fil. V	Rect. Fil. A	Other Filament Volts	Other Filament A	Wt., Lbs.	Net Each*
R-104A	500 CT	40	...	...	6.3 CT	2	1.55	$ 8.47
R-104B	500 CT	40	...	...	6.3 CT	2	1.55	8.62
R-105A	600 CT	65	...	...	6.3 CT	2.7	2	9.18
R-105B	600 CT	65	...	...	6.3 CT	2.7	2	10.17
R-106A	480 CT	50	5	2	6.3 CT	2	2.1	10.70
R-106B	480 CT	50	5	2	6.3 CT	2	2.1	10.83
R-108A	500 CT	75	5	2	6.3 CT	2.5	2.4	11.22
R-108B	500 CT	75	5	2	6.3 CT	2.5	2.4	11.27
R-109A	600 CT	75	5	2	6.3 CT	3	2.9	11.13
R-110A	525 CT	90	5	2	6.3 CT	5	3.25	13.07
R-110B	525 CT	90	5	2	6.3 CT	5	3.25	12.97
R-111A	700 CT	90	5	3	6.3 CT	3.5	3.25	13.65
R-111B	700 CT	90	5	3	6.3 CT	3.5	3.25	13.58
R-112A	550 CT	110	5	2	6.3 CT	5	3.7	12.08
R-112B	550 CT	110	5	2	6.3 CT	5	3.7	13.58
R-114A	700 CT	125	5	3	6.3 CT	4.5	4.7	15.12
R-115A	680 CT	70	5	2	6.3 CT	2.5	3.5	10.68
R-115B	680 CT	70	5	2	6.3 CT	2.5	3.5	10.77
R-116A	750 CT	175	5	3	6.3 CT	8	7.45	17.35
R-118B	750 CT	175	5	3	6.3 CT	8	7.45	19.53
R-120A	700 CT	200	5	3	6.3 CT	8	8.25	21.87
R-121A	800 CT	200	5	3	6.3 CT	6	8.25	22.87

PLATE POWER TRANSFORMERS

Static Shield; Primary 115 Volts—60 Hz

Triad No.	Secondary Volts AC§	Secondary Volts DC	Secondary mADC CCS	Secondary mADC ICAS	Rect. Fil.	Wt. Lbs.	Net Each*
P-1A	440/220 CT	180/90	160	192	5V-3A	4	$12.93
P-3A	600/300 CT	250/125	300	360	5V-4A	6.25	16.33
P-5A	1100 CT	400	250	300	5V-4A	8	22.05
P-7A	1235 CT	500	250	300	5V-4A	9	22.70
P-30A	1200 CT 105	....	500 80	..... Bias	6.3-4A 6.3-4A	25	51.70
P-11A	1455 CT	600	250	300	....	8.5	21.48
P-14A	1780 CT‡	750/600	250	300	....	13.5	32.17
P-215AL	2340 CT*†	1000	250	300	....	13.5	37.87
P-217AL	2880 CT*†	1250	250	300	....	14.8	42.53
PR-21AL	3300 CT*†	1500	500	600	....	29	70.58

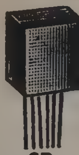
*Primary, 115/230 VAC. †Plate leads outside of case for rectifiers. ‡Also 1425 VAC CT. §Secondary CT must be grounded.

SIGNALLING TRANSFORMERS

Triad No.	Primary Volts	Secondary Volts, AC	Amps	Size, Inches H. x W. x D.	Net Each*
F-102X	115 60 Hz	4/8/12/16/20/24	2	2 9/32x3 11/16x2½	$ 5.95
F-104U	115 60 Hz	4/8/12/16/20/24	4	3½x2⅞ x2 9/16	11.95

Miniature Audio Transformers

X



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MINIATURE AUDIO TRANSISTOR TRANSFORMERS

Triad No.	Impedance, Ohms		Output, Watts	Net Each
	Primary‡	Secondary		
TY-18X	500 CT	200 CT	.5	$4.25
TY-19XT	10000 CT	16/8/4	.15	5.42
TY-21XT	1200 CT	20000 CT	.15	5.45
TY-22XT	5000 CT	7500 CT	.15	5.50
TY-24X	50000 (.5 mA)	300 CT	.2	8.55
TY-25X	100000 (.5 mA)	200 CT	.2	7.88
TY-26X	100000 (.5 mA)	3000 CT	.2	12.07
TY-27XT	500 CT (2 mA)	500 CT	.01	5.68
TY-32X	200 CT (2 mA)	2000 CT	.2	4.37
TY-33X	400 CT (5 mA)	16/8/4	.2	4.37
TY-34X	400 CT (5 mA)	2000 CT	.2	4.37
TY-35X*	500 CT (2 mA)	150 CT	.1	3.50
TY-36X	2000 (2 mA)	1500 CT	.2	4.60
TY-37X*	2000 CT (4 mA)	8000 CT	.2	5.55
TY-38X*	3000 CT (4 mA)	1000 CT	.2	8.32
TY-39X	4000 CT (4 mA)	16/8/4	.2	6.83
TY-40X	5000 (1 mA)	200 CT	.1	7.43
TY-41X	16000 (1 mA)	4000	.1	5.55
TY-42X	20000 (.5 mA)	8/4	.1	5.37
TY-43X	20000 (.5 mA)	800 CT	.1	8.88
TY-44X	1000 (10 mA)	16/8/4	.2	7.62
TY-45X*	500 CT (5 mA)	16/8/4	.2	5.57
TY-46X	100 (100 mA)	1000 CT	.25	3.43
TY-47X	2000 CT (10 mA)	16/8/4	.2	5.62
TY-49X	500 CT (12 mA)	5000 CT	.3	4.88
TY-50X	125000	2000 CT	.04	8.43
TY-51X*	2000 CT (10 mA)	200 CT	.05	5.88
TY-52X	20000 CT (1 mA)	2000 CT	.1	9.32
TY-54X	15000 (1.5 mA)	200 CT	.1	6.60
TY-55X	2000 CT (2 mA)	500 CT	.2	5.62
TY-56X	10000 (1 mA)	2000 CT	.05	6.63
TY-57X	250 CT (10 mA)	16/8/4	.2	4.77
TY-58X	125 CT (15 mA)	8/4	.2	4.37
TY-59X	5000 CT (1 mA)	50000 CT	.2	8.60
TY-60X	200000	1000	.1	7.35
TY-62X	10000 (2 mA)	4	.1	4.62
TY-150X	500 CT	500 CT	.3	4.85
TY-151XT	5000 CT	10,000 CT	.15	5.80
TY-152X	20 CT	8	10.0	4.02

*Also available in XT mounting for printed circuit cards.

SUBMINIATURE AUDIO TRANSFORMERS

Open frame construction. Type XT, 7/16" x 11/16" x 7/16". All others, 7/16" x ½" x 7/16". Power output, 1 mW.

Triad No.	Impedance, Ohms		Frequency Resp., Hz	Net Each
	Primary‡	Secondary		
TZ-1	600/250/50	60000	70–20000	$7.13
TZ-2XT	200 CT	200000	100–20000	7.47
TZ-5	20/12/4	50000	70–20000	9.40
TZ-7	30/12/4	1000	40–20000	5.12
TZ-13	15000 (1 mA)	135000 CT	70–15000	7.45
TZ-15	20000 (.5 mA)	1200/600/100	70–15000	5.38
TZ-17XT	10000 CT	2000 CT	70–15000	5.90
TZ-24XT	25000 CT (.5 mA)	500 CT	100–15000	6.78
TZ-25	10000 (1 mA)	200	70–20000	6.13
TZ-26	1000 (5 mA)	50	100–10000	5.52
TZ-28	600	50	40–60000	4.42
TZ-32XT†	1500 CT (2.5 mA)	600 CT/150*	70–20000	5.65
TZ-103XT	1 or 4 H	Coupling Reactor		4.12

*Split wdg. †Power output, 10 mW. ‡mA ratings are DC.

MINIATURE "TRIJETS" AUDIOS

Open frame construction, 1 7/32" w. x ¾" d. x ⅝" h. except T-32X, T-34X, T-41X and T-42X, 1 9/32" w. x 1 1/16" d. x ⅝" h.

T-1X■#	600/250/50	50000	60–15000	$6.42
T-2X■	600/250/50	250000	100–15000	6.17
T-3X	600/250/50	60000 CT	60–15000	6.32
T-5X■	30/12/4	50000	50–15000	5.78
T-12X	15000	60000 CT	60–15000†	6.15
T-13X	15000*	95000 CT	350–7000†	5.75
T-14X■	200	500000	300–3000†	4.65
T-15X	15000	1 megohm	150–15000†	4.45
T-20X#	15000	600/250/50	60–15000†	5.22
T-22X	15000*	600/250/50	350–7000†	4.77
T-23X#	20000 CT	600/250/50	60–15000†	5.60
T-24X	10000 CTI	2000 CT	50–20000†	4.52
T-25X	12000 CTI	600 CT/150‡	50–16000†	4.70
T-26X	50000 CT▲	600 CT/150‡	100–15000♦	4.68
T-31X■#	600/250/50	600/250/50	50–15000†	5.08
T-32X	1500 CTI	600 CT/150‡	50–20000♦	3.90
T-33X■	5000 CT	5000 CT	60–15000†	6.27
T-34X#	500 CTI	500 CT/125‡	50–20000♦	3.90
T-35X#	600 CT (1 mA)	2000 CT/500‡	50–20000†	5.12
T-41X	1000 (10 mA)	200 CT	20–15000	5.18
T-101X	50 H at .75 mA audio choke			4.43
T-102X	6 or 4 H, 3 or 6 mA coupling reactor			2.87
T-300	Magnetic shield for encapsulated units			4.65

*Designed for 3 mA in primary except: I2 mA; ▲5 mA (low freq. results from DC in primary of all other units). Power output 1 mW except: †10 mW; ♦20 mW. ‡Split winding. ■Static shield. •mA ratings are DC. #Also available encapsulated with plug-in terminals.

"RED SPEC" TRANSISTOR TRANSFORMERS

Size: 0.31" x 0.41" x 0.465" h. Weight, 1/10 oz.

Triad No.	Application	Impedance, Ohms		Net Each
		Primary*	Secondary	
SP-4	Input	200000 CT	1000 CT	$11.68
SP-5	Input	50000 CT	1000 CT	11.08
SP-7	Input	200000	1000	10.60
SP-11	Interstage	25000/200000	1000/800	9.22
SP-13	Interstage	25000/20000 CT	1000/800 CT	10.10
SP-15	Interstage	10000 CT	1500 CT	10.00
SP-20	Driver	10000 CT	1200 CT	9.72
SP-21	Driver	10000 CT	2000 CT	9.77
SP-22	Driver	10000	2000 CT/500§	10.13
SP-29	Driver	10000 CT	500 CT	9.45
SP-32	Output	500	50	7.67
SP-33	Output	1000	50	7.92
SP-34	Output	600	3.2	7.30
SP-35	Output	1200	3.2	7.42
SP-36	Output	10000	3.2	7.87
SP-42	Output	150 CT	12	8.13
SP-47	Output	1500 CT	12	8.58
SP-48	Output	7500 CT	12	8.68
SP-49	Output	300 CT	600	8.35
SP-50	Output	500 CT	600	8.50
SP-51	Output	900 CT	600	8.55
SP-52	Output	1500 CT	600	8.90
SP-65	Output	8000 CT	3.2	8.37
SP-66	Output#	10000 CT	10000 CT	9.48
SP-67	Output#	600 CT	600 CT	8.43
SP-68	Output#	10000	10000 CT/2500§	9.93
SP-69	Output#	600	600 CT/150§	9.48
SP-70	Output#	600	600	7.77
SP-106	Choke	6 H at 2 mA	....	7.90
SP-107	Choke	1.25 H at 2 mA	....	6.72
SP-117	Choke	.9 H at 2 mA	....	7.03
SP-118	Choke	.3 H at 4 mA	....	6.73
SP-128	Choke	.1 H at 5 mA	....	6.63
SP-310	Magnetic Shielding Case			1.23

*mA ratings are DC. §Split secondary. #Isolation.

PLUG-IN PC AUDIO TRANSFORMERS

Output 100 mW. Size, ⅝" x 1 3/16" x 1 9/32" except TY-146P, 1 watt output, size 1⅛" x 1⅜" x 1".

Triad No.	Impedance, Ohms		Pri. DC Unbal.	Net Each
	Primary	Secondary		
TY-141P	10000 CT	10000 CT	4	$5.50
TY-142P	10000 CT	2000 CT	4	4.93
TY-143P	10000 CT	1500 CT	4	4.83
TY-144P	15000 CT	15000 CT	4	5.45
TY-145P	600 CT	600 CT	15	4.18
TY-146P	600CT/150†	600CT/150†	....	8.23
TY-147P	150 CT	600 CT	15	4.17

†Split winding.

TELEPHONE COUPLING TRANSFORMERS

Transformers specifically designed and manufactured to telephone company requirements for voice/data use over leased private lines or through the dial-up switched telephone network. Used for impedance matching, isolation, line balance, bridging, hybrid and holding-coil applications. All units in plug-in printed circuit construction. **Frequency Response:** 300–3500 Hz, ±0.5 dB. **Longitudinal Balance:** 45 dB min. **Return Loss:** 26 dB min. **Distortion:** 0.5% max. **Impedance Matching:** ±10%. **Power Level:** −45 dBm to +7 dBm.

Triad No.	Application	Impedance, Ohms		Net Each
		Primary	Secondary	
TY-300P	Hybrid†	600	600/600‡	$5.32
TY-301P	Coupling	600	900	5.65
TY-302P	Hybrid†	600	600/600	6.47
TY-303P	Bridging	4000	600	5.98
TY-304P	Coupling	600CT	600CT	5.00
TY-350P	Holding Coil	2.0 Hy @ 60 mA 1.3 Hy @ 100 mA 180 ohms res.		5.42

†Two required for hybrid operation.
‡Split winding; one wide band, one narrow band.

MINIATURE JAF AUDIOS—HERMETICALLY SEALED

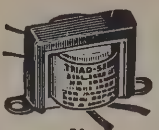
"Trialloy" case meets MIL specs; 45 dB shielding. 5/64" sq. x 1 5/32" h

Triad No.	Impedance, Ohms		Frequency Response, Hz	Net Each
	Primary*	Secondary		
JAF-1▲	600/250/50	50000	60–15000	$18.95
JAF-5■	30/12/4	50000	50–15000	20.28
JAF-11	15000	50000	60–15000†	20.28
JAF-12	15000	60000 CT	60–15000†	20.28
JAF-13	15000*	95000 CT	350–7000†	20.28
JAF-14■	200	½ megohm	300–3,000	20.28
JAF-15	15000	1 megohm	350–5,000†	20.28
JAF-21	15000	600/250/50	60–15000†	20.28
JAF-22	15000*	600/250/50	350–7000†	20.28
JAF-23	20000 CT	600/250/50	60–15000†	20.28
JAF-24	10000 CTI	2000 CT	50–20000†	20.28
JAF-25	12000 CTI	600 CT/150‡	50–15000†	20.28
JAF-31■	600/250/50	600/250/50	60–15000†	20.28
JAF-32	1500 CTI	600 CT/150‡	50–20000♦	20.28
JAF-33■	5000 CT	5000 CT	60–15000†	20.57
JAF-34	500 CTI	500 CT/125‡	50–20000♦	20.28
JAF-101	50 H at .75 mA coupling reactor			20.28
JAF-102	6 or 4 H at 3 or 6 mA coupling reactor			20.28

*Designed for 3 mA in primary except: I2 mA; (low freq. results from DC in primary of all other units). Power output 1 mW except: †10 mW; ♦20 mW. ‡Split winding. ■Static shield.

Power Transformers

A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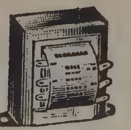
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XP

LOW-VOLTAGE, LOW-CURRENT, PLUG-IN PRINTED CIRCUIT POWER TRANSFORMERS

Primary 115 volts, 50/60 Hz.

Triad No.	Output Watts	Secondary		Net Each
		Series Conn.	Parallel Conn.	
PRIMARY 115 VOLTS—50-60 Hz.				
F-131P	1½	8 V CT at .188 A	4 V at .376 A	$5.00
F-139P	1½	12.6 V CT at .12 A	6.3 V at .24 A	5.23
F-132P	1½	15 V CT at .10 A	7.5 V at .20 A	5.12
F-150P	1½	17 V CT at .085 A	8.5 V at .17 A	5.90
F-138P	1½	25.2 V CT at .06 A	12.6 V at .12 A	5.33
F-133P	1½	30 V CT at .05 A	15 V at .10 A	5.23
F-160P	1½	34 V CT at .045 A	17 V at .09 A	6.15
F-137P	1½	40 V CT at .038 A	20 V at .076 A	5.85
F-134P	1½	54 V CT at .028 A	27 V at .056 A	5.67
F-135P	1½	76 V CT at .02 A	38 V at .04 A	6.02
F-136P	1½	116 V CT at .013 A	58 V at .026 A	6.60
F-141XP	4½	8 V CT at .562 A	4 V at 1.124 A	4.77
F-149XP	4½	12.6 V CT at .35 A	6.3 V at .70 A	5.00
F-142XP	4½	15 V CT at .30 A	7.5 V at .60 A	4.88
F-161XP	4½	17 V CT at .264 A	8.5 V at .528 A	5.58
F-148XP	4½	25.2 V CT at .178 A	12.6 V at .356 A	5.03
F-143XP	4½	30 V CT at .15 A	15 V at .30 A	5.03
F-162XP	4½	34 V CT at .132 A	17 V at .264 A	5.72
F-147XP	4½	40 V CT at .112 A	20 V at .224 A	5.42
F-144XP	4½	54 V CT at .084 A	27 V at .168 A	5.17
F-145XP	4½	76 V CT at .060 A	38 V at .120 A	5.25
F-146XP	4½	116 V CT at .033 A	58 V at .066 A	5.67
F-151XP	7½	8 V CT at .940 A	4 V at 1.880 A	5.00
F-159XP	7½	12.5 V CT at .60 A	6.3 V at 1.2 A	5.28
F-152XP	7½	15 V CT at .50 A	7.5 V at 1.00 A	5.57
F-163XP	7½	17 V CT at .441 A	8.5 V at .882 A	5.77
F-158XP	7½	25.2 V CT at .30 A	12.6 V at .60 A	5.43
F-153XP	7½	30 V CT at .25 A	15 V at .50 A	5.18
F-164XP	7½	34 V CT at .22 A	17 V at .44 A	6.23
F-157XP	7½	40 V CT at .188 A	20 V at .376 A	5.60
F-154XP	7½	54 V CT at .14 A	27 V at .28 A	5.22
F-155XP	7½	76 V CT at .100 A	38 V at .200 A	5.45
F-156XP	7½	116 V CT at .065 A	58 V at .130 A	5.60
PRIMARY 115/230 VOLTS—50-60 Hz.				
F-333P	1½	30 V CT at .05 A	15 V at .10 A	$7.22
F-348XP	4½	12.6 V CT at .350 A	6.3 V at .700 A	7.83
F-349XP	4½	16 V CT at .29 A	8 V at .56 A	7.75
F-350XP	4½	24 V CT at .180 A	12 V at .360 A	7.75
F-358XP	4½	20 V CT at .225 A	10 V at .450 A	7.75
F-363XP	7½	230 V CT at .020 A	115 V at .040 A	9.22
F-359XP	10	24 V CT at .45 A	12 V at .90 A	7.98
F-362XP	10	20 V CT at .500 A	10 V at 1.0 A	7.97
F-365XP	10	12.6 V CT at .800 A	6.3 V at 1.6 A	7.87
F-366XP	10	16 V CT at .640 A	8 V at 1.28 A	8.03

TRIPLE OUTPUT SECONDARIES FOR ±15 VDC AND +5 VDC

Triad No.	Watts	Sec. No. 1	Sec. No. 2	Net Each
F-165P	1½	24 V CT at .025 A	9 V CT at .100 A	$6.85
F-167P	1½	32 V CT at .020 A	15 V CT at .060 A	7.18
F-168XP	4½	32 V CT at .050 A	15 V CT at .195 A	6.58
F-166XP	7½	24 V CT at .125 A	9 V CT at .500 A	6.70
F-169XP	7½	32 V CT at .100 A	15 V CT at .287 A	6.80

SCR TRIGGER—PHOTOFLASH TRANSFORMERS

Triad No.	Turns Ratio	Inductance		Output Volts or Volt/μsec	Net Each*
		Primary	Leakage		
PL-10	1:30	2 μH	1 μH	6–8 kV	$2.08
PL-11	1:30	15 μH	1.5 μH	10–12 kV	2.20
PL-20	1:1	200 μH	8 μH	2000 V/μsec	3.80
PL-21	1:1:1	200 μH	8 μH	2000 V/μsec	3.92
PL-22	2:1:1	200 μH	15 μH	2000 V/μsec	4.53
PL-30	1:1:1	7.5 μH	90 μH	130 V/μsec	5.95
PL-31	1:1	7.5 μH	90 μH	130 V/μsec	5.97
PL-32	2:1	7.5 μH	100 μH	130 V/μsec	5.97
PL-33	2:1:1	7.5 μH	100 μH	130 V/μsec	6.10
PL-34	5:1	7.5 μH	115 μH	130 V/μsec	5.97

MULTI-PURPOSE TV AND STEREO

Triad No.	Secondary No. 1*	Secondary No. 2	Wt., Lbs.	Net Each
F-170SX	20 V CT at .200 ADC	6.3 V at .200 A	.40	$ 6.42
F-171SX	26 V CT at .200 ADC	6.3 V at .200 A	.50	6.20
F-172SX	24 V CT at .400 ADC	6.3 B at .300 A	.62	6.92
F-173SX	30 V CT at .400 ADC	6.3 V at .300 A	.62	7.00
F-174SX	30 V CT at .500 ADC	6.3 V at .500 A	1.06	5.53
F-175SX	44 V CT at .400 ADC	6.3 V at .500 A	1.25	6.42
F-176SX	40 V CT at .800 ADC	6.3 V at .500 A	1.68	7.52
F-177SX	50 V CT at .800 ADC	6.3 V at 1.000 A	2.31	7.80
F-178SX	60 V CT at .600 ADC	6.3 V at 1.000 A	2.31	8.42
F-179SX	60 V CT at 1.000 ADC	6.3 V at 1.000 A	2.31	11.18

*Secondary No. 1 current rating with FWCT rectifier.

CONTROL TRANSFORMERS

Multiple usage with relays, solenoids, electronic tubes, recording devices and similar applications. All use 115/230 VAC, 50/60 Hz. and have lug type connections.

Triad No.	Secondary		VA Rtg.	Size, Inches		Net Each
	Parallel	Series		H.	Base	
F-105Z	6 V at 2 A	12 V at 1 A	12	2⅜	2⅛ x 1¾	$ 5.80
F-106Z	6 V at 4 A	12 V at 2 A	24	2¼	3⅛ x 2	6.70
F-107Z	12 V at 4 A	24 V at 2 A	48	3⅛	3⅝ x 2⅜	7.80
F-108U	12 V at 8 A	24 V at 4 A	96	3½	2⅞ x 3	13.63
F-109U	12 V at 16 A	24 V at 8 A	192	4⅛	3¾ x 3½	25.57
F-211Z	24 V at .5 A	48 V at .25 A	12	2 5/16	2 13/16 x 1½	6.67
F-212Z	24 V at 1 A	48 V at .5 A	24	2¾	3⅛ x 2¼	7.38
F-213Z	24 V at 2 A	48 V at 1 A	48	3 1/16	3⅝ x 2⅜	8.82
F-214U	24 V at 4 A	48 V at 2 A	96	3 31/32	3 3/16 x 2 3/16	13.52
F-215U	24 V at 8 A	48 V at 4 A	192	4 5/32	3¾ x 3 7/16	21.67

LOW VOLTAGE RECTIFIER TRANSFORMERS

All use 115 volt tapped primary. Used to supply transistor DC voltage, 15 half-wave or 30 in bridge circuit.

Triad No.	Secondary		Test Volts	Size, Inches H. x W. x D.	Net Each
	Volts	Amps			
F-94X	10–20·CT–40 CT	.035	1500	1⅜ x 2⅜ x 1⅜	$ 4.97
F-90X	10–20 CT–40 CT	.1	1500	1⅝ x 2 13/16 x 1⅝	5.03
F-91X	10–20 CT–40 CT	.3	1500	2 9/32 x 3 11/16 x 2	6.08
F-93X	10–20 CT–40 CT	.75	1500	2 19/32 x 4 x 2¼	7.75
F-92A	10–20 CT–40 CT	1.0	1500	3 3/16 x 2 21/32 x 3	10.32

UNIVERSAL RECTIFIER TRANSFORMERS (PRI. 50-60 Hz)

Triad No.	Pri. Volts	Secondary		DC Volts		Case Size, Inches H. x W. x D.	Net Each*
		AC Volts	Amps rms	Half Wave	Full Wave		
F-47U•	115	17-18	3	6–7	13–14	3⅛ x2 9/16 x3	$ 9.93
F-48U	115	17-18	6	6–7	13–14	3 13/16x3 5/16 x3 5/16	14.15
F-49U	115	36† 36†	3 3	13 13	26 26	4⅝ x3 13/16x3¾	23.08
F-60U•	115	6.5-13-19.5-26	3	9	18	3½ x2⅞x2 11/16	9.70
F-61U•	115	24-27-30-33-36	3	13	26	3 13/16x3 5/16 x3¼	14.78
F-67U‡	110-120	24-27-30-33-36	8	13	26	4⅝ x3 13/16x4⅜	27.80
F-63U	115	8-9† 8-9†	2 2	.....	6–7 6–7	3⅛ x2 9/16 x2 9/16	9.27
F-64U•	115	7-8-9	7	.....	5–6–7	3½ x2⅞ x2¾	11.43
F-62U‡	105-115-125	9† 9† 9† 9†	10 10 10 10	.....	7 7 7 7	4⅝ x3 13/16x5¼	38.82
F-68U‡	115	9 CT† 9† 9† 9†	3.5 3.5 3.5 3.5	.....	7 7 7 7	3 13/16x3 5/16 x3 5/16	15.20
F-65U	110-120	140-150-160	.75	60	115	3 13/16x3 5/16x 3⅜	14.45
F-74U	117	28 CT 28 CT	2 2	.....	.....	3 15/16x3 13/16x3¼	13.08
F-75U	117	28 CT 28 CT	4 4	.....	.....	4⅛ x3 7/16 x4⅜	22.63
F-79U‡	115	24-26-28-30	15	11.4	22.8	3 13/16x4⅝ x5½	41.83
F-80U‡	115*	12-13.5-15-16.5-18† 12-13.5-15-16.5-18†	20 20	.....	13 13	5⅜ x4 7/16 x5½	71.62
F-86U	115	12 CT	10	.....	.....	3¾ x3⅛ x3½	14.30
F84AC‡	230-115§	12 CT† 12 CT†	10 10	.....	8.5 8.5	4⅝ x3 15/16x5⅛	34.52
F-85U	115*	5-7.5 5-7.5	20 20	.....	8–12.5	4½ x3¾ x4½	28.25

*Tapped. †Windings in series or parallel. ‡60 Hz. §Split winding.
•Also in stock with 115/230 V primary.

UNIVERSAL RECTIFIER POWER

Triad No.	Primary 50/60 Hz	Secondary No. 1 VAC	Secondary ADC		Net Each*
			CT†	Bridge	
F-200A	117 V	13/18 at .9 ADC*	....	....	$ 9.27
F-202U	117 V	11.0–29.5	2.0	1.25	9.22
F-203U	117 V	12.0–30.0	4.0	2.0	11.65
F-204U	117 V	11.5–29.0	8.0	4.0	17.18
F-205U	117 V	12.0–29.5	12.0	6.0	25.13
F-206U	117 V	12.1–29.2	15.0	8.0	36.58
F-207U	117 V	12.2–29.0	22.5	12.0	54.23

*Sec. No. 2, same. †Full wave.

SOLID STATE RECTIFIER POWER TRANSFORMERS

Pri., 117 V, 50/60 Hz. Fil. 2 and 3 are 6.3 V.

Triad No.	Sec. Volts	DC A	Fil. 2, 3	Net Each*	Triad No.	Sec. Volts	DC A	Fil. 2, 3	Net Each*
R-200A	400 CT	0.4	3a	$19.98	R-208A	80 CT	1.2	.....	$11.52
R-201A	300 CT	0.6	2.5a	19.77	R-204A	80 CT	2.0	1.5a	19.77
R-202A	200 CT	0.8	2a	18.80	R-209B	60 CT	3.0	.....	22.13
R-203A	100 CT	1.6	1.5a	17.25	R-205A	60 CT	2.5	1.5a	18.80
R-82B	70 CT	3.0	.....	23.23	R-206B	54 CT	1.25	.....	20.05

TRANSISTOR SUPPLY AND FILAMENT TRANSFORMERS

All primaries for 115 VAC unless noted otherwise.

UTC Type	Secondary		Output				RMS Test Volt.	Terminations	Size, Inches			Fig.
			Bridge		F.W. CT							
	V	A	V	A	V	A			H.	W.	D.	
UP8611	36 CT	.135	44.0	.1	19.5	.175	1500	Leads	1⅜	2⅜	1⅜	A
UP8613	36 CT	.55	46.2	.35	21.7	.65	1500	Leads	2	3¼	1⅝	A
UF54X	35 CT	1.5	42.7	1.0	19.2	2.0	1500	Leads	2¹⁹⁄₃₂	4	2¼	A
UP8600	28 CT	.085	32.0	.065	14.0	.11	1500	Leads	1¼	2⅛	1¼	A
UP8601	28 CT	.175	32.5	.125	13.5	.225	1500	Leads	1⅜	2⅜	1⅜	A
UP8609/F40	26.8 CT	1.0	33.8	.67	15.5	1.3	1500	Leads	2	3¼	2⅛	A
UP8180	25.2 CT	1.0	31.0	.67	14.0	1.3	1500	Leads	2	3¼	2⅛	A
UP6469	25.2	1.0	30.0	.67	....	......	1500	Leads	2	3¼	2⅛	A
UP8357/F41	25.2 CT	2.0	32.0	1.3	14.8	2.6	1500	Leads	2⅝	4	2¼	A
UP8388	25.2 CT	2.8	31.0	1.8	14.1	3.7	1500	Leads	2⅝	4	2¼	A
UP8394	24 CT	.085	28.0	.065	10.5	.135	1500	Leads	1¼	2⅛	1¼	A
UP8395	24 CT	.2	29.0	.135	11.7	.275	1500	Leads	1⅜	2⅜	1⅜	A
UP8396	24 CT	.4	24.0	.27	13.0	.55	1500	Leads	1⅝	2⅞	1½	A
UP8397	24 CT	.7	29.0	.45	13.0	.925	1500	Leads	2	3¼	1⅝	A
UF45X	24 CT	1.0	29.0	.67	13.0	1.3	1500	Leads	1¹⁵⁄₁₆	3⁵⁄₁₆	2	A
UP6377*	12# 24 CT†	4.0 2.0	12.2 27.8	2.6 1.3	.... 12.0	...... 2.6	1500	Lugs	3⅛	3⅝	2¼	S
UF47U	18	3.0	22.0	1.5	....	......	1500	Leads	3¹⁄₁₆	2⁹⁄₁₆	2¾	NV
UP8384	12.6 CT	1.0	14.7	.67	6.5	1.33	1500	Leads	2	3¼	1¾	A
UF25X	12.6 CT	1.5	14.0	1.0	6.0	2.0	1500	Leads	1¹⁵⁄₁₆	3⁵⁄₁₆	2	A
UP8130/F44	12.6 CT	2.0	14.3	1.3	6.2	2.6	1500	Leads	2	3¼	2⅛	A
UF26X	12.6 CT	2.5	14.2	1.7	6.0	3.3	1500	Leads	2⁹⁄₃₂	3¹¹⁄₁₆	2	A
UP8358	12.6 CT	3.0	14.5	2.0	6.18	4.0	1500	Leads	2⅜	3¾	2¼	A
UP8390	12	.15	14.0	.1	....	......	1500	Leads	1¼	2⅛	1¼	A
UP8391	12	.35	14.2	.2	....	......	1500	Leads	1⅜	2⅜	1⅜	A
UP8392	12	.7	14.2	.45	....	......	1500	Leads	1⅝	2⅞	1½	A
UP6375*	6.0# 12 CT	2.0 1.0	6.2 14.1	1.33 .67	.... 6.2	...... 1.33	1500	Lugs	2⅜	2⅞	1⅝	S
UP8393	12	1.2	14.1	.75	....	......	1500	Leads	2	3¼	1⅝	A
UP6458§	10 CT	5.0	10.9	3.3	4.1	6.6	2000	Leads	3¹⁄₁₆	2½	2½	NV
UP8385	6.3 CT	.3	6.5	.2	2.5	.4	1500	Leads	1¼	2⅛	1⅜	A
UP6465	6.3 CT	.6	6.6	.4	3.8	.8	1500	Leads	1⅜	2⅜	1½	A
UF13X	6.3	.6	7.0	.4	....	......	1500	Leads	1⅜	2⅜	1⅜	A
UP8389	6.3	1.0	6.5	.67	....	......	1500	Leads	1⅝	2⅞	1½	A
UP6134/F14	6.3 CT	1.2	6.1	.8	2.5	1.6	3000	Leads	1⅝	2⅞	1⅞	A
UP8190	6.3	1.2	6.5	.8	....	......	5000	Leads	2	3¼	1⅞	A
UP6466/F16	6.3 CT	3.0	6.1	2.0	2.5	4.0	2500	Leads	2	3⁵⁄₁₆	2⅛	A
UP6308‡	6.3 CT	10.0	6.0	6.3	2.5	12.6	2500	Leads	3⁷⁄₁₆	2¹³⁄₁₆	2¼	NV
UP6467	5.0 CT	3.0	4.4	2.0	1.5	4.0	2500	Leads	2	3¼	2⅛	A
UP6468‡	5.0 CT	30.0	4.0	20.0	1.5	40.0	2500	Lugs	4¼	3⁷⁄₁₆	3⅞	C
UF1X	2.5 CT	3.0	1.2	2.0	2.8	4.0	1500	Leads	1⅝	2¹³⁄₁₆	1⅝	A

*Primary 115/230 volts. §Primary 105/115 volts. #Secondaries in parallel. †Secondaries n series. ‡Electrostatic shield.

TRANSISTOR SUPPLY AND POWER TRANSFORMERS MULTIPLE OUTPUT VOLTAGES

All primaries for 115 VAC and tapped to produce lower voltages.

UTC Type	Secondary		Output				RMS Test Volt.	Terminations	Size, Inches			Fig.
			Bridge		F.W. CT							
	V	A	V	A	V	A			H.	W.	D.	
UF94X	10 20 CT 40 CT	.035	12.0 24.4 47.0	.19	..... 10.0 19.2	...... .04	1500	Leads	1⅜	2⅜	1⅜	A
UF90X	10 20 CT 40 CT	.1	12.3 25.5 50.0	.056	..... 11.4 22.4	...... .11	1500	Leads	1⅝	2¹³⁄₁₆	1⅝	A
UF91X	10 20 CT 40 CT	.30	12.3 25.5 51.0	.17	..... 11.3 22.6	...... .34	1500	Leads	2⁹⁄₃₂	3¹¹⁄₁₆	2	A
UF93X	10 20 CT 40 CT	.75	11.7 24.6 49.0	.42	..... 11.2 22.5	...... .84	1500	Leads	2¹⁹⁄₃₂	4	2¼	A
UF92A	10 20 CT 40 CT	1.0	11.7 25.2 51.0	.56	..... 11.5 23.5	...... 1.1	1500	Leads	3³⁄₁₆	2²¹⁄₃₂	3	C

UNIVERSAL RECTIFIER TRANSFORMERS

Designed for F.W. CT or bridge rectifier circuits.

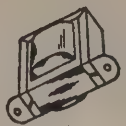
UTC Type	Secondary Volts*	Inductive Load		Capacitive Load		Size, Inches			Fig.
		V*	A	V*	A	H.	W.	D.	
URT-201	11.7–29.4# 11.1–28.5	11.2# 23.0	2.0 1.25	13.8# 30.0	2.0 1.25	3⅛	2½	2⅜	NV
URT-202	12.0–29.8# 12.0–29.8	11.1# 24.3	4.0 2.0	14.7# 33.0	4.0 2.0	3⁷⁄₁₆	2¹³⁄₁₆	2¾	NV
URT-204	11.7–29.2# 11.6–29.2	12.0# 24.0	8.0 4.0	14.5# 32.4	8.0 4.0	3¹³⁄₁₆	3⅛	3½	NV
URT-206	12.0–29.7# 12.0–29.7	11.5# 24.0	12.0 6.0	14.4# 32.0	12.0 6.0	4³⁄₁₆	3⁷⁄₁₆	4	NV

*Under load. #F.W. CT circuit. Bridge circuit.

ISOLATION TRANSFORMERS

UTC Type	Primary Voltage	Output VA	Secondary		RMS Test Volt.	Terminations	Size, Inches			Fig.
			V	A			H.	W.	D.	
UP6411/N48*	115	15	115	.13	1500	Leads	2	3¼	1⅞	A
UN51X*	115	35	115	.3	1500	Leads	2⁹⁄₃₂	3¹¹⁄₁₆	2⅛	A
UN68X*	115/230#	50	115	.435	1500	Leads	2⁹⁄₃₂	3¹¹⁄₁₆	2⅛	A

*Electrostatic shield. #Split winding.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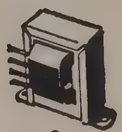
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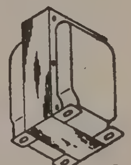
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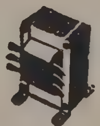

NV

PRICING

UTC Type	Net Each, 1-9	UTC Type	Net Each, 1-9
UF1X	$ 4.15	UP8130/	
UF13X	3.82	F44	$ 4.96
UF25X	5.05	UP8180	4.80
UF26X	5.60	UP8190	5.20
UF45X	5.06	UP8357/	
UF47X	9.98	F41	7.60
UF54X	6.71	UP8358	5.76
UF90X	5.08	UP8384	4.40
UF91X	6.13	UP8385	3.44
UF92X	10.43	UP8388	8.97
UF93X	7.83	UP8389	3.60
UF94X	5.03	UP8390	3.60
UN51X	6.32	UP8391	3.60
UN68X	8.15	UP8392	4.00
UP6134/		UP8393	4.96
F14	3.60	UP8394	4.40
UP6308	11.61	UP8395	4.40
UP6375	5.20	UP8396	4.80
UP6377	8.01	UP8397	5.12
UP6411/		UP8600	3.60
N48	4.96	UP8601	4.24
UP6458	8.80	UP8609/	
UP6465	3.60	F40	4.80
UP6466/		UP8611	3.52
F16	5.20	UP8613	5.12
UP6467	4.96	URT-201	9.60
UP6468	25.93	URT-202	13.20
UP6469	4.80	URT-204	18.40
....	....	URT-206	25.29

INDUSTRIAL TRANSFORMER LISTING CONTINUED ON FOLLOWING PAGE

TRW UTC TRANSFORMERS

OUNCERS★ STANDARD, PLUG-IN AND PRINTED CIRCUIT AUDIO TRANSFORMERS

STANDARD AND PLUG-IN UNITS

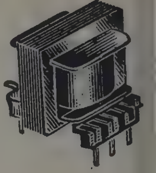
Plug-in Ouncer

UTC Ouncer components are fully impregnated and sealed against severe environmental conditions in a drawn aluminum housing. Only ⅞″ in diameter, they are ideal for mounting opposite terminal boards. Ideal for use in portable radios, aircraft, etc. Wide-frequency range characteristics are provided, ±1 dB, 30–20,000 Hz response except where indicated otherwise. "P" units are identical in all respects except are housed in a Bakelite* case with octal plug-in pins. UTC Type O-16 has heavy shielding (1¹⁄₁₆″ dia.) Wt., 3 oz.; P-16 has 9-pin plug (1³⁄₁₆″ dia.). Weight, 4 oz. Weight of Ouncers, 1 oz., max. *Bakelite Corp. trademark.

UTC Type	Application	Pri. Imped., Ohms	Sec. Imped., Ohms	Each, 1-4
O-1	Input	50, 200/250, 500/600	50K	**$16.14**
O-2	P-p input	See O-1 pri.	50K CT	**17.06**
O-3	Input	7.5/30	50K	**15.62**
O-4	Pl. to grid	15K	60K	**13.89**
O-5	Pl. to grid	15K, 4 mA	60K	**14.18**
O-6	Pl. to p-p	15K	95K CT	**15.62**
O-7	Pl. to p-p	15K, 4 mA	95K CT	**15.62**
O-8	Pl. to line	15K	See O-1 pri.	**16.14**
O-9	Pl. to line	15K, 4 mA	As above	**16.14**
O-10	P-p to line	30K CT	As above	**17.30**
O-11	Cry. to line	50K	As above	**16.14**
O-12	Mixing	50, 200/250	As above	**16.14**
O-13	Inductor: 300 H–0 mA, 6000 ohms			**13.32**
O-15	10:1 P/G	10K	1 meg.	**15.62**
O-16	Shld. input	250 CT	50K	**20.95**
O-17	Hipermalloy shield, 25 dB, for Ouncers			**3.14**
O-18	Tr. intrstg.	10K/2.5K split	2K/500 split	**16.14**
O-19	Tr. intrstg.	10K/2.5K split	4K/1K split	**16.14**
O-20	Tr. to line	1.5K CT	500/125 split	**13.01**
O-21	Tr. to V.C.	2K/4K CT	8/16	**11.33**
O-22	Tr. to V.C.	500/400 CT	4/3.2	**11.32**
O-24	Inductor: 1.6 H–3 mA, 25 ohms			**10.80**
O-25	Tr. input	600/150 split	2K/500 split	**16.14**
O-26	Tr. intrstg.	10K CT, 4 mA	10K CT	**16.14**
O-27	Tr. intrstg.	10K CT, 4 mA	500/125 split	**16.72**
O-28	Tr. intrstg.	50K CT, 2 mA	500/125 split	**16.72**
O-29	Tr. intrstg. or chopper	100K CT, 1 mA	500/125 split	**16.94**
O-30	Tr. intrstg.	500/125 split	500/125 split	**16.44**
O-31	Tr. intrstg.	500/125 split	150/37.5 split	**16.44**
O-32	Tr. intrstg.	500/125 split	50/12.5 split	**16.44**
O-33	Tr. intrstg.	100/25 split	40/10 split	**16.94**
O-35	Hybrid	600	600/600 CT	**14.56**
O-36	Spl. induct.: 1 H–20 mA, 60 ohms, series; 0.25 H–40 mA, 15 ohms, parallel			**11.33**
O-37	Tr. to line	4K/1K split, 4 mA	650/150 split	**16.44**

PRINTED CIRCUIT UNITS

Printed circuit version of UTC Type O (i.e., PC-O-1 = O-1). Same performance characteristics. Light weight enables easy mounting on printed circuit boards. Terminal arrangements permit both series or parallel connections. **Size:** 1″ w. x .774″ d. x ¾″ h. Pins spaced, .150″. Pin dia., 7/64″.



UTC Type	Application	Pri. Imped., Ohms	Sec. Imped., Ohms	Ea., 1-4
PC-O-1	Input	50, 200/250, 500/600	50K	**$8.77**
PC-O-2	P-p input	See PC-O-1 pri.	50K CT	**8.92**
PC-O-3	Input	7.5/30	50K	**8.50**
PC-O-4	Pl. to grid	15K	60K	**8.09**
PC-O-5	Pl. to grid	15K, 4 mA	60K	**9.75**
PC-O-6	Pl. to p-p	15K	95K CT	**8.55**
PC-O-7	Pl. to p-p	15K, 4 mA	95K CT	**9.26**
PC-O-8	Pl. to line	15K	See PC-O-1 pri.	**8.04**
PC-O-9	Pl. to line	15K, 4 mA	As above	**8.92**
PC-O-10	P-p to line	30K CT	As above	**8.58**
PC-O-11	Cry. to line	50K	As above	**8.74**
PC-O-12	Mixing	50, 200/250	As above	**8.35**
PC-O-13	Inductor: 300 H–0 mA, 6000 ohms			**9.36**
PC-O-15	10:1 P/G	10K	1 meg.	**9.02**
PC-O-17	Hipermalloy shield, 25 dB, for Ouncers			**9.49**
PC-O-18	Tr. intrstg.	10K/2.5K split	2K/500 split	**9.48**
PC-O-19	Tr. intrstg.	10K/2.5K split	4K/1K split	**9.48**
PC-O-20	Tr. to line	1.5K CT	500/125 split	**7.21**
PC-O-21	Tr. to V.C.	2K/4K CT	8/16	**6.78**
PC-O-22	Tr. to V.C.	500/400 CT	4/3.2	**6.90**
PC-O-24	Inductor: 1.6 H–3 mA, 25 ohms			**5.28**
PC-O-25	Tr. input	600/150 sp.	2K/500 split	**8.74**
PC-O-26	Tr. intrstg.	10K CT, 4 mA	10K CT	**9.67**
PC-O-27	Tr. intrstg.	10K CT, 4 mA	500/125 split	**9.26**
PC-O-28	Tr. intrstg.	50K CT, 2 mA	500/125 split	**9.75**
PC-O-29	Tr. intrstg. or chopper	100K CT, 1 mA	500/125 split	**9.75**
PC-O-30	Tr. intrstg.	500/125 split	500/125 split	**7.71**
PC-O-31	Tr. intrstg.	500/125 split	150/37.5 sp.	**7.78**
PC-O-32	Tr. intrstg.	500/125 split	50/12.5 split	**7.78**
PC-O-33	Tr. intrstg.	100/25 split	40/10 split	**7.61**
PC-O-35	Hybrid	600	600/600 CT	**6.49**
PC-O-36	Spl. induct.: 1H–20 mA, 60 ohms, series; 0.25 H–40 mA, 15 ohms, parallel			**6.31**
PC-O-37	Tr. t line	4K/1K spl., 4 mA	650/150 split	**7.61**

FOR SUBOUNCERS AND SUB-SUBOUNCERS AND THEIR PRINTED CIRCUIT VERSIONS, SEE ANOTHER UTC PAGE.

★UTC trademark.

MS TOROIDAL HIGH Q MINIDUCTORS★

Designed, manufactured and successfully tested to MIL-T-27D. Molded in black epoxy. Ideal for high density packaging requirements. Designed for application over the wide range of 1 kHz to 100 kHz. Excellent Q in the range of 10 kHz to 100 kHz. **Size:** .35″ dia. x .23″ h. **Leads:** .025″ dia. x spaced .2″, gold plated dumet, type D per MIL-STD-1276A; both weldable and solderable. **Tol.:** 2%. **Special units with higher Q at higher frequencies available on request.**

UTC Type	MIL Type	Induct. mH*	Max. mADC	Max.† Ohms	Ea., 1-4
MS-1	TF5R20ZZ	1	60	1.4	**$21.16**
MS-5	TF5R20ZZ	5	28	7	**21.65**
MS-10	TF5R20ZZ	10	20	11	**21.98**
MS-25	TF5R20ZZ	25	13	38	**22.81**
MS-50	TF5R20ZZ	50	9	75	**23.63**
MS-100	TF5R20ZZ	100	6	132	**24.77**

*Zero DC. †DC resistance. **★UTC trademarks. **Prices on Request.**

UTC HAS MORE TRANSFORMERS AND FILTERS LISTED ON THE QPL* THAN ALL OTHER MANUFACTURERS COMBINED!

***(1) MIL-T-27, QPL-27-48; (2) MIL-F-18327, QPL-18327-20; (3) MIL-T-21038, QPL-21038-13.**

OUR STOCK IS COMPLETE AND UP TO DATE.

WRITE FOR ADDITIONAL INFORMATION ON

ANY NEW OR UNLISTED ITEMS

TRW UTC TRANSFORMERS

MINIATURE, HERMETICALLY SEALED AND PRINTED CIRCUIT TYPE AUDIO TRANSFORMERS

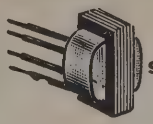
SUB-SUBOUNCERS★ AND SUBOUNCERS★

Miniature nickel-iron core units for vacuum tube or transistor circuits. Units are vacuum sealed for highest dependability. Windings are wound on high quality nylon bobbins. Plastic insulated, color-coded leads; 4″ long. No mounting facilities provided. Primary and secondary windings may be used arbitrarily as input or output. Impedances listed are the range of matching impedance over which the units will give satisfactory performance as long as the impedance ratio is maintained. Subouncer units (SO) handle a higher level than Sub-Subouncers (SSO). Construction details are identical. **SSO Sub-Subouncers:** Approx. 2 dB at 140–10,000 Hz. **Size:** 15/32″ w. x 11/16″ d. x 15/32″ h. **Weight:** .02 lb. **SO Subouncers:** Approx. 2 dB at 100–10,000 Hz. **Size:** 15/32″ w. x 3/4″ d. x 5/8″ h. **Weight:** .03 lb.

UTC Suffix§	Impedance, Ohms		Turns Ratio Pri.:Sec.	Net Ea., 1-4	
	Primary	Secondary		Type SSO-	Type SSO-P
1	50–200	62.5K–250K	1:35	$11.50	$13.37
2	10K	90K	1:3	11.50	13.37
3	200–500	10K–25K	1:7.1	10.95	17.06
4	50	30K	1:24.5	10.23	13.20
5	Inductor: 50 H @ 1 mA, 4.4 ohms DC			8.79	15.85
6	60	100K	1:40	10.23	13.19
7	800–1.2K	20K–30K	1:5	8.50	13.25
8	2K CT	10K	1:2.23	9.53	16.44
9	16	10K	1:25	8.50	12.48
10	3.2	10K	1:55.5	8.50	12.48
11	50–60	500–600	1:3.16	7.68	13.02
12	50–60	1K–1.2K	1:4.45	7.68	13.02
13	1K	200K	1:14.4	10.03	13.45
14	200–500 spl.	10K–25K CT	1:7.07	9.64	16.72
15	800–1.2K CT	20K–30K CT	1:5	9.89	16.72
16	3.2–4	1.2K–1.5K	1:18.1	7.37	12.43
17	500–600 CT	10K–12K	1:4.48	8.46	12.96
18	3.2–4	10K–12K CT	1:48.5	8.50	12.73
19	500 CT	600 CT	1:1.1	8.33	15.59
20	600 CT	1.5K CT	1:1.58	8.33	15.59
21	1K CT	200K CT	1:14.1	11.62	17.83
22	1.5K–1.8K CT	10K–12K CT	1:2.58	10.03	16.14
23	Inductor: 8 H @ 2 mA, 4.4 H @ 5 mA; 650 ohms			6.50	15.99
24	Inductor: 3.5 H @ 2 mA, 1.5 H @ 5 mA; 650 ohms			6.50	15.59
25	10K–12K CT	10K–12K CT	1:1	10.80	16.94
26	400/100 spl.-500/125 spl.	40K–50K CT	1:10	11.03	13.37
27	600/150 spl.	4K CT	1:2.68	11.03	17.53
28	48/12 spl.-100/25 spl.	48/12 spl.-100/25 spl.	1:1	8.84	13.55
29	12.8/3.2 spl.-16/4 spl.	500/125 spl.-600/150 spl.	1:6.11	8.84	13.55
30	50/12 spl.-60/15 spl.	500/125 spl.-600/150 spl.	1:3.16	8.84	13.55
31	500/125 spl.	600/150 spl.	1:1.1	9.51	13.55
32	Hybrid: 3 equal windings, center-tapped trifilar. 500–600, 500–600 CT, 500–600 CT		1:1.1	8.56	14.49
33	600/150 spl.*†	600 CT	1:1	8.94	14.36
34	200/50 spl.-240/60 spl.*	1K/250 spl.-1.2K/300 spl.*	1:2.23	9.67	13.51
35	600/150 spl.*	2K/500 spl.*	1:7	9.41	13.82
36	12.8/3.2 spl.-16/4 spl.*	4K/1K spl.-5K/1.25K spl.	1:17.6	9.43	13.82
37	600/150 spl.*†	8K CT	1:3.65	10.80	15.52
38	12.8/3.2 spl.-16/4 spl.*	8K/2K spl.-10K/2.5K spl.	1:25	9.56	13.73
39	200/50 spl.-500/125 spl.	10K/2.5K spl.-25K/6.25K spl.	1:7.1	11.31	14.95
40	500/125 spl.-600/150 spl.*	10K/2.5K spl.-12K/3K spl.	1:4.48	10.42	14.25
41	10K/2.5K spl.-12K/3K spl.	10K/2.5K spl.-12K/3K spl.	1:1	10.93	14.12
42	800/200 spl.-1.2K/300 spl.	20K/5K spl.-30K/7.5K spl.	1:5	11.98	15.28
43	400/100 spl.-500/125 spl.	40K/10K spl.-50K/25K spl.	1:10	11.63	15.36
44	100/25 spl.-200/50 spl.*†	100K–200K CT	1:31.6	11.75	15.72
45	1K/250 spl.†	200K CT	1:14.4	12.70	16.18

*Bifilar. †Electrostatic shield. §Add desired UTC Suffix No. to Type **SSO-** or insert desired UTC Suffix No. before **P** in Type **SSO-P.** e.g. SSO-45P.

★**UTC trademark.**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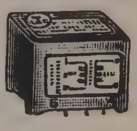
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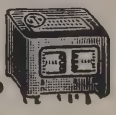
SSO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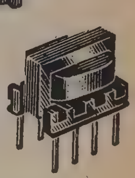

PC-SO, PC-SSO

HERMETICALLY SEALED TYPES—PC TERMINALS

Hermetically sealed versions of SO and SSO units. Constructed to complete MIL-T-27D Specifications, Grade 5, Class R. Employ 40 mil, deeply anchored pin terminals; ideally suited for printed circuit applications. Terminals are strong enough to support these light-weight units.

SUBOUNCERS AND SUB-SUBOUNCERS

UTC Suffix§	Impedance, Ohms		Turns Ratio Pri.:Sec.	Net Ea., 1-4	
	Primary	Secondary		Type SO-	Type SO-P
1	50–200	62.5K–250K	1:35	$10.03	$13.61
2	10K	90K	1:3	10.03	15.00
3	200–500	10K–25K	1:7.1	9.04	14.71
4	50	30K	1:24.5	9.64	12.83
5	Inductor: 50 H @ 1 mA; 2,675 ohms DC			7.37	14.18
6	60	100K	1:40	10.80	13.09
7	800–1.2K	20K–30K	1:5	7.91	13.37
8	2K CT	10K	1:2.23	9.05	15.28
9	3.2	500 CT	1:12.5	7.91	14.71
10	8–16	2K–4K CT	1:15.9	7.68	12.60
11	400–500 CT	400–500 spl.	1:1	8.79	13.37
12	120–150 spl.	400–500 CT	1:1.82	8.79	13.37
13	40–50 spl.	400–500 CT	1:3.16	8.58	13.37
14	32–40 spl.	80–100 CT	1:1.58	8.58	15.59
15	600 CT	600 spl.	1:1	8.79	15.59
16	2.5K CT	2.5K spl.	1:1	9.36	13.48
18	600 spl.	50K CT	1:18.2	9.97	16.63
20	600 spl.†	10K CT	1:4.08	9.72	15.00
21	10K–12K CT†	10K–12K spl.	1:1	9.80	15.00

†Electrostatic shield. §Add desired UTC Suffix No. to Type **SO-** or insert desired UTC Suffix No. before **P** in Type **SO-P.** e.g. SO-21P.

PRINTED CIRCUIT SUBOUNCERS AND SUB-SUBOUNCERS

Printed circuit version of UTC Type SO and UTC Type SSO (i.e., PC-SO-1 = SO-1; PC-SSO-1 = SSO-1). Same performance, but easily mountable on printed circuit boards. Terminal arrangements permit the connection of series or parallel windings by bridging over adjacent terminals. Split types eliminate unwanted crossovers on printed circuit boards. **PC-SO Size:** 3/4″ w. x 11/16″ d. x 31/32″ h. Pins spaced, .200″. Pin dia., .040″. **PC-SSO Size:** 3/4″ w. x 9/16″ d. x 1/2″ h. Pins spaced, .200″. Pin dia., .040″.

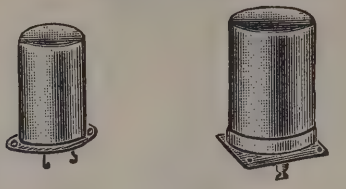
UTC Type PC-	Net Ea., 1-4	UTC Type PC-	Net Ea., 1-4	UTC Type PC-	Net Ea., 1-4	UTC Type PC-	Net Ea., 1-4
SO-1	$10.43	SO-18	$9.97	SSO-14	$6.96	SSO-30	$6.11
SO-2	10.03	SO-20	9.72	SSO-15	6.96	SSO-31	6.11
SO-3	9.04	SO-21	9.80	SSO-16	5.78	SSO-32	7.19
SO-4	9.64	SSO-1	6.81	SSO-17	6.13	SSO-33	6.93
SO-5	7.37	SSO-2	6.81	SSO-18	5.78	SSO-34	6.11
SO-6	10.80	SSO-3	6.59	SSO-19	6.47	SSO-35	6.19
SO-7	7.91	SSO-4	6.54	SSO-20	6.54	SSO-36	6.19
SO-8	9.05	SSO-5	5.95	SSO-21	7.42	SSO-37	7.96
SO-9	7.91	SSO-6	6.59	SSO-22	6.37	SSO-38	6.19
SO-10	7.68	SSO-7	6.49	SSO-23	5.03	SSO-39	7.60
SO-11	8.79	SSO-8	7.08	SSO-24	5.69	SSO-40	6.72
SO-12	8.79	SSO-9	5.78	SSO-25	6.31	SSO-41	6.42
SO-13	8.58	SSO-10	5.78	SSO-26	7.60	SSO-42	7.40
SO-14	8.58	SSO-11	6.49	SSO-27	7.75	SSO-43	7.76
SO-15	8.79	SSO-12	6.49	SSO-28	6.11	SSO-44	7.76
SO-16	9.36	SSO-13	6.86	SSO-29	6.11	SSO-45	7.89

Our Stocks are Complete and up to date.

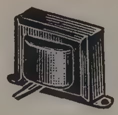
Write for information on new or unlisted items.

TRANSISTOR TRANSFORMERS (COMMERCIAL TYPE)

TRANSISTOR/FILAMENT SUPPLY TRANSFORMERS



CG Types



FT Type

CHANNEL FRAME TYPE

Primary, 115 VAC, 50/60 Hz. Test V rms, 1500.

UTC Type	Secondary VCT	Secondary Amps	Size, Inches W.	Size, Inches D.	Size, Inches H.	Size, Inches Mtg.	Wt., Lbs.	Each, 1-4
FT-1	2.5	3	2 7/8	1 5/8	1 11/16	2 3/8	3/4	$11.83
FT-2	6.3	1.2	2 7/8	1 5/8	1 11/16	2 3/8	3/4	10.46
FT-3	2.5	6	3 5/16	1 7/8	2	2 13/16	1	••
FT-4	6.3	3	3 5/16	1 7/8	2	2 13/16	1	12.08
FT-6	5	3	3 3/4	2 1/8	2 5/16	3 1/8	1 1/2	13.20
FT-7	7.5	3	3 3/4	2 1/8	2 5/16	3 1/8	1 1/2	13.76
FT-8	6.3	8	4	2 1/2	2 5/8	3 9/16	2 1/2	15.39
FT-10*	24	2	4	2 5/8	2 11/16	3 9/16	2 1/2	17.73
FT-11†	24	1	3 3/4	2 1/8	2 5/16	3 1/8	1 1/2	15.38
FT-12‡	36	1.3	4	2 5/8	2 5/8	3 9/16	2 1/2	18.48
FT-13§	26	.04	2 1/8	1 3/8	1 1/4	1 3/4	1/4	15.16
FT-14§	26	.25	2 7/8	1 5/8	1 11/16	2 3/8	3/4	14.26
FT-15§	48	1	4	2 1/2	2 5/8	3 9/16	2 1/2	21.06
FT-16§ #	11	2.5	3 3/4	2 1/8	2 5/16	3 1/8	1 1/2	19.26

*Or 12 V, 4 amps sec. †Or 12 V, 2 amps sec. ‡Or 18 V, 2.6 amps sec. §Taps on primary to modify sec. nom. voltage −6%, +6% and +12%. #Or 5.5 V, 5 amps sec.; for 120 V input, use 6% tap.

Primary, 105/115/210/220/230 VAC, 50/60 Hz

All are as above, except Type CG-34, 105/115/220/230 VAC. These transformers may be operated on 25 to 43 Hz if 220 V primary is utilized on 110 V; simultaneously the secondary voltage is reduced by half. **See another UTC page for complete listing of CG Series types and case dimensions.**

UTC Type	Secondary VCT	Secondary Amps	WVDC	Sec. Test V rms	Case No.	Each, 1-4
CG-33	6.3	4	500	2000	RC-75	••
CG-34	2.5	10	2500	6000	RC-112	••
CG-35	6.3	6	500	2000	RC-87	••
CG-121	5	25	5000	11000	RC-150	$66.08
CG-122	7.5/6.3	10	1500	4000	RC-125	••
CG-124	10	10	1500	4000	RC-150	••
CG-125	14/12/11	10	1500	4000	RC-150	••

••Prices on Request.

MILITARY DESIGNATIONS

MIL-T-27C INDUCTORS AND TRANSFORMERS

TF	4	R	X	01	FA
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ

MIL-T-21038B PULSE TRANSFORMERS

TP	6	R	X	1100	B	C
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓖ	Ⓗ	Ⓘ

MIL-F-18327B FILTERS

FR	4	R	X	11	YY
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓙ

MIL-F-18327C FILTERS

FR	4	R	X	11	YY	1
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓙ	Ⓚ

Ⓐ **Component:** TF indicates all MIL-T-27( ) transformers or inductors. TP indicates all MIL-T-21038B pulse transformers. FR indicates filters.

Ⓑ **Grade:** Refers to case material and environmental capability. MIL-T-27C, Grade 4 is metal-cased with max. reliability; resistant to shock, vibration and thermal shock. Grade 5 same as Grade 4 except encapsulated or molded. MIL-T-21038B, Grade 6 same as Grade 4, MIL-T-27C plus use at high altitudes if required. Grade 7 is encapsulated or molded version of Grade 6. MIL-F-18327C, Grade 4 is metal-cased for vibration frequency range 10 to 55 Hz. Grade 5 same as Grade 4 except encapsulated. Grade 6 is metal-cased for vibration frequency range 10 to 2000 Hz. Grade 7 is encapsulated version of Grade 6.

Ⓒ **Class:** Indicative of max. operating temperature (ambient plus temperature rise). R is 105° C. S is 130° C.

Ⓓ **Life Expectancy:** Designers estimate of mean anticipated life. X indicates 10,000 hours life estimated.

Ⓔ **Family:** Two-digit number code-listed in specification, representing each application or category of transformer and inductor. MIL-F-18327B or C, refers to application i.e., 11 is low pass, 22 is band pass and 33 is high pass.

Ⓕ **Case Size and Mounting:** Two-letter code listed in specifications. See table of sizes, below. YY is non-standard metal case. ZZ is encapsulated or molded.

Ⓖ **Turns Ratio:** Four-digit code indicates number of windings and their ratios; e.g., 1110 is 1:1:1.

Ⓗ **Case Style:** Single letter code for fixed case styles; i.e., A for radial leads and C for terminations at one end.

Ⓘ **Case Size:** Single letter code for fixed envelope dimension, as given in individual listings. Z indicates other sizes.

Ⓙ **Case or envelop size and mounting:** Two letters code as given in individual listing. YY indicates non standard metal case. ZZ indicates encapsulated or molded case.

Ⓚ **Composition:** 1 indicates LC, 2 indicates crystal and 3 indicates other electromechanical.

MIL-T-27C CASE SIZES

MIL Case	Size, Inches: Dimension A	B	C	D	E	Mounting Studs
AF	3/4	3/4	1 1/8	Diag.	9/16	4-40 x 3/8
AG	1	1	1 3/8	Diag.	3/4	4-40 x 3/8
AH	1 5/16	1 5/16	1 3/4	Diag.	1 1/4	6-32 x 3/8
AJ	1 5/8	1 5/8	2 3/8	1 3/16	1 3/16	6-32 x 3/8
EA	1 15/16	1 13/16	2 3/4	1 3/8	1 1/4	6-32 x 3/8
EB	1 15/16	1 13/16	2 7/16	1 3/8	1 1/4	6-32 x 3/8
FA	2 5/16	2 1/16	3 1/8	1 11/16	1 7/16	6-32 x 3/8
FB	2 5/16	2 1/16	2 1/2	1 11/16	1 7/16	6-32 x 3/8
GA	2 3/4	2 3/8	3 13/16	2 1/8	1 3/4	6-32 x 3/8
GB	2 3/4	2 3/8	2 13/16	2 1/8	1 3/4	6-32 x 3/8
HA	3 1/16	2 5/8	4 1/4	2 19/64	1 55/64	8-32 x 3/8
HB	3 1/16	2 5/8	3 3/16	2 19/64	1 55/64	8-32 x 3/8
JA	3 9/16	3 1/16	4 7/8	2 5/8	2 1/8	8-32 x 3/8
JB	3 9/16	3 1/16	3 7/8	2 5/8	2 1/8	8-32 x 3/8
KA	3 15/16	3 3/8	5 1/4	3	2 7/16	10-32 x 1/2
KB	3 15/16	3 3/8	4 5/16	3	2 7/16	10-32 x 1/2
LA	4 5/16	3 11/16	5 9/16	3 5/16	2 11/16	10-32 x 1/2
LB	4 5/16	3 11/16	4 1/2	3 5/16	2 11/16	10-32 x 1/2
MA	4 11/16	4	6	3 11/16	3	1/4-20 x 5/8
MB	4 11/16	4	4 15/16	3 11/16	3	1/4-20 x 5/8
NA	5 1/16	4 5/16	6 13/16	4 1/16	3 5/16	1/4-20 x 5/8
NB	5 1/16	4 5/16	5 1/2	4 1/16	3 5/16	1/4-20 x 5/8
OA	5 1/2	4 1/2	6 3/4	3 3/4	3	1/4-20 x 5/8

★UTC trademark.

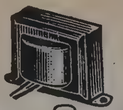
OUR STOCKS ARE FULLY UP TO DATE WITH ALL THE LATEST PRODUCTS.
ASK ABOUT NEW OR UNLISTED ITEMS.

TRW UTC TRANSFORMERS

A

C

B


E

D

F

G

REPLACEMENT TYPE COMPONENTS

All units vacuum sealed. Shells and brackets finished in high luster black enamel. A minimum number of transformers have been developed to cover any requirement in the replacement field.

STEP-DOWN AUTO-TRANSFORMERS (FIG. A)

220/240 to 110/120 VAC, 50/60 Hz

With 6-ft. cord and female receptacle, except R-64.

UTC Type	Rating	Size, Inches			Wt., Lbs.	Net Ea., 1-4
		L.	W.	H.		
R-41	85 watt capacity	3 3/16	2⅝	3⅛	4	$ 37.94
R-42	125 watt capacity	3½	3	3½	5	40.00
R-43	175 watt capacity	3¾	3¼	3⅞	5½	44.10
R-44	250 watt capacity	4⅜	3¼	3⅞	6½	48.76
R-45	500 watt capacity	4⅝	3⅞	4⅝	12	61.47
R-46	1200 watt capacity	6⅞	3⅞	4⅝	18	101.21
R-64	2500 watts, no cord	10½	4¾	6¾	30	172.68

DOUBLE SHELL POWER TRANSFORMERS (FIG. B)

Rectifier filaments 5 volts, 3 amps except R-101, 2 amps.

UTC Type	High V	DC mA	Amplifier Filament	Overall Height	Wt., Lbs.	Net Ea., 1-4
R-101	275-0-275	50	6.3 VCT-2.7A	3″	2½	$24.59
R-103	350-0-350	90	6.3 VCT-3A	3 15/16″	4½	••
R-105	385-0-385	160	6.3 VCT-5A	4 5/16″	7	38.48

VERTICAL SHELL POWER TRANSFORMERS (FIG. C)

Rectifier filaments 5 volts, 3 amps, except R-110, 2 amps.

R-110	300-0-300	50	6.3 VCT-2.7A	3¼″	2½	$31.14
R-111	350-0-350	70	6.3 VCT-3A	3¼″	3½	••

EXPORT VOLTAGE ADAPTER (FIG. D)

Complete with cord, plug and locking switch selecting operation from 105, 115, 125, 135, 150, 210, 230, 250, VAC, 42–60 Hz. Output voltage 115 VAC.

UTC Type	Rating, Watts	Size, Inches			Mtg. Size, Inches	Wt., Lbs.	Net Ea., 1-4
		L.	W.	H.			
R-47A	85	4⅝	3	3½	2¼ x 2¼	4½	$41.06
R-48A	150	4¾	3¼	4	2½ x 2½	5½	41.88

LINE VOLTAGE ADJUSTERS WITH METER (FIG. G)

Adjusts abnormal or fluctuating line voltages. Adjust switch so that meter reads at red line and then the correct line voltage for your equipment is provided. These units combine a tapped autoformer, switch and meter in a rugged, compact assembly. Switch is nine-position type and adjusts for line voltages, 60-140 volts on 115 V output models and 160–240 V on 230 V output model. All units are designed for 50/60 Hz service and come complete with 6′ cord and plug and output receptacle.

UTC Type	Primary Voltages	Second. Volts	Watts Rating	Size, Inches			Wt., Lbs.	Net Ea., 1-4
				L.	W.	H.		
R-79	†	115	300	7½	4 1/16	4¾	9	••
R-80	†	115	600	10½	4 1/16	4¾	13	$100.20
R-81	†	115	1200	10½	4 1/16	4¾	21	135.87
R-86	‡	230	1200	10½	4 1/16	4¾	21	••

†60, 70, 80, 90, 100, 110, 120, 130, 140 volts. ‡160, 170, 180, 190, 200, 210, 220, 230, 240 volts.

TV VOLTAGE REGULATOR (FIG. D)

With cord, plug and locking switching selecting 115 VAC, 50–60 Hz from 85, 90, 95, 100, 105, 110, 120, 125 VAC input.

R-49A	350	5	3¼	4	2½ x 2¾	5	$44.17

CHANNEL FRAME FILTER REACTORS (FIG. E)

Inductance shown is at rated mADC. Test V rms, 1,500.

UTC Type	Induct. H	Cur. mA	Res., Ohms	Size, Inches				Wt., Lbs.	Each, 1-4
				W.	D.	H.	Mtg.		
R-14	8	40	250	2⅞	1½	1 11/16	2⅜	¾	$ 7.12
R-16	15	30	630	2⅞	1½	1 11/16	2⅜	¾	••
R-17	20	40	850	3 5/16	1⅝	2	2 13/16	1	••
R-19	14	100	450	3¾	1⅞	2 5/16	3⅛	1½	11.05
R-20	5	200	90	4⅛	2¼	2⅝	3 9/16	2½	13.01
R-220	100/8* 25/2*	2.5 A 5 A	.6 .16	3¾	2	2 5/16	3⅛	1½	13.59

*Millihenries.

ISOLATION TRANSFORMERS (FIG. F)

Ideal for isolating line noise, AC-DC sets, etc. Excellent electrostatic shielding 1,500 volt breakdown test. Complete with 6′ cord and female receptacle, except UTC Type R-77. Primary, 110–120 VAC, 50/60 Hz. Secondary, 110–120 V, except UTC Type R-97, 220 VAC primary, 120 VAC secondary.

UTC Type	Rating, Watts	Size, Inches			Mtg. Size, Inches	Wt., Lbs.	Net Ea., 1-4
		L.	W.	H.			
R-72	40	3⅛	2⅝	3⅛	2 x 1⅞	4	$ 41.88
R-73	100	3¾	3¼	3⅞	2½ x 2⅜	6	47.94
R-74	250	4⅞	3⅞	4⅝	3 x 3½	12	65.67
R-75	600	7⅜	3⅞	4⅝	3 x 5⅞	20	124.45
R-76	1200	8½	4½	6⅛	3⅝ x 6⅝	30	188.65
R-77	2500	12	7	9	6 x 11	70	380.00
R-97	250	4⅞	3⅞	4⅝	3 x 3½	12	62.52

★UTC trademark. ••Prices on Request.

LOW CURRENT CONTROL TRANSFORMERS

Three isolated 12-volt secondaries (one with center tap) provide many combinations of output voltages and currents by series or parallel combinations. Primaries for 117 VAC, 50/60 Hz.

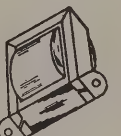
UTC Type	Each Secondary Amps.	Termination	Size, Inches				Fig.
			H.	W.	D.	Mtg.	
UP8361	0.10	Leads	1¾	2	1½	1¾	S
UP8363	0.25	Leads	2⅜	2⅞	1¾	2⅜	S
UP8364	0.50	Leads	2⅜	2⅞	2⅛	2⅜	S

FILTER CHOKES

UTC Type	Inductance Hz	DC mA	DC Resis. Ohms	RMS Test Voltage	Termination	Size, Inches			Fig.
						H.	W.	D.	
UC3X	10.0	50	500	1500	Leads	1⅝	2 13/16	1½	A
UC8X	7.0	75	240	1500	Leads	1 15/16	3 5/16	1¾	A
UC1706	4.5	50	300	1500	Leads	1⅜	2⅜	1 11/32	A
UC15A	4.0	250	100	1500	Leads	3 3/16	2 21/32	2⅝	C
UC27X	0.7	290	30	1500	Leads	1⅝	2 13/16	1½	A
UC40X	0.32	600	10	1500	Leads	1 15/16	3 5/16	2	A
UC2685	0.035	2000	0.75	1500	Leads	2 5/16	2⅝	2⅛	NH

TRANSISTOR AUDIO TRANSFORMERS

UTC Type	Primary		Secondary		Max. Level Watts	Frequency Range Hz	Fig.
	Imp. Ohms	Res. Ohms	Imp. Ohms	Res. Ohms			
UTA2	100 CT	4.3	10 CT	0.8	.25	100–20,000	A
UTA39	100 CT	10.9	4, 8, 16	1.45	.30	75–20,000	A
UTA7	100	12.0	100 CT	12.0	.50	50–10,000	A
UTA38	500 CT	62.0	150 CT	21.2	.15	100–20,000	A1
UTA59	500 CT	36.5	200 CT	15.5	.50	400–15,000	A
UTA52	500 CT	40.0	500 CT	55.0	.30	100–20,000	A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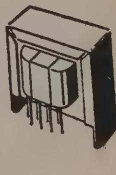
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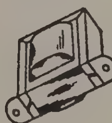
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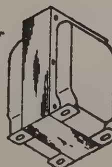
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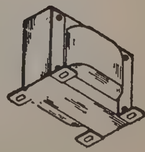
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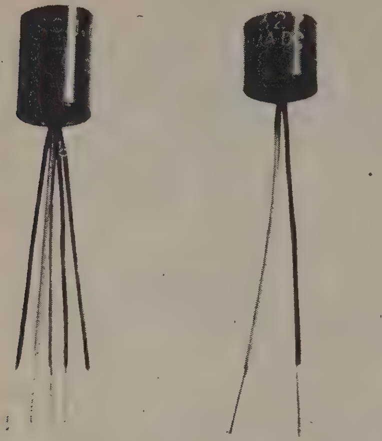
ULTRAMINIATURE INDUSTRIAL SIGNAL OR AUDIO TRANSFORMERS



I-DO-T and I-DI-T transformers are industrial quality counterparts of TRW/UTC's DO-T and DI-T line of MIL-Spec transformers. Electrical performance is identical, but environmental specifications, such as hermetic sealing, have been relaxed to reduce cost. Performance in power-handling capability and reliability, combined with small size, make I-DO-T and I-DI-T transformers unprecedented for industrial use. Electrical parameters and areas of application exceed conventional transformer capabilities. Plastic casings are designed for protection to 85° C. Circular wire turns on completely rigid bobbin reduces turn corner stress and assures uniform wire lay. Insulated external leads are rigidly anchored internally. Leads are constructed of .016″dia. tinned copper, 1½″ long. Units mount either vertically or on side; can be wave soldered. Impedances listed are the range of matching impedance over which the units will give satisfactory performance as long as the impedance ratio is maintained. **Working Voltage:** 50 V. **Freq. Response:** I-DO-T, ±3 dB, 300 Hz to 20 kHz; I-DI-T, ±3 dB, 400 Hz to 100 kHz. **Max. Operating Temperature:** +85° C. **Size:** I-DO-T, 25/64″ dia. x ½″ long (max.); I-DI-T, 25/64″ dia. x 1 1/32″ long (max.).

UTC Type I-DO-T-	Unbal. Pri. DC mA	Impedance, Ohms		Turns Ratio Pri.:Sec.	Net Ea., 1-4
		Primary	Secondary		
101	0.5	20K–30K	800–1.2K	5:1	$ 7.06
102	3	500–600	50–60	3.16:1	6.68
103	3	1K–1.2K	50–60	4.46:1	6.68
104	3	600	3.2	13.7:1	6.81
105	2	1.2K	3.2	19.35:1	6.81
106	1	10K	3.2	55.7:1	7.06
107	0	200K	1K	14.14:1	11.42
109	1	10K–12K	500–600 CT	4.48:1	7.30
110	1	10K–12.5K	1.2K–1.5K CT	2.89:1	7.30
111	1	10K–12.5K	2K–2.5K CT	2.24:1	7.30
112	10	150–200 CT	12–16	3.54:1	7.06
113	7	300–400 CT	12–16	5:1	7.06
114	5	600–800 CT	12–16	7.07:1	7.06
115	4	800–1070 CT	12–16	8.15:1	7.06
116	3.5	1K–1.33K	12–16	9.15:1	7.06
117	3	1.5K–2K CT	12–16	11.2:1	7.06
118	1	7.5K–10K CT	12–16	25:1	7.06
119	7	300 CT	600	1:1.41	7.06
120	5.5	500 CT	600	1:1.1	7.06
121	4	900 CT	600	1.22:1	7.06
122	3	1.5K CT	600	1.58:1	7.06
123	0.5	20K–30K CT	800–1.2K CT	5:1	7.30
124	0	200K CT	1K CT	14.14:1	12.43
125	1	10K–12K CT	1.5K–1.8K CT	2.58:1	7.57
129	10	120–150 CT	3.2–4	6.12:1	7.06
130	7	320–400 CT	3.2–4	10:1	7.06
131	5	640–800 CT	3.2–4	14.1:1	7.06
132	4	800–1K CT	3.2–4	15.8:1	7.06
133	3.5	1060–1330 CT	3.2–4	18.2:1	7.06
134	0.3	1.6K–2K	3.2–4	22.4:1	7.06
135	1	8K–10K CT	3.2–4	50:1	7.06
136	1	10K–12K CT	10K–12K CT	1:1	9.09
137	3	2K–2.5K CT	8K–10K*	1:2	8.09
138	3	10K–12K CT	2K–2.4K*	2.24:1	8.09
139	0.5	20K–30K CT	1K–1.5K*	4.47:1	8.09
140	0.25	40K–50K CT	400–500*	10:1	8.97
141	8/6	400–500 CT	400–500*	1:1	7.71
142	8/6	400–500 CT	120–150*	1.82:1	7.71
143	8/6	400–500 CT	40–50*	3.16:1	7.71
144	12/10	80–100 CT	32–40*	1.58:1	7.71
145	3.5	1K–1.25K CT	16K–20K*	1:4	8.46
146	0	100K CT§	500 CT	14.14:1	12.71
147	1	9K–10K CT§	9K–10K CT	1:1	8.97
148	1	8K–10K CT§	1.2K–1.5K CT	2.58:1	8.09
151	3	2K–2.5K CT	2K–2.5K*	1:1	7.96
152	2	4K–5K CT§	8K–10K CT	1:1.41	7.96
153	8/6	400–500 CT	4K–5K CT	1:3.33	7.96
154	0.25	40K–50K CT	4K–5K CT	3.33:1	8.74
155	4	600 CT	600 CT	1:1	8.74
SH	Shield, Hipermalloy electromagnetic				1.63

§Electrostatic shield. *Split.

UTC Type I-DI-T-	Unbal. Pri. DC mA	Impedance, Ohms		Turns Ratio Pri.:Sec.	Net Ea., 1-4
		Primary	Secondary		
301	0.5	20K–30K	800–1.2K	5:1	$7.06
302	3	500–600	50–60	3.16:1	6.68
303	3	1K–1.2K	50–60	4.46:1	6.68
305	2	1.2K	3.2	19.35:1	6.81
309	1	10K–12K	500–600	4.48:1	7.57
310	1	10K–12.5K	1.2K–1.5K CT	2.89:1	7.57
311	1	10K–12.5K	2K–2.5K CT	2.24:1	7.57
319	7	300 CT	600	1:1.41	7.06
320	5.5	500 CT	600	1:1.1	7.06
321	4	900 CT	600	1.22:1	7.06
322	3	1.5K CT	600	1.58:1	7.06
323	0.5	20K–30K CT	800–1.2K CT	5:1	7.96
325	1	10K–12K CT	1.5K–1.8K CT	2.58:1	7.96
336	1	10K–12K CT	10K–12K CT	1:1	8.09
337	3	2K–2.5K CT	8K–10K*	1:2*	8.35
338	1	10K–12K CT	2K–2.4K*	2.24:1	8.35
341	8/6	400–500 CT	400–500*	1:1	8.09
343	8/6	400–500 CT	40–50*	3.12:1	7.96
344	12/10	80–100 CT	32–40*	1.58:1	7.96
351	3	2K–2.5K CT	2K–2.5K*	1:1	8.24
352	2	4K–5K CT§	8K–10K CT	1:1.4	8.24

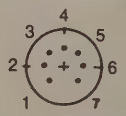
§Electrostatic shield. *Split.

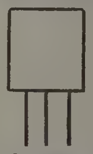
I-DO-T AND I-DI-T INDUCTORS

UTC Type	Connections	Inductance, H*	@ mA DC	DC Res. ±25%	Ratio of Wedges	Net Ea., 1-4
I-DO-T108	....	3.5	2	560	....	$6.19
I-DO-T126	....	6	2	2.1K	....	6.68
I-DO-T127	....	1.25	2	100	....	6.19
I-DO-T128	....	0.3	4	25	....	6.19
I-DO-T149	Series	20	1	5.1K	1:1	8.09
	Parallel	5	2	1275		
I-DO-T150	Series	0.075	10	10.5	1:1	7.06
	Parallel	0.018	20	2.6		
I-DI-T308	....	2.5	2	630	....	6.81
	....	.9	4	630		
I-DI-T326	....	4.5	2	2.3K	....	6.68
	....	1.2	4	2.3K		
I-DI-T327	....	0.9	2	105	....	6.19
	....	0.5	6	105		
	....	0.5	6	105	....	
I-DI-T328	....	0.1	4	25	....	6.19
	....	0.08	10	25	....	

*Min. at 1 kHz, 5 V.

PC I-DI-T TRANSFORMERS AND INDUCTORS





Printed circuit version of I-DI-T transformers and inductors. Same electrical characteristics. **Size:** .390″ dia. x .406″ lg. **Leads:** .016″ ±.002″ dia., gold-plated, uninsulated Dumet wire; spaced equally as for 8 pins on a .200″ diameter. **Lead Length:** 1″ ±¼″. **Freq. Response:** ±3 dB, 400 Hz at 1 mW. **Reference Level:** 1 kHz.

UTC Type I-DI-T-	Unbal. Pri. DC mA	Impedance, Ohms		Turns Ratio Pri.:Sec.	Net Ea., 1-4
		Primary	Secondary		
525	12/10	80–100 CT	32–40*	1.58:1	$10.15
530	7	300 CT	600 CT	1:1.41	9.38
535	8/6	400–500 CT	40–50*	3.11:1	10.15
540	8/6	400–500 CT	400–500*	1:1	10.15
545	3	500–600 CT	50–60 CT	3.16:1	9.38
550	5.5	500 CT	600 CT	1:1.1	9.38
555	3	1K–1.2K CT	50–60 CT	4.46:1	9.38
560	3	1.5K CT	600 CT	1.58:1	9.38
565	3	2K–2.5K CT§	8K–10K*	1:2	10.80
570	1	10K–12K CT	500–600 CT	4.48:1	9.64
573	1	10K–12.5K CT	1.2K–1.5K CT	2.89:1	9.64
578	1	10K–12K CT	2K–2.5K*	2.24:1	10.80
583	1	10K–12K CT	10K–12K CT	1:1	10.02
588	0.5	20K–30K CT	800–1.2K CT	5:1	9.51

§Electrostatic shield. *Split.

PC I-DI-T INDUCTORS

UTC Type	Connections	Inductance, H*	@ mA DC	DC Res. ±25%	Ratio of Wedges	Net Ea., 1-4
I-DI-T504	Series	0.1	4	25	1:1	$8.09
	Parallel	0.025	8	6		
I-DI-T508	Series	0.9	2	105	1:1	8.35
	Parallel	0.2	4	26		
I-DI-T512	Series	2.5	2	630	1:1	8.35
	Parallel	6	4	157		
I-DI-T516	Series	4.5	2	2.3K	1:1	8.86
	Parallel	1.1	4	575		

*Min. at 1 kHz, 5 V.

Note: Connect signal lines to pins 1 and 4. For series operation, short pins 2 and 3; for parallel, short pin 1 to pin 2 and 3 to 4.

GENERAL ELECTRIC Industrial Tubes

POWER • INDUSTRIAL RECEIVING • BROADCAST • CAMERA

2C39B, 6897

6005/6AQ5W

7391

2C40A, 2C43

GL-5551A

GENERAL ELECTRIC TYPE	NET EACH
OA2	$ 2.10
OA3	5.25
OA4G	5.30
OB2	2.50
OB3	5.05
OC3	3.90
OD3	4.70
OD3A	4.70
1P40	10.45
2B22	96.91
2C39A	35.00
2C39B	110.64
2C39BA	44.80
2C39WA	43.40
2C40A	93.78
2C42	88.97
2C43	71.74
2C46	99.29
2D21	2.75
2E26	9.30
3B24W	18.40
3B28	13.45
3C23	11.82
3CX1000A7/8283	315.00
3CX2500A3/8161	240.00
3CX2500F3/8251	245.00
3CX3000A1/8238	275.00
3CX3000F1/8239	285.00
4-65A/8165	43.70
4-250A/5022	66.70
4-400A/8438	69.90
4-400C/6775	89.30
4-1000A/8166	220.00
4CX250B/7203	41.80
4CX300A/8167	127.00
4CX350A/8321	69.75
4CX1000A/8168	296.00
4CX1500B/8860	300.00
4CX3000A/8169	615.00
4CX5000A/8170	600.00
4CX15000A/8281	970.00
4D21/4-125A	76.35
4E27/5-125B	131.00
4PR60C/8252W	172.00
4X150A/7034	41.90
4X500A	196.00
5R4GA	4.10
5R4GYB	3.60
6AC7	6.55
6AG7	7.65
6AK5WB*	7.60
6AN5	5.40
6AS6	6.00
6AS7GA	8.30
6C4WA*	4.25
6C5	7.80

GENERAL ELECTRIC TYPE	NET EACH
6D4	$ 5.50
6DJ8/ECC88	3.20
6F5	7.00
6F6	7.00
6H6	5.70
6J5	6.15
6K7	7.35
6L6WGB	7.60
6N7	7.40
6SA7	6.40
6SC7	6.55
6SF5	6.70
6SG7	6.70
6SH7	7.25
6SJ7	6.70
6SK7	6.45
6SQ7	6.30
6V6	6.40
12AX7WA*	8.05
12AY7	4.60
12H6	6.15
12SA7	6.40
12SF5	6.70
12SG7	7.25
12SH7	8.00
12SJ7	6.75
12SK7	6.45
12SQ7	6.40
12SR7	7.05
FG-81A	58.91
83	8.05
FG-97	118.31
FG-98A	119.57
FG-105	64.68
FG-172	340.00
250R	99.85
FG-280	285.00
304TL	137.90
393A	19.20
407A	7.65
408A	7.20
GL-414	655.00
575A	29.15
610/7723	17.50
615	13.45
672A	60.00
673	29.05
678	69.70
710/6011	15.18
710L/7518	17.94
807	8.55
810	51.50
811A	17.50
812A	17.50
813	44.00
816	12.75

GENERAL ELECTRIC TYPE	NET EACH
829B	$ 49.15
832A	39.25
833A	104.50
GL-857B	345.00
862A	2500.00
866A	9.10
GL-869B	255.00
GL-870A	3305.00
872A/872	15.50
892/892A	197.05
A0897	12.75
927	10.75
930	21.85
931A	4.10
2050A/2050	5.10
GL-5513	1360.00
5544/734	42.85
GL-5550/-1	96.00
GL-5551A	110.00
GL-5551A/PC	115.00
GL-5552A	166.00
GL-5552A/PC	172.00
GL-5553B	460.00
GL-5553B/PC	470.00
GL-5554	390.00
GL-5555	580.00
GL-5556	130.00
5557	11.25
5558	21.50
5559	29.30
5560	40.00
5561	85.90
5563A	69.50
GL-5564	1500.00
5575/100/616	360.00
5576/200	370.00
5606	495.00
5606A	515.00
GL-5630	3410.00
5632/C3J	18.90
5642	5.30
5651	2.95
5654/6AK5W*	3.60
5663	5.60
5665/C16J	83.80
5670*	4.60
5675	18.90
5684/C3J/A	19.25
5686*	5.85
5687*	6.95
5687WA*	7.00
5687WB*	7.00
5691	17.75
5692	12.80
5693	18.40
5696A	4.00
5718	6.60
5720	59.40
5725/6AS6W*	5.50
5726/6AL5W*	3.60
5727*	4.85
5736/473*	295.00
5749/6BA6W*	5.35
5750/6BE6W*	5.75
5751*	4.70
5763	4.20
GL-5788	1080.00
5814A*	4.05
GL-5822A	210.00
GL-5822A/PC	216.00
5823	2.65
5824	11.15
5842/417A	11.85
5844	5.55
5847/404A	13.85
5855	225.83
5881	4.40
5886	10.45
5894/A	49.75
5896	6.60
5902	7.00
5918A	1200.00
5963	3.05
5964	3.90
5965A	3.60
5998A	20.70
6005/6AQ5W*	5.90
6012	16.85
6014/C1K	17.95
6046	4.30
6072A*	6.10
6076	470.00

GENERAL ELECTRIC TYPE	NET EACH
6080	$ 15.70
6111	4.55
6134*	14.40
6135*	4.45
6136*	5.15
6137*	7.25
6146A	7.75
6146B/8298A	7.75
6161	246.00
6189/12AU7WA*	6.35
6197	4.60
6201*	5.25
6202*	4.20
6203*	8.15
6211A	4.40
6216	7.90
GL-6228	4840.00
GL-6251	5430.00
6265*	8.45
6268/4C35A	110.00
GL-6283	890.00
6299	197.62
6350	4.20
6360	9.90
6386*	16.65
6442	68.60
6463	4.90
6485	3.50
GL-6512	720.00
GL-6513	960.00
GL-6514	1330.00
GL-6515	1800.00
6550A	8.15
6660/6BA6	3.30
6661/6BH6	3.45
6662/6BJ6	3.90
6663/6AL5	2.75
6664/6AB4	3.65
6669/AQ5A	3.15
6676/6CB6A	2.75
6677/6CL6	4.55
6678/6U8A	3.30
6679/12AT7	3.00
6680/12AU7A	2.60
6681/12AX7	2.60
6688*	11.15
6771	119.00
6807	83.64
6808	83.88
6809	85.14
6829*	14.45
6858/760	41.35
6859/760P	43.40
6883A	7.10
6883B/8032A/8552	8.25
6884	49.00
6897	110.64
6907	76.35
6922/E88CC	6.85
6939	23.50
GL-6942	1880.00
7034	36.00
7036	5.90
7038	182.00
7038V	220.00
7038V4	285.00
7044	5.65
7054	3.25
7056	2.40
7058	3.85
7059	2.95
7060	4.75
7061	4.60
7077	79.52
GL-7151	1360.00
7167	3.20
GL-7171	99.00
7211	64.40
7233	6.05
7239	15.60
7262A	205.00
7263A	400.00
7266	90.64
7289/3CX100A5	43.40
7296	141.40
7370	21.20
7391	212.15
GL-7399	865.00
7410	12.75
7462	95.17
7486	79.52
7551	5.90

*Five Star type. /PC—indicates plastic coated.

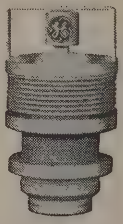
GENERAL ELECTRIC Industrial Tubes

POWER • INDUSTRIAL RECEIVING • BROADCAST • CAMERA

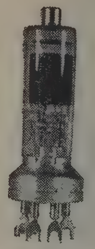
GENERAL ELECTRIC TYPE	NET EACH
7588	$ 271.08
7625	144.13
7644	281.54
GL-7669	110.00
GL-7669/PC	115.00
GL-7670	135.00
GL-7671	166.00
GL-7671/PC	172.00
GL-7673	460.00
GL-7673/PC	470.00
GL-7681	288.00
GL-7681/PC	294.00
7698	64.40
7698R	64.40
7701	4.65
GL-7703	269.00
7716	3.95
7717	3.95
7720	138.94
7724	3.30
7725/710A	26.95
7726/710AL	28.65
7734	12.35
7735	44.00
7735A	115.00
7735B	165.00
7735BX	390.00
GL-7736	1780.00
7768	242.68
7784	277.96
7815/3CPN10A5	43.40
7815R	44.80
7841	101.02
7861*	7.15
7910	203.36
7911	258.42
Z-7911	79.00
Z-7912	585.00
7913	327.89
Z-7927A	430.00
Z-7927 IND.	325.00
Z-7927ARB	555.00
Z-7927 IND. RB	442.00
Z-7929	389.00
Z-7929B	1108.00
Z-7929G	1108.00
Z-7929R	1108.00
Z-7933	585.00
Z-7963	247.00
GL-7964	120.00
Z-7975A	555.00
Z-7975C	300.00
Z-7975 IND.	$ 375.00
Z-7975A RB	595.00
Z-7975 IND. RB	525.00
7984	9.90
Z-7996A	555.00
Z-7996 IND.	375.00
Z-7996A RB	595.00
Z-7996 IND. RB	525.00
GL-7998	288.00
Z-7998	295.00
8005	59.70
8008	16.25
VW8020	25.40
8042/4652	28.75
8068	8.55
8077/7054	2.60
8082	126.07
8083	126.07
8102	3.15
8106	2.90
8134	160.00
8134V	405.00
8136	2.60
8156	9.35
GL-8205	1395.00
8233	35.40
8295A	340.00
GL-8360	135.00
GL-8465	1080.00
GL-8466	1180.00
8484	195.00
8484H	210.00
GL-8500	865.00
8507	79.00
8507A	190.00
8533	89.60
8541	89.00
8541A	190.00
8541X	355.00
8572	240.00
8572V	259.00
8572V4	325.00
8573A	250.00
8573X	407.00
8604	326.00
8643	100.00
8745	44.80
8751	305.16
GL-8866	935.00
8906	61.60
8907	61.60
8908	9.35
8950	7.80

*Five-Star type. /PC—Indicates plastic coated.

8572



GL-6283, GL-7399



GL-710L/7518

6807

GENERAL ELECTRIC TYPE	NET EACH
GE-13971	$ 163.18
GE-14501	84.42
GE-14811	166.58
GE-15371	77.76
GE-15375	102.73
GE-16231	178.74
GE-16411	110.52
GE-16841	133.15
GE-17241	55.45
GE-17701	304.20
GE-18651	181.97
GE-21351	$ 100.79
GL-37285	470.00
GL-51025	615.00
GL-51026	615.00
GL-51038	825.00
GL-51038R	935.00
GL-51064	1880.00
GL-51065	825.00
GL-51070	825.00
GL-51074	615.00

McLEOD GAUGES

GENERAL ELECTRIC TYPE	NET EACH
N-24900 AAG1	$1140.00
N-24900 AAG2	1140.00
N-24900 AEG1	$ 425.00
N-24900 AEG2	425.00

IGNITOR LEADS

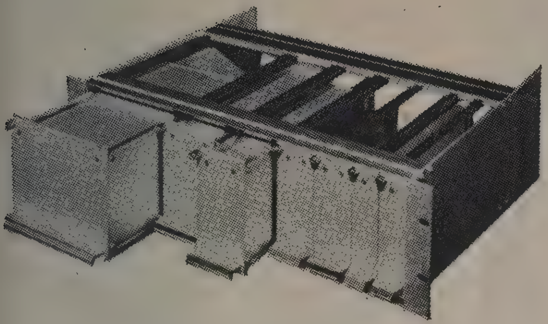
GENERAL ELECTRIC TYPE	NET EACH
N-22007LC	$6.00

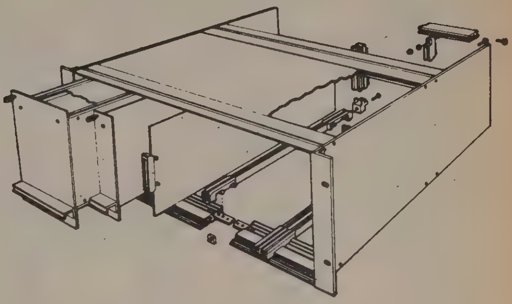
REED SWITCHES

GENERAL ELECTRIC	NET EACH, LOTS OF			
TYPE NO.	1-99	100-499	500-999	1000-9999
DR341-10/60	$1.042	$0.830	$0.620	$0.420
DR351-10/50	1.042	.830	.620	.420
DR401-15/55	1.032	.820	.610	.410
DR401-24/46	1.032	.820	.610	.410
DR401-32/54	1.032	.820	.610	.410
DR441-10/60	1.121	.902	.671	.451
DR442-20/50	1.602	1.289	.645	.480
DR600-75/105	.519	.413	.372	.332
DR600-30/50	.519	.413	.372	.332
DR601-30/130	1.080	.860	.750	.688
DR601-75/105	1.080	.860	.750	.688
DR602-40/100	1.165	.932	.816	.746
DR603-70/150	3.575	2.860	2.500	2.290
DR680-80/200	4.410	3.520	3.080	2.820
DR681-100/250	4.730	3.780	3.300	3.020
DR682-150/300	5.080	4.050	3.540	3.240
DR683-60/150	4.760	3.800	3.330	3.050

WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR UNLISTED ITEMS. NO SPECIAL ORDER NUMBERS NECESSARY, JUST USE THE MANUFACTURER'S MODEL NUMBERS.

Modular Packaging System





The industry's most advanced system. Simple in design, highly functional, easy to use and handsome in appearance. Available in a wide range of sizes in easy-to-assemble kits. Circuit boards and connectors are also available.

FEATURES

ACCURATE ALIGNMENT—Highly stable, one-piece, full length, glass loaded polycarbonate guides provide accurate alignment of circuit boards and edge connectors.

VARIABLE GUIDE SPACING—Plug-in guides can be spaced instantly on any pitch that is a multiple of 0.200″. Up to 42 circuit boards can be housed.

EASY INSERTION—Guides are flush with the front of the Sub-Rack.

NO PROFILING OF BOARDS—Specially designed connector end-foot provides lead-in for board and allows the edge connector to be the full height of the board.

SIMPLE RUGGED CONSTRUCTION—Sturdy aluminum extrusions and heavy gauge aluminum panels provide extreme rigidity.

EXTRA FLEXIBILITY—Components come in a wide range of sizes. The system adapts easily to your particular application.

OPTIONAL EXTRAS FOR SUB-RACKS

GUIDES—Two depths available to match the depth of the Sub-Rack.

TOP OR BOTTOM COVERS—Two depths available depending upon the depth of the Sub-Rack. No mounting screws required.

OVERALL FRONT PANELS—Three heights available to conform to the height of Sub-Rack. Four floating locks suggested.

CONNECTOR MOUNTING RAILS—Used only when connectors are not mounted directly to guides. Two of each required per connector. Also used for mounting rear panels.

DIVIDER PANELS—Available in three heights and two depths, and used for dividing the width of the Sub-Rack in sections.

SUB-RACK KITS

DISCOUNT SCHEDULE A APPLIES

Bud Number	Unit Height*	Depth	Net Each
SR-20101	2U	11.4″	$24.80
SR-20102	2U	14.1″	26.35
SR-20103	3U	11.4″	27.10
SR-20104	3U	14.1″	28.65

*One unit height equals 1.75 inches.

Bud Number	Unit Height*	Depth	Net Each
SR-20105	4U	11.4″	$29.85
SR-20106	4U	14.1″	32.15
SR-20107	5U	11.4″	31.15
SR-20108	5U	14.1″	33.55

*One unit height equals 1.75 inches.

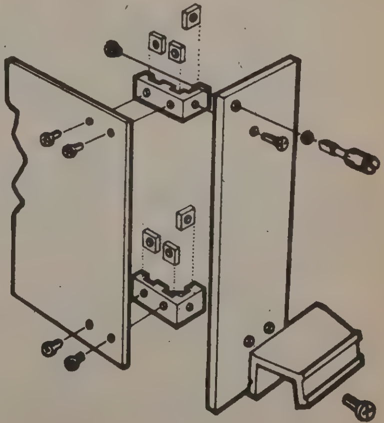
PRINTED BOARD UNIT KITS

Printed board units comprise a front panel, 2 board mounting blocks, a handle and a floating lock, together with the necessary assembly hardware. The units operate between a pair of one-piece, plug-in guides to assure accurate alignment.

DISCOUNT SCHEDULE C APPLIES

Bud Number	Fits Unit Height*	Width	Net Each
PBU-24101	3U	1.2″	$5.95
PBU-24102	4U	1.2″	6.10
PBU-24103	5U	1.2″	6.40
PBU-24104	3U	1.8″	6.15
PBU-24105	4U	1.8″	6.35
PBU-24106	5U	1.8″	6.75

*One unit height equals 1.75 inches.



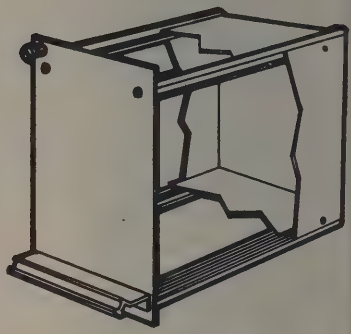
BUD Modular Packaging System

SUB-UNITS

DISCOUNT SCHEDULE B APPLIES

Bud Number	Fits Rack Height	Unit Width	Fits Rack Depth	Net Each
SU-22101	5.25″	2.4″	11.4″	$17.60
SU-22102	5.25″	2.4″	14.1″	18.05
SU-22103	7.00″	2.4″	11.4″	18.05
SU-22104	7.00″	2.4″	14.1″	18.95
SU-22105	8.75″	2,4″	11.4″	18.45
SU-22106	8.75″	2.4″	14.1″	19.40
SU-22107	5.25″	2.8″	11.4″	17.70
SU-22108	5.25″	2.8″	14.1″	18.65
SU-22109	7.00″	2.8″	11.4″	18.10
SU-22110	7.00″	2.8″	14.1″	19.05
SU-22111	8.75″	2.8″	11.4″	19.05
SU-22112	8.75″	2.8″	14.1″	20.00
SU-22113	5.25″	4.2″	11.4″	18.75
SU-22114	5.25″	4.2″	14.1″	19.55
SU-22115	7.00″	4.2″	11.4″	19.45
SU-22116	7.00″	4.2″	14.1″	19.80
SU-22117	8.75″	4.2″	11.4″	20.00
SU-22118	8.75″	4.2″	14.1″	21.00
SU-22119	5.25″	5.6″	11.4″	20.10
SU-22120	5.25″	5.6″	14.1″	20.95
SU-22121	7.00″	5.6″	11.4″	20.55
SU-22122	7.00″	5.6″	14.1″	21.15
SU-22123	8.75″	5.6″	11.4″	21.45
SU-22124	8.75″	5.6″	14.1″	22.50
SU-22125	5.25″	8.4″	11.4″	21.25
SU-22126	5.25″	8.4″	14.1″	22.40
SU-22127	7.00″	8.4″	11.4″	22.15
SU-22128	7.00″	8.4″	14.1″	23.25
SU-22129	8.75″	8.4″	11.4″	23.60
SU-22130	8.75″	8.4″	14.1″	24.75

These units consist of a front panel, rear panel, four runners, a deck plate and a handle with necessary assembly hardware.



OPTIONAL EXTRAS FOR SUB-UNITS

COVER PANELS—These slide into grooves on the top of the runners before rear panel is fitted. Available in 10 sizes.

SCREEN PLATES—Circuit boards may be replaced by screen plates on one or both sides of the unit. Available in six sizes Supplied with necessary hardware.

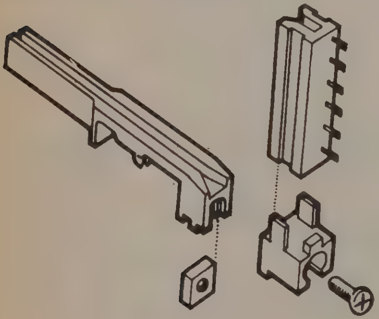
DECK PLATES—May be used at the top or bottom of the unit to support components. Necessary hardware furnished.

JACKING LOCKS—Can be supplied in lieu of standard floating locks if requested at time of order.

SOCKET MOUNTING PANELS—Used to mount a socket (or plug) to match with the plug (or socket) mounted on rear panel of Sub-Unit. Mounted directly to rear end of the guides. Furnished in three sizes to fit heights of Sub-Racks. Width is 2.4 inches. Necessary hardware furnished.

CONNECTOR END FEET

Provides lead-in for board and also allows edge connector to be full height of board. Avoids necessity of profiling.



COMPATIBLE SINGLE-SIDED CIRCUIT BOARDS

DISCOUNT SCHEDULE B APPLIES

Bud Number	Fits Sub-Rack Height, Nom.*	Fits Sub-Rack Depth, Nom.	No. of Contacts	Net Each
CB-21401	2U	11.4″	24	$13.65
CB-21402	2U	14.1″	24	15.50
CB-21403	3U	11.4″	40	17.80
CB-21404	3U	14.1″	40	20.25
CB-21405	4U	11.4″	58	14.80
CB-21406	4U	14.1″	58	17.20
CB-21407	5U	11.4″	76	19.45
CB-21408	5U	14.1″	76	22.30

*One unit height equals 1.75 inches.

CIRCUIT BOARD HANDLES

Bud Number CBH-21501—Mounting holes align with those in circuit board. Necessary hardware is included.

EDGE CONNECTORS

DISCOUNT SCHEDULE C APPLIES

No. Pins per Row	Fits Sub-Rack Height	Single Row Bud Numbers Solder Pin	Single Row Bud Numbers Mini-Wrap	Net Each	Double Row Bud Numbers Solder Pin	Double Row Bud Numbers Mini-Wrap	Net Each
24	3.50″	C-20901	C-20932	$3.10	C-20903	C-20904	$3.65
40	5.25″	C-20905	C-20906	4.80	C-20907	C-20908	5.60
58	7.00″	C-20909	C-20910	6.80	C-20911	C-20912	8.00
76	8.75″	C-20913	C-20914	8.70	C-20915	C-20916	10.25

DISCOUNT SCHEDULES

DISCOUNT SCHEDULE A

Quantity	Discount From Prices Shown	Quantity	Discount From Prices Shown
1-3	NONE	7-9	20%
4-6	10%	10-14	25%

DISCOUNT SCHEDULE B

Quantity	Discount From Prices Shown	Quantity	Discount From Prices Shown
1-9	NONE	15-19	20%
10-14	10%	20-24	25%

DISCOUNT SCHEDULE C

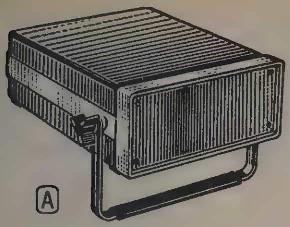
Quantity	Discount From Prices Shown	Quantity	Discount From Prices Shown
1-24	NONE	50-99	20%
25-49	10%	100-149	25%

DISCOUNT SCHEDULE D

Quantity	Discount From Prices Shown	Quantity	Discount From Prices Shown
1-49	NONE	100-149	20%
50-99	10%	150-199	25%

COMPLETE INFORMATION ON THE BUD MODULAR PACKAGING SYSTEM IS COVERED IN A 6-PAGE FOLDER—ASK FOR FORM NO. MPS-76RB OR A DEMONSTRATION

BUD Metal Cabinets and Doors



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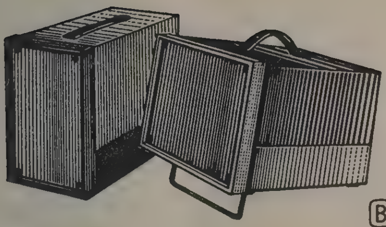


B

TR SERIES INSTRUMENT ENCLOSURES (FIG. A)

Versatile, functional, good looking instrument enclosures in four sizes, available immediately. Can be used as desk top instrument cases, in systems, or as portable enclosures. The TR Series is designed to accommodate an accessory chassis, also immediately available, or 1/16" thick printed circuit boards. Chassis is reversible, and two configurations are possible with one unit. Top and bottom of instrument enclosure are .050" aluminum; front panel, .090" aluminum. Top and bottom can be removed quickly for easy access to the unit's dust-free interior. Carrying handle is also used as tilting bail. Finished in mar-resistant, durable, easy to clean Nextel. Specify color by suffix, **BLN**, blue and white, or **BRN**, brown and white. Example: TR-6100**BLN.** Enclosure includes front panel, rubber feet and carrying handle. Weight: TR-6100, 4½ lbs.; TR-6101, 5½ lbs.; TR-6102, 7 lbs.; TR-6103, 9½ lbs.

Bud No.	Size, In.			Panel Space, In.	Net Each, Lots of		
	W.	D.	H.		1	2-4	5-9
TR-6100	8 5/16	10¾	3½	3¼ x 8 3/64	$77.00	$77.00	$69.30
TR-6101	8 5/16	13¼	5¼	5 x 8 3/64	82.40	82.40	74.15
TR-6102	11 1/16	13¼	7	6¾ x 10 53/64	90.25	90.25	81.25
TR-6103	12	18¾	8	7¾ x 11¾	97.45	97.45	87.70

CHASSIS FOR TR SERIES

Bud No.	Size, In.			Wt., Lbs.	Fits Cabinet	Net Each, Lots of		
	Length	Width	Height			1	2-4	5-9
TRC-610	10⅛	7¾	1¼	¾	TR-6100	$7.65	$6.95	$6.25
TRC-611	12⅝	7¾	1¾	1	TR-6101	8.00	7.25	6.55
TRC-612	12⅝	10½	1¾	1¼	TR-6102	9.00	8.20	7.40
TRC-613	18⅛	11 7/16	1¾	1¾	TR-6103	11.30	10.25	9.25

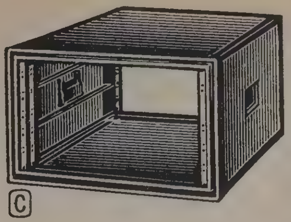
SHOWCASE (FIG. B)

Used as desk top instrument cases, in systems, in racks, as portable enclosures. Lightweight, but sturdy, comes in ten different sizes. Top, sides and bottom are .050" aluminum; front panel is .090", rear panel is .050" aluminum. Strong flexible handle. Two standard color combinations: Black textured (BT) and white; royal blue (RB) and white.

Bud No.	Size, In. W. x D. x H.	Wt., Lbs.	Net Each, Lots of		
			1	2-14	15-24
BB-1800	5½ x 11 x 6 7/16	3¾	$53.75	$53.75	$48.40
BB-1801	8 5/16 x 11 x 6 7/16	4	55.95	55.95	50.35
BB-1802	5½ x 11 x 8 3/16	3¾	55.35	55.35	49.80
BB-1803	8 5/16 x 11 x 8 3/16	5½	57.95	57.95	52.15
BB-1804	11 1/16 x 11 x 8 3/16	5¾	60.35	60.35	54.30
BB-1805	5½ x 11 x 9 15/16	4¾	56.05	56.05	50.45
BB-1806	8 5/16 x 11 x 9 15/16	5¼	58.35	58.35	52.50
BB-1807	8 5/16 x 15 x 9 15/16	6¼	62.35	62.35	56.10
BB-1808	11 1/16 x 11 x 9 15/16	6	60.70	60.70	54.65
BB-1809	11 1/16 x 15 x 9 15/16	7	64.40	64.40	57.95

ALUMINUM CHASSIS FOR SHOWCASE

Bud No.	Fits	Size, In. W. x D. x H.	Wt., Lbs.	Net Each
BBC-1821	BB-1800-02-05	4 29/32 x 9 31/32 x 2	½	$4.40
BBC-1822	BB-1801-03-06	7 11/16 x 9 31/32 x 2	¾	5.10
BBC-1823	BB-1804-08	10 15/32 x 9 31/32 x 2	1	5.70
BBC-1824	BB-1807	7 11/16 x 13 31/32 x 2	1	5.50
BBC-1825	BB-1809	10 15/32 x 13 31/32 x 2	1¼	6.60



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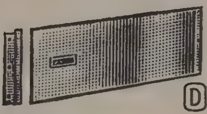

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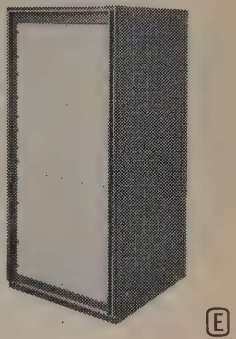


E

CLASSIC II CABINETS (FIG. C)

Combines serene rectilinear beauty with rugged construction. Double rim aluminum extrusion with edges polished, outlines front of cabinet. Two full-length steel flanges support the recessed anodized aluminum handles. Plain .060" aluminum panels on all four sides; textured finish. Clear inside depth, 20 9/16"; overall, 21 7/16". Specify color by suffix: **GT**, gray textured; **RB**, royal blue textured; **GD**, gold textured.

Bud No.	Overall Ht., In.	Panel Space, In.	Wt., Lbs.	Net Each, Lots of		
				1	2	3-4
AGC-9267	7 1/16	5 5/16	29¼	$159.15	$159.15	$143.25
AGC-9268	8 13/16	7 1/16	30½	163.45	163.45	147.10
AGC-9269	10 9/16	8 13/16	32¼	167,65	167.65	150.90
AGC-9270	12 5/16	10 9/16	33¼	168.30	168.30	151.45
AGC-9271	14 1/16	12 5/16	34¼	173.95	173.95	156.55
AGC-9272	15 13/16	14 1/16	35	178.00	178.00	160.20
AGC-9273	17 9/16	15 13/16	36	181,50	181.50	163.35
AGC-9274	19 5/16	17 9/16	36¾	185.35	185.35	166.80
AGC-9275	21 1/16	19 5/16	37¾	187.20	187.20	168.50
AGC-9276	22 13/16	21 1/16	38½	190.15	190.15	171.15
AGC-9277	24 9/16	22 13/16	39½	199.75	199.75	179.80
AGC-9278	26 5/16	24 9/16	40¼	202.05	202.05	181.85
AGC-9279	28 1/16	26 5/16	41¼	204.75	204.75	184.30
AGC-9280	29 13/16	28 1/16	42	209.05	209.05	188.15

CLASSIC II DOORS 19" WIDE (FIG. D)

Designed for use on Classic II Cabinets; also fit any rack or cabinet with 19" panel space by attaching to panel mounting rails. Made of ⅛" aluminum alloy 5005-H36. Stop fits on one panel mounting rail; hinged door attaches to other rail. Equipped with plated, flush-type latch. Finished in vinyl texture; specify color by suffix: **WH**, white textured; **S**, sand.

Bud No.	Height, In.	Wt., Lbs.	Net Each, Lots of		
			1	2-4	5-9
AGD-367	5¼	1¾	$16.10	$14.65	$13.20
AGD-368	7	2	19.00	17.25	15.55
AGD-369	8¾	2¾	20.95	19.05	17.15
AGD-370	10½	3	21.10	20.70	18.65
AGD-371	12¼	3½	24.55	22.30	20.05
AGD-372	14	4	25.05	22.75	20.50
AGD-373	15¾	4¾	25.65	25.65	23.10
AGD-374	17½	5	27.75	27.75	25.00
AGD-375	19¼	5½	29.70	29.70	26.75
AGD-376	21	6¼	31.65	31.65	28.50
AGD-377	22¾	6¾	33.15	33.15	29.85
AGD-378	24½	7¼	34.75	34.75	31.30
AGD-379	26¼	7½	36.75	36.75	33.10
AGD-380	28	8	39.30	39.30	35.35

CLASSIC II CABINET RACKS (FIG. E)

Clean, contemporary designed and dependable racks. Side panels and door are 18 gauge steel; top and bottom are 16 gauge steel. Double rimmed, brushed aluminum extrusion around front adds to the appearance of the rack. Comes in four sizes, and in two standard colors; gray textured **(GT)** and royal blue **(RB)**; select white **(WH)** for panels and doors. **Size:** 22" w. x 22" d. Rear doors included.

Bud No.	Height, Inches	Panel Ht.,In.*	Wt., Lbs.	Net Each, Lots of		
				1	2	3-4
AGR-9302	47 5/16	42	126	$244.65	$244.65	$220.20
AGR-9303	57 13/16	52½	146	271.75	271.75	244.60
AGR-9304	66 9/16	61¼	162	301.95	301.95	271.75
AGR-9306	82 5/16	77	181	345.85	345.85	311.25

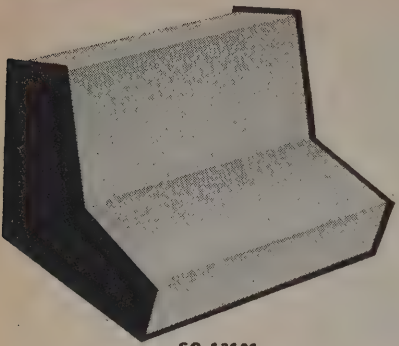
*On 19" width.

FRONT DOORS FOR CLASSIC II RACKS

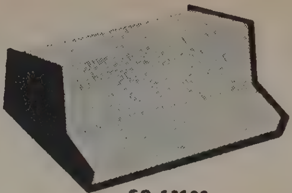
Rear doors included with racks.

Bud No.	Fits Rack	Wt., Lbs.	Net Each, Lots of		
			1	2	3-4
AGD-932	AGR-9302	19	$53.40	$53.40	$48.05
AGD-933	AGR-9303	23	56.85	56.85	51.15
AGD-934	AGR-9304	26	59.95	59.95	53.95
AGD-936	AGR-9306	31	65.70	65.70	59.15

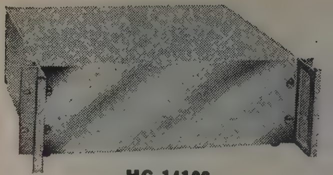
BUD Instrument Cabinets



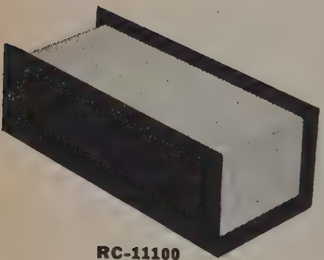
SC-13101



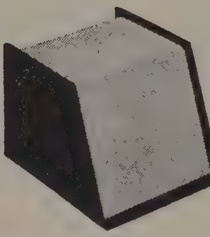
SC-13100



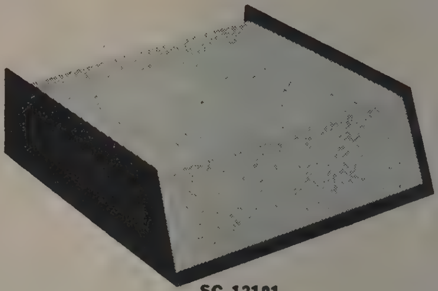
HC-14100



RC-11100



SC-12100



SC-12101

COMPUCAB SERIES

"Now Look" practical and adaptable to many types of instruments. New keyboard look matches today's advanced digital technology concept. All aluminum construction combines beauty, utility and sturdiness. No fasteners are visible on panel area. Shipped assembled. **Material:** Base, ⅛" aluminum; cover and back, 0.057" aluminum; feet, rubber, self-adhesive; 10-32 screws. **Finish:** Back and cover, smooth white enamel; base, black texture enamel; feet, black. **Assembled** with 6-32 screws. **Rear Panel:** One ⅞" dia. knockout centered, SC-13100; two ⅞" dia. knockouts and four sets of louvers, each set 2" w. x 1¾" h., SC-13101.

Bud No.	Overall Size, Inches W. x D. x H.	Net Each, Lots of 1	2-5	6-9
SC-13100	10 x 8⅞ x 5¹¹⁄₃₂	$25.65	$25.65	$23.10
SC-13101	14 x 10¾ x 9⁶¹⁄₆₄	52.20	52.20	470.0

SLOPE SERIES

Sloping front enclosures for excellent visibility of panel mounted components. Modern concept in enclosures embodying clean vertical and horizontal lines. Highly desirable where quick access to the interior is needed. One-piece body is easily detached to provide access to interior components. No exposed fasteners. **Material:** Base, ⅛" aluminum; cover, 0.057" aluminum; feet, rubber, self-adhesive. **Finish:** Cover, smooth white enamel; base, black texture enamel. **Assembled** with 6-32 screws. **Rear Panel:** Single knockout centered, SC-12100; two knockouts, SC-12101. **Front Panel:** 20° slope.

Bud No.	Overall Size, Inches W. x D. x H.	Top Depth	Net Each, Lots of 1	2-24	25-34
SC-12100	5 x 5 x 4¼	3⁵⁄₆₄	$12.60	$11.45	$10.30
SC-12101	12 x 10 x 3¼	8⁷⁄₁₆	26.20	23.80	21.40

LINEAR SERIES

Highly practical enclosures offer solutions to the designer of electronic subsystems and instrumentation. Attractive and functional; one-piece body can be removed to expose the entire interior. No visible fasteners. With self-adhesive rubber feet. **Material:** Base, ⅛" aluminum; cover, 0.057" aluminum. **Finish:** Cover, smooth white enamel; base, black texture enamel; feet, black. **Assembled** with 6-32 screws. **Rear Panel:** Single knockout centered, RC-11100; two knockouts, RC-11101.

Bud No.	Overall Size, Inches W. x D. x H.	Net Each, Lots of 1	2-24	25-34
RC-11100	5 x 10 x 3¼	$18.55	$16.85	$15.15
RC-11101	12 x 10 x 8	37.05	37.05	33.35

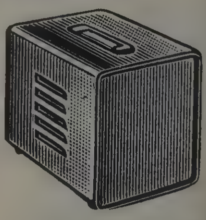
VALU/LINE CABINETS

Classic and contemporary styling together with innovative engineering techniques result in a ruggedly built enclosure. Completely assembled unit includes two separate detachable rack mounting brackets and black rubber feet; adhesive paper protective covering on panels provides an excellent surface for indicating position when drilling or punching panel areas; ⅞" dia. knockout in rear. **Material:** Sides and front panel, ⅛" aluminum; base and cover, 0.057" aluminum; outer brackets, #11 gauge steel; inner brackets, 0.090" aluminum; handles, aluminum extrusion 6063-T5. **Finish:** Base and cover, white smooth enamel; sides, inner and outer brackets, white textured enamel; handles, caustic etch and clear lacquer. **Assembled** with 6-32 and 10-32 screws. Removable outer brackets for mounting in standard EIA 19" cabinet. Balls available as listed; slides also available.

Bud No.	Size, Inches D. x W. x H.	Handle Cutouts No.	H., In.	Net Each, Lots of 1	2-3	4-7
HC-14100	13 x 12¾ x 3½	1	2¾	$84.50	$84.50	$76.05
HC-14101	13 x 17 x 3½	1	2¾	89.20	89.20	80.30
HC-14102	13 x 12¾ x 5¼	1	3½	87.40	87.40	78.65
HC-14103	13 x 17 x 5¼	1	3½	92.00	92.00	82.80
HC-14104	13 x 17 x 7	1	3½	96.55	96.55	86.90
HC-14105	13 x 17 x 8¾	2	3½	101.20	101.20	91.10
HC-14106	13 x 17 x 10½	2	3½	105.80	105.80	95.20
HC-14107	15 x 17 x 10½	2	3½	110.40	110.40	99.35
HC-14108	15 x 17 x 12¼	2	3½	114.90	114.90	103.40
HC-14109	15 x 17 x 14	3	3½	124.10	124.10	111.70

Bud No.	Description	Net Each, Lots of 1	2-3	4-7
BC-14210	Bail, 10" long	$6.70	$6.10	$5.50
BC-14215	Bail, 15" long	8.25	7.50	6.75

PORTACAB INSTRUMENT CABINETS

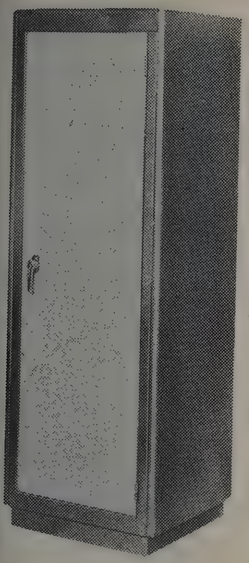


Attractive, versatile cabinets desirable as housings for instrumentation requiring highly stylized appearance. Custom, quality look achieved in standard production models. Made entirely of aluminum to minimize weight. Flexible recessed handle permits easy portability as well as vertical stacking. Well louvered for adequate ventilation. Louvers point inward, permitting side-to-side placement of cabinets without space loss. Aluminum front panel recessed ½". Welded back has opening. Perimeter of panel follows contour of body. Has four detachable rubber feet. Gray hammertone finish only.

Bud No.	Size, Inches W. x D. x H.	Wt., Lbs.	Bud Chassis	Net Each, Lots of 1	2-24	25-49
WA1540	6⅛ x 8 x 8	2	AC-402	$19.60	$17.80	$16.00
WA1541	8⅛ x 12 x 9	3½	AC-407	26.85	24.40	21.95
WA1542	10⅛ x 8 x 8	3¾	AC-406	22.75	20.70	18.65
WA1543	11⅛ x 18 x 11	5½	AC-416	30.65	30.15	27.15
WA1544	14⅛ x 18 x 12	8	AC-420	34.65	34.65	31.20

BUD Series "60" Cabinet Racks

Scientifically designed to meet all requirements for human needs as well as component physical specifications; the most practical cabinet rack developed for either a single piece of equipment or a large instrumentation system. Very economical to the user, units are shipped fully assembled and ready for immediate use.



Basic frame welded in a solid unit composed of 14-gauge cold-rolled steel channels. Sides have "U" braces with perforated channels for fastening vertical adjustable mounting rails. Rails also support other types of equipment such as brackets, shelves, slides, etc. Eliminates need of drilling holes in the rack. Sides and rear door made of 18 gauge steel. Door may be mounted to open left or right. Vertical channel, 4″ wide, welded to door to prevent vibration or whip. Two pairs of panel mounting rails are supplied; fully adjustable. Panels may be mounted in front and rear at the same time. Front rails drilled and tapped 10-32 W.E. spacing. Rear rails are drilled according to universal spacing.

All Series Sixty enclosures may be quickly combined with each other to create units of any desired width as shown in the Add-A-Rack series. In addition, such accessories as desk tops, turrets, drawers, slides, sloping panel supports and front door are easily installed.

Standard finishes are textured baked enamel over primer. Specify two-tone gray by adding suffix **GGY**. For two-tone blue, add suffix **BBY** to order number. Standard Bud relay rack panels are available for the Series Sixty racks. (See Relay Rack Panels for colors available.)

UPRIGHT CABINET RACKS (FIG. A)

Completely assembled 19″ racks with sides, rear door and top. Standard units have plain sides and door and solid top. For greater ventilation, order units with louvered sides and rear door and solid top. Width, 24 1/16″. Inside depth 20½″ clear on all units with 22″ outside depth; 24″, all others. Top opening 18 5/16″ w. x 17″ d. on units with 22″ outside depth; 18 5/16″ w. x 20½″ d., all others. **Specify Color When Ordering:** Add suffix **GGY** to number for gray; suffix **BBY** for blue.

COMPLETE 19″ RACKS WITH PLAIN SIDES AND DOOR

Bud No.	Height	Outside Depth	Panel Space	Weight, Lbs.	Net Each, Lots of 1	2	3-4
60-2300	29⅝″	22″	21″	118	$227.80	$227.80	$205.00
60-2301	40⅛″	22″	31½″	156	250.75	250.75	225.70
60-2302	50⅝″	22″	42″	173	280.20	280.20	252.20
60-2303	61⅛″	22″	52½″	197	328.15	328.15	295.35
60-2304	69⅞″	22″	61¼″	220	357.10	357.10	321.40
60-2305	78⅝″	22″	70″	235	392.80	392.80	353.50
60-2306	87⅜″	22″	78¾″	265	404.00	404.00	363.60
60-2307	29⅝″	25½″	21″	156	236.25	236.25	212.65
60-2308	40⅛″	25½″	31½″	176	263.25	263.25	236.95
60-2309	50⅝″	25½″	42″	185	301.30	301.30	271.15
60-2310	61⅛″	25½″	52½″	211	337.95	337.95	304.15
60-2311	69⅞″	25½″	61¼″	240	378.85	378.85	340.95
60-2312	78⅝″	25½″	70″	256	401.80	401.80	361.60
60-2313	87⅜″	25½″	78¾″	267	418.60	418.60	376.75

30″ deep racks also available; prices on request.

COMPLETE 19″ RACKS WITH LOUVERED SIDES AND DOOR

Bud No.	Height	Outside Depth	Panel Space	Weight, Lbs.	Net Each, Lots of 1	2	3-4
60-2700	29⅝″	22″	21″	118	$236.70	$236.70	$213.05
60-2701	40⅛″	22″	31½″	156	261.45	261.45	235.30
60-2702	50⅝″	22″	42″	173	294.75	294.75	265.30
60-2703	61⅛″	22″	52½″	197	355.15	355.15	319.65
60-2704	69⅞″	22″	61¼″	220	378.70	378.70	340.85
60-2705	78⅝″	22″	70″	235	416.35	416.35	374.70
60-2706	87⅜″	22″	78¾″	265	426.10	426.10	383.50
60-2707	29⅝″	25½″	21″	156	244.95	244.95	220.45
60-2708	40⅛″	25½″	31½″	176	283.75	283.75	255.40
60-2709	50⅝″	25½″	42″	185	325.30	325.30	292.75
60-2710	61⅛″	25½″	52½″	211	365.50	365.50	328.95
60-2711	69⅞″	25½″	61¼″	240	409.75	409.75	368.80
60-2712	78⅝″	25½″	70″	256	434.55	434.55	391.10
60-2713	87⅜″	25½″	78¾″	267	452.35	452.35	407.10

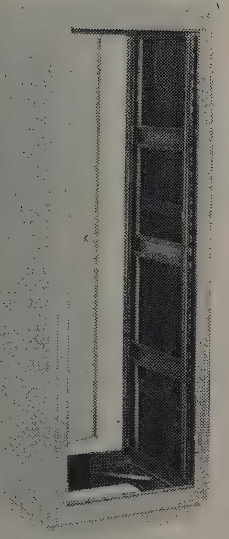
ACCESSORIES FOR UPRIGHT CABINET RACKS

ACCESSORY DOORS

Doors are interchangeable; may be used for front or rear of rack; mount to open either left or right.

FOR 19″ PANEL SPACE

Width, 18 15/16″.



Plain Type (Fig. B) Bud No.	Net Each, Lots of 1	2	3-4	Ht.	Fits Rack With Panel Space of	Wt., Lbs.	Louvered Type (Fig. C) Bud No.	Net Each, Lots of 1	2	3-4
60-2340	$46.45	$46.45	$41.80	21 7/16″	21″	8	60-2540	$53.35	$53.35	$48.00
60-2341	49.85	49.85	44.85	31 15/16″	31½″	11½	60-2541	57.30	57.30	51.55
60-2342	55.10	55.10	49.60	42 7/16″	42″	15½	60-2542	63.65	63.65	57.30
60-2343	61.35	61.35	55.20	52 15/16″	52½″	19	60-2543	70.15	70.15	63.15
60-2344	67.70	67.70	60.95	61 11/16″	61¼″	22¼	60-2544	78.50	78.50	70.65
60-2345	79.35	79.35	71.40	70 7/16″	70″	25½	60-2545	87.10	87.10	78.40
60-2346	82.15	82.15	73.95	79 3/16″	78¾″	29	60-2546	95.10	95.10	85.60

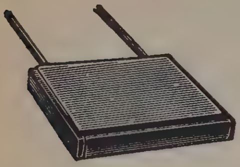
ACCESSORY SIDES

Width, 22″ except 60-2567–60-2573, 25½″. Sold in pairs only.

Plain Type (Fig. D) Bud No.	Net Each Pair, Lots 1	2	3-4	Ht.	Fits Rack With Panel Space of	Wt., Lbs.	Louvered Type (Fig. E) Bud No.	Net Each Pair, Lots 1	2	3-4
60-2560	$ 60.05	$ 60.05	$ 54.05	26 55/64″	21″	12½	60-2580	$ 70.90	$ 70.90	$ 63.80
60-2561	79.25	79.25	71.35	37 23/64″	31½″	17½	60-2581	93.45	93.45	84.10
60-2562	92.35	92.35	83.10	47 55/64″	42″	21	60-2582	111.40	111.40	100.25
60-2563	106.65	106.65	96.00	58 23/64″	52½″	26¼	60-2583	131.00	131.00	117.90
60-2564	117.50	117.50	105.75	67 7/64″	61¼″	30	60-2584	144.35	144.35	129.90
60-2565	123.85	123.85	111.45	75 55/64″	70″	34	60-2585	146.40	146.40	131.75
60-2566	148.40	148.40	133.55	84 39/64″	78¾″	38	60-2586	168.75	168.75	151.90
60-2567	75.75	75.75	68.20	26 55/64″	21″	14½	60-2587	83.10	83.10	74.80
60-2568	99.10	99.10	89.20	37 23/64″	31½″	20	60-2588	108.65	108.65	97.80
60-2569	114.50	114.50	103.05	47 55/64″	42″	24	60-2589	126.50	126.50	113.85
60-2570	133.00	133.00	119.70	58 23/64″	52½″	29½	60-2590	146.95	146.95	132.25
60-2571	145.55	145.55	131.00	67 7/64″	61¼″	34½	60-2591	160.90	160.90	144.80
60-2572	162.15	162.15	145.95	75 55/64	70″	39	60-2592	177.20	177.20	159.50
60-2573	170.50	170.50	153.45	84 39/64″	78¾″	43½	60-2593	186.70	186.70	168.05

ACCESSORIES FOR UPRIGHT CABINET RACKS (CONT'D)

ACCESSORY PERFORATED TOP



Ⓕ **Desk Top**

Width, 21 15/16″.

Bud No.	For Panel Space	Depth	Fits Upright Rack	Wt., Lbs.	Net Each, Lots of 1	2	3-4
60-2370	19″	17″	With overall depth of 22″	6	$19.85	$18.05	$16.2
60-2371	19″	20 1/2″	With overall depth of 25 1/2″	7	20.95	19.05	17.1

SERIES SIXTY DESK TOP (FIG. F)

May be used in connection with any Series Sixty enclosure. Furnished completely assembled wit antique white Formica* surface. Fastens to panel mounting rails by two pre-drilled channels. W support in excess of 200 lbs. Surface 24 1/16″ wide, 19 1/2″ deep, 3 1/16″ high. Available in three color **Specify Color:** Add suffix **GG** for gray; **BB** for blue; **HG** for gray hammertone.

Bud No.	Fits Series Sixty	Support Channel	Wt., Lbs.	Net Each, Lots of 1	2	3-4
60-2360	With 22″ depth	21 9/32″ long	20 1/4	$76.75	$76.75	$69.10
60-2362	With 25 1/2″ depth	24 25/32″ long	24 3/4	79.15	79.15	71.25

*Registered Synthane Corp. trademark.

INCLINED PANEL CABINET RACKS (FIG. G)

Completely assembled with sides, rear door and solid top. Available in two combinations of plain c louvered sides and rear door. **Specify Color When Ordering:** Add suffix **GGY** to number for gray **BBY** for blue.

Ⓖ **Inclined Panel Rack**

COMPLETE 19″ RACKS WITH PLAIN SIDES AND DOOR

Size, 50 5/8″ h. x 24 1/16″ w. x 22″ d., outside; 20 1/2″ d., clear inside. Weight, 165 lbs.

Bud No.	Incline Panel Height	Vertical Panel Height	Top Opening, W. x D.	Net Each, Lots of 1	2	3-4
60-2330	10 1/2″	29 3/4″	18 5/16″ x 11 53/64″	$279.75	$279.75	$251.80
60-2331	15 3/4″	24 1/2″	18 5/16″ x 10 1/32″	296.50	296.50	266.85
60-2332	17 1/2″	22 3/4″	18 5/16″ x 9 27/64″	296.50	296.50	266.85

30″ deep racks also available; prices on request.

COMPLETE 19″ RACKS WITH LOUVERED SIDES AND DOOR

Bud No.	Incline Panel Height	Vertical Panel Height	Top Opening, W. x D.	Net Each, Lots of 1	2	3-4
60-2730	10 1/2″	29 3/4″	18 5/16″ x 11 53/64″	$300.45	$300.45	$270.40
60-2731	15 3/4″	24 1/2″	18 5/16″ x 10 1/32″	318.10	318.10	286.30
60-2732	17 1/2″	22 3/4″	18 5/16″ x 9 27/64″	318.10	318.10	286.30

ACCESSORIES FOR INCLINED PANEL CABINET RACKS

ACCESSORY FRONT DOORS FOR 19″ PANEL SPACE

Width, 18 15/16″.

Plain Type (Fig. J) Bud No.	Net Each, Lots of 1	2	3-4	Height	Fits Rack Top Open. Size, In.	Wt., Lbs.	Louvered Type (Fig. K) Bud No.	Net Each, Lots of 1	2	3-4
60-2350	$49.95	$49.95	$44.95	30 3/16″	18 5/16 x 11 53/64	11	60-2550	$57.35	$57.35	$51.60
60-2351	46.45	46.45	41.80	24 15/16″	18 5/16 x 10 1/32	9 1/2	60-2551	53.75	53.75	48.40
60-2352	45.40	45.40	40.85	23 3/16″	18 5/16 x 9 27/64	9	60-2552	51.95	51.95	46.75

ACCESSORY REAR DOORS FOR 19″ PANEL SPACE

Size, 18 15/16″ w. x 42 7/16″ h.

Plain Type (Fig. J) Bud No.	Net Each, Lots of 1	2	3-4	Fits Rack Top Open. Size, In.	Wt., Lbs.	Louvered Type (Fig. K) Bud No.	Net Each, Lots of 1	2	3-4
60-2342	$55.10	$55.10	$49.60	All sizes	15 1/2	60-2542	$63.65	$63.65	$57.30

ACCESSORY SIDES

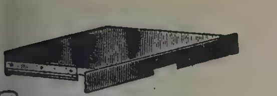
Specify "L" for left side or "R" for right side, determined when facing front of rack. Size, 22″ w. x 47 55/64″ h. Sold in pairs only.

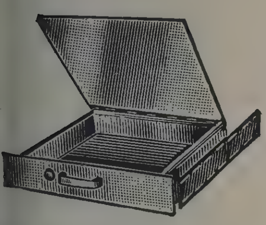
Plain Type (Fig. H) Bud No.	Net Each Pair, Lots 1	2	3-4	Fits Rack Top Open. Size, In.	Wt., Lbs.	Louvered Type (Fig. I) Bud No.	Net Each Pair, Lots 1	2	3-4
60-2574	$95.85	$95.85	$86.25	18 5/16 x 11 53/64	11	60-2594	$105.80	$105.80	$ 95.20
60-2575	98.55	98.55	88.70	18 5/16 x 10 1/32	9 1/2	60-2595	109.15	109.15	98.25
60-2576	99.55	99.55	89.60	18 5/16 x 9 27/64	9	60-2596	110.45	110.45	99.40

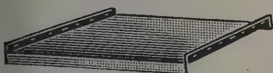
ACCESSORY PERFORATED TOPS FOR 19″ PANEL SPACE

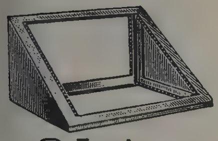
Bud No.	Width	Depth	Fits Rack Top Size, In.	Wt., Lbs.	Net Each, Lots of 1	2	3-4
60-2372	21 15/16″	11 13/16″	18 5/16 x 11 53/64	3 1/2	$13.50	$12.25	$11.05
60-2373	21 15/16″	10″	18 5/16 x 10 1/32	3 1/2	12.95	11.75	10.60
60-2374	21 15/16″	9 13/32″	18 5/16 x 9 27/64	3 1/4	12.95	11.75	10.60

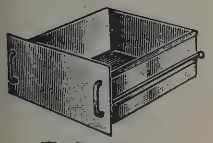
BUD Series "60" TURRETS, CONVERTIBLES, RACKS AND ACCESSORIES


N Sliding Desk Top


O Desk Top Drawer


P Shelf


L Turret


M Drawer

ADD-A-RACK SERIES

Each assembly consists of frame, top, bottom, rear door and cowlings; used as an add-on unit to join any of the Series Sixty enclosures into a bank of two or more. One standard rack plus several Add-A-Racks make any desired number of racks combined for optimum width. Colors same as Inclined Racks.

FOR 19″ PANEL SPACE

Plain Door					Louvered Door				
Bud No.	For Add-on to Rack No.	Net Each, Lots of			Bud No.	For Add-on to Rack No.	Net Each, Lots of		
		1	2	3-4			1	2	3-4
60-2500	60-2300	**$193.75**	**$193.75**	**$174.40**	**60-2900**	60-2700	**$191.65**	**$191.65**	**$172.50**
60-2501	60-2301	**201.90**	**201.90**	**181.70**	**60-2901**	60-2701	**207.60**	**207.60**	**186.85**
60-2502	60-2302	**222.30**	**222.30**	**200.05**	**60-2902**	60-2702	**228.55**	**228.55**	**205.70**
60-2503	60-2303	**242.40**	**242.40**	**218.15**	**60-2903**	60-2703	**249.85**	**249.85**	**224.85**
60-2504	60-2304	**271.20**	**271.20**	**244.10**	**60-2904**	60-2704	**278.85**	**278.85**	**250.95**
60-2505	60-2305	**302.10**	**302.10**	**271.90**	**60-2905**	60-2705	**310.80**	**310.80**	**279.70**
60-2506	60-2306	**324.60**	**324.60**	**292.15**	**60-2906**	60-2706	**333.70**	**333.70**	**300.35**
60-2507	60-2307	**216.90**	**216.90**	**195.20**	**60-2907**	60-2707	**219.55**	**219.55**	**197.60**
60-2508	60-2308	**227.05**	**227.05**	**204.35**	**60-2908**	60-2708	**230.85**	**230.85**	**207.75**
60-2509	60-2309	**247.90**	**247.90**	**223.10**	**60-2909**	60-2709	**254.20**	**245.20**	**228.80**
60-2510	60-2310	**270.75**	**270.75**	**243.70**	**60-2910**	60-2710	**277.45**	**277.45**	**249.70**
60-2511	60-2311	**302.65**	**302.65**	**272.40**	**60-2911**	60-2711	**310.00**	**310.00**	**279.00**
60-2512	60-2312	**337.00**	**337.00**	**303.30**	**60-2912**	60-2712	**345.70**	**345.70**	**311.15**
60-2513	60-2313	**372.90**	**372.90**	**335.60**	**60-2913**	60-2713	**382.15**	**382.15**	**343.95**
60-2530	60-2330	**236.80**	**236.80**	**213.10**	**60-2930**	60-2730	**239.55**	**239.55**	**215.60**
60-2531	60-2331	**252.45**	**252.45**	**227.20**	**60-2931**	60-2731	**258.75**	**258.75**	**232.90**
60-2532	60-2332	**252.45**	**252.45**	**227.20**	**60-2932**	60-2732	**258.75**	**258.75**	**232.90**

SERIES SIXTY TURRETS (FIG. L)

Made of 16 gauge steel; designed so that any one of three sides may be attached to a Series Sixty upright rack or any horizontal surface. Accommodate standard 19″ panels. All mounting rails have universal spacing. Sides easily removed when a series of interconnecting turrets are desired. **Specify Color When Ordering:** Add suffix **GG** for dark gray; **BB** for dark blue; **HG** for gray hammertone. Order standard Bud panels with suffix **GY** for light gray; **BY** for light blue; **HG** for gray hammertone.

Bud No.	Width	Depth	Height	Panel Space			Wt., Lbs.	Net Each, Lots of		
				Sloping	Bottom	Rear		1	2	3-4
60-2364	22 1/16″	17 7/8″	12 5/16″	17 1/2″	14″	8 3/4″	17	**$75.40**	**$75.40**	**$67.85**
60-2365	22 1/16″	14 3/8″	10 3/16″	12 1/4″	10 1/2″	7″	14	**63.05**	**63.05**	**56.75**
60-2366	22 1/16″	20 13/16″	14 3/8″	21″	17 1/2″	10 1/2″	20	**79.25**	**79.25**	**71.35**

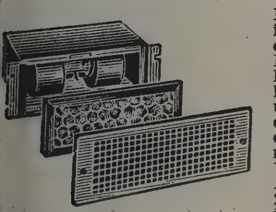
SERIES SIXTY DRAWER, DESK TOP, AND SHELF ACCESSORIES

No. 60-2368 Drawer: Fits into any Series Sixty cabinet rack. Slides easily on nylon rollers. Will support heavy loads. Extends to full depth; stops prevent drawer from falling out. Slides easily attach to panel supporting rails. Silver anodized handles. Shipped completely assembled. **No. 60-2361 Sliding Desk Top:** Fits all Series Sixty racks. Has smooth Formica* surface for writing, servicing or inspection. Fits flush with front of unit. Usable area when fully extended, 11″ x 17 5/8″. Occupies only 1 3/4″ of panel height. Will support 50 lbs. Ball-bearing slide mechanism mounts directly in Series Sixty racks; brackets included to fit other Bud cabinets and consoles. **No. 60-2363 Desk Top Drawer:** Fits Series Sixty racks. Has Formica surface. Fits flush with front of unit. Hinged desk top on drawer holds small tools or parts. Special front-panel latch both locks and releases drawer or top as desired. Mounts to cabinet U-braces; slides travel on nylon rollers. Hardware supplied. **No. 60-2380 and 60-2381 Shelves:** Ideal for support of chassis, power supplies or other equipment; also may be used as base plate for bottom support. Of one-piece 16 gauge steel with flanged front and rear for extra strength and rigidity. Easily bolted to cabinet U-braces. Will support 200 lbs. Hardware supplied.

Bud No.	Fig.	Size, Inches	Wt., Lbs.	Net Each, Lots of		
				1	2	3-4
60-2368†	M	16 19/32 x 6 11/32 x 19 13/64 inside	28	**$ 95.85**	**$ 95.85**	**$ 86.25**
60-2361†	N	17 5/8 x 15 1/8 x 1 3/4 with std. 19″ panel	9 1/4	**46.35**	**46.35**	**41.70**
60-2363†	O	16 9/16 x 2 31/32 x 14 7/8 inside; 19 x 3 1/2 front panel	19	**118.15**	**118.15**	**106.35**
60-2380‡	P	17 29/32 w. x 19 9/32″ d.	8 1/4	**16.85**	**15.30**	**13.75**
60-2381‡	P	17 29/32 w. x 22 3/4 d.	8 1/2	**17.55**	**15.95**	**14.35**

*Synthane Corp. trademark. †Add suffix **GY** for light textured gray; **BY** for light textured blue; **WH** for white; **S** for sand; **HG** for gray hammertone. ‡Add suffix **GG** for dark textured gray; **BB** for dark textured blue; **WH** for white; **S** for sand; **HG** for gray hammertone.

TRANS-AIRE BLOWER



Ideal for use where excessive heat is generated by equipment in an enclosed rack, cabinet or console. Brings in fresh air or exhausts heated air, enabling use as an exhaust or intake blower, depending upon mounting position. Unit will operate in any position—vertical or horizontal. May be mounted to rails of standard cabinet or rack. Use of Bud Chassis Supporting Angles SA-1349, SA-1350 or CE-2219 is recommended when blower is mounted in rack or cabinet. Motor is rubber mounted. Thermal overload protection to prevent overheating. Automatic reset. Oil impregnated, disposable fiberglass filter can be changed without removing unit from cabinet. Air displacement shown is at 0° static pressure. Double shielded, permanently lubricated ball bearings. B-50, B-52 and B-54 are short-depth models with single speed; others, dual speed. Complete with filter, nickel-plated grille and 24″ three-wire cord. Light gray enamel finish.

Bud No.	Size† D. x H.	Air c.f.m.		Motor		Filters
		High	Low	Watts	rpm	Bud No.
B-23A	12″ x 3 1/2″	180	130	125/100	1450/1250	**BF-24**
B-25A	14 1/2″ x 5 1/4″	350	160	375/200	1420/1075	**BF-26**
B-27A	14 1/2″ x 7″	515	280	550/350	1350/1150	**BF-28**
B-50*	6 13/32″ x 3 1/2″	150	....	80	3150	**BF-24**
B-52*	9 1/32″ x 5 1/4″	150	....	80	3000	**BF-53**
B-54*	10 3/16″ x 7″	300	....	60	1550	**BF-55**

*Brings in fresh air only. †All for standard 19″ rack.

TRANS-AIRE BLOWER AND FILTER PRICING

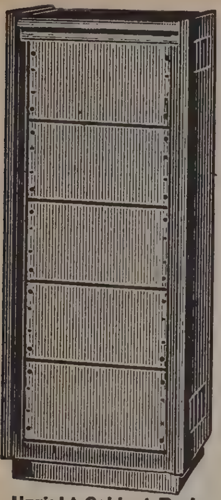
Bud No.	Net Each, Lots of			Bud No.	Net Each, Lots of		
	1	2-9	10-14		1	2-24	25-49
B-23A	**$140.50**	**$140.50**	**$126.45**	**BF-24**	**$3.30**	**$2.50**	**$2.25**
B-25A	**160.30**	**160.30**	**144.25**	**BF-26**	**3.80**	**2.85**	**2.55**
B-27A	**172.30**	**172.30**	**155.05**	**BF-28**	**4.30**	**3.25**	**2.95**
B-50	**136.50**	**136.50**	**122.85**	**BF-53**	**3.80**	**2.85**	**2.55**
B-52	**138.10**	**138.10**	**124.30**	**BF-55**	**4.00**	**3.00**	**2.70**
B-54	**172.75**	**172.75**	**155.50**				

"TEM-STAT" TEMPERATURE CONTROLS

Prevents costly damage to electronic components in enclosed cabinets, boxes, etc. Bimetal sensing element responds quickly to gradual or sudden temperature changes and actuates whatever warning device you use: Activates a light, bell, blower or other device; or, shuts off current. Activates snap-action, heavy duty, normally open switch contacts. High electrical ratings up to 300° F; fully adjustable temperature ranges. Screw terminals for easy attachment. UL Recognized. Small size, 2 15/16″ lg. x 1″ w. x 1 7/32″ d., suitable for limited space applications. **UL Rating:** 8 amps, full load, 115 VAC (48 amps, locked rotor). 100,000 cycles motor rating; derate 50% for 230 VAC. Full load 13.8 amps 120 VAC (82.8 amps, locked rotor). 6,000 cycles motor rating; derate 50% for 240 VAC. Pilot duty, 125 VA at 115/230 VAC; or, 250 mV or more.

Bud No. TS-15—80°–170° F. Net Each.............. **$10.35**
Net Each, Lots of: 2–9........ **$9.40**; 10–14.......... **8.45**

BUD Series 2000 Cabinet Racks



Upright Cabinet Rack

SERIES 2000 UPRIGHT CABINET RACKS

Modern rack enclosures combine the dramatic appearance of sheer, square lines with rugged Bud co struction. Basic frame is all-welded with 14 gauge steel members; 18 gauge steel door, sides and to "U" braces welded to sides of frame augment its strength and rigidity and act as a mounting for t vertical rails, which can be horizontally adjusted. Front panel mounting rails are tapped 10-32; rear ra are pierced 9/32" dia. Caster bracket in base accepts Bud RC-7758 casters. All cabinets accept standa 19" panels. Shipped completely assembled. Width, 24 3/16". Available in royal blue or gray textured enan with clear anodized aluminum cowl, or gold textured enamel with gold anodized aluminum cowl. **Speci Color When Ordering.**

30" deep racks also available; prices on reques

23⅞" OUTSIDE DEPTH—20½" CLEAR INSIDE DEPTH

With Plain Sides and Door				Size, Inches			With Louvered Sides and Door			
Bud No.	Net Each, Lots of			Ht.	Panel Space	Wt., Lbs.	Bud No.	Net Each, Lots of		
	1	2	3-4					1	2	3-4
E-2000	$247.15	$247.15	$222.45	30¼	21	125	E-2016	$265.00	$265.00	$238.5
E-2001	271.20	271.20	244.10	40¾	31½	150	E-2017	285.10	285.10	256.6
E-2002	276.60	276.60	248.95	44¼	35	155	E-2018	290.65	290.65	261.5
E-2003	304.45	304.45	274.00	51¼	42	167	E-2019	319.95	319.95	287.9
E-2004	344.05	344.05	309.65	61¾	52½	205	E-2020	361.50	361.50	325.3
E-2005	367.65	367.65	330.90	70½	61¼	219	E-2021	386.55	386.55	347.9
E-2006	404.95	404.95	364.45	79¼	70	240	E-2022	425.65	425.65	383.1
E-2007	422.65	422.65	380.40	88	78¾	262	E-2023	444.30	444.30	399.8
27⅜" OUTSIDE DEPTH—24" CLEAR INSIDE DEPTH										
E-2008	$254.35	$254.35	$228.90	30¼	21	135	E-2024	$267.30	$267.30	$240.5
E-2009	285.75	285.75	257.20	40¾	31½	160	E-2025	300.15	300.15	270.1
E-2010	293.05	293.05	263.75	44¼	35	165	E-2026	307.90	307.90	277.1
E-2011	327.60	327.60	294.85	51¼	42	187	E-2027	344.20	344.20	309.8
E-2012	351.25	351.25	316.15	61¾	52½	222	E-2028	369.15	369.15	332.2
E-2013	396.70	396.70	357.05	70½	61¼	235	E-2029	416.85	416.85	375.1
E-2014	435.55	435.55	392.00	79¼	70	265	E-2030	457.75	457.75	412.0
E-2015	461.25	461.25	415.15	88	78¾	280	E-2031	484.60	484.60	436.1

Inclined Panel Cabinet Rack

SERIES 2000 INCLINED PANEL CABINET RACKS

Same modern styling and rugged construction as upright racks above, with 20° inclined panel for cor fortable viewing of mounted instruments. Panel mounting rails in front vertical and inclined pan sections, as well as in the rear, are adjustable front-to-rear. Height, 51¼"; width, 24 3/16"; outside dept 23⅞"; clear inside depth, 20½". Weight, 173 lbs. Available in same textured finishes as above. **Speci Color When Ordering.**

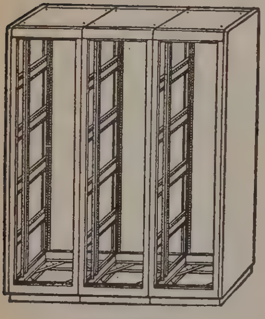
30" deep racks also available; prices on reques

With Plain Sides and Door				Inclined Panel Space	Vertical Panel Space	With Louvered Sides and Door			
Bud No.	Net Each, Lots of					Bud No.	Net Each, Lots of		
	1	2	3-4				1	2	3-4
SE-2064	$301.75	$301.75	$271.60	10½"	29¾"	SE-2067	$317.95	$317.95	$286.1
SE-2065	317.95	317.95	286.15	15¾"	24½"	SE-2068	341.10	341.10	307.0
SE-2066	317.95	317.95	286.15	17½"	22¾"	SE-2069	341.10	341.10	307.0

ADD-A-RACKS AND ACCESSORIES FOR SERIES 2000

ADD-A-RACK SERIES FOR UPRIGHT CABINETS

Used as an add-on unit to join Series 2000 upright racks into a bank of two or more. Each assembl consists of a frame, top, bottom, rear door and cowlings. One standard rack must be used, plus an number of Add-A-Rack units. **Specify Color When Ordering;** same as above racks.

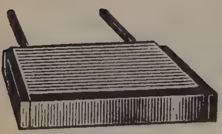


Add-A-Rack

With Plain Door					With Louvered Door					
Bud No.	For Add-on to Rack	Net Each, Lots of			Bud No.	For Add-on to Rack	Net Each, Lots of			Wt., Lbs.
		1	2	3-4			1	2	3-4	
AE-2032	E-2000	$210.45	$210.45	$189.40	AE-2048	E-2016	$218.70	$218.70	$196.85	90
AE-2033	E-2001	218.55	218.55	196.70	AE-2049	E-2017	226.60	226.60	203.95	110
AE-2034	E-2002	229.45	229.45	206.50	AE-2050	E-2018	228.15	228.15	205.35	113
AE-2035	E-2003	240.00	240.00	216.00	AE-2051	E-2019	248.50	248.50	223.65	115
AE-2036	E-2004	262.30	262.30	236.05	AE-2052	E-2020	268.35	268.35	241.50	145
AE-2037	E-2005	292.75	292.75	263.50	AE-2053	E-2021	294.45	294.45	265.00	148
AE-2038	E-2006	307.20	307.20	276.50	AE-2054	E-2022	324.70	324.70	292.25	152
AE-2039	E-2007	350.40	350.40	315.35	AE-2055	E-2023	335.70	335.70	302.15	158
AE-2040	E-2008	235.30	235.30	211.75	AE-2056	E-2024	242.35	242.35	218.10	120
AE-2041	E-2009	244.95	244.95	220.45	AE-2057	E-2025	252.30	252.30	227.05	130
AE-2042	E-2010	256.45	256.45	230.80	AE-2058	E-2026	264.15	264.15	237.75	135
AE-2043	E-2011	259.90	259.90	233.90	AE-2059	E-2027	267.60	267.60	240.85	138
AE-2044	E-2012	276.10	276.10	248.50	AE-2060	E-2028	284.35	284.35	255.90	142
AE-2045	E-2013	313.65	313.65	282.30	AE-2061	E-2029	323.05	323.05	290.75	164
AE-2046	E-2014	345.15	345.15	310.65	AE-2062	E-2030	355.50	355.50	319.95	168
AE-2047	E-2015	371.40	371.40	334.25	AE-2063	E-2031	382.60	382.60	344.35	172
ADD-A-RACK SERIES FOR INCLINED PANEL CABINETS										
ASE-2084	SE-2064	$255.45	$255.45	$229.90	ASE-2087	SE-2067	$258.40	$258.40	$232.55	115
ASE-2085	SE-2065	270.75	270.75	243.70	ASE-2088	SE-2068	277.50	277.50	249.75	115
ASE-2086	SE-2066	270.75	270.75	243.70	ASE-2089	SE-2069	277.50	277.50	249.75	120

ACCESSORY FRONT DOORS FOR UPRIGHT CABINETS

Plain Type				For Vertical Panel Space of	Wt., Lbs.	Louvered Type			
Bud No.	Net Each, Lots of					Bud No.	Net Each, Lots of		
	1	2	3-4				1	2	3-4
E-9000	$59.05	$59.05	$53.15	21"	15	E-9020	$ 67.30	$ 67.30	$ 60.55
E-9001	65.85	65.85	59.25	31½"	18	E-9021	75.10	75.10	67.60
E-9002	69.60	69.60	62.65	35"	19	E-9022	79.30	79.30	71.35
E-9003	74.70	74.70	67.25	42"	23	E-9023	85.15	85.15	76.65
E-9004	77.25	77.25	69.55	52½"	27	E-9024	88.15	88.15	79.35
E-9005	81.25	81.25	73.15	61¼"	29	E-9025	92.55	92.55	83.30
E-9006	85.05	85.05	76.55	70"	31	E-9026	97.00	97.00	87.30
E-9007	91.60	91.60	82.45	78¾"	33	E-9027	104.40	104.40	93.95
ACCESSORY FRONT DOORS FOR INCLINED PANEL CABINETS									
E-9008	$73.20	$73.20	$65.90	29¾"	11	E-9028	$83.50	$83.50	$75.15
E-9009	67.95	67.95	61.15	24½"	10½	E-9029	77.40	77.40	69.65
E-9010	66.90	66.90	60.20	22¾"	9	E-9030	76.30	76.30	68.65



Desk Top

DESK TOPS FOR SERIES 2000 CABINET RACKS

Provides a smooth writing surface or shelf on upright or inclined panel cabinet rack. Two pre-slotted supporting channels bolt to panel mounting rails. Antique white Formica* surface. Supports over 200 lbs. **Size:** 24 3/16" wide, 19½" deep, 3 1/16" high. Specify gray, royal blue or gold textured enamel finish.

Bud No.	Fits Cabinet with Depth of	Supporting Channel	Wt., Lbs.	Net Each, Lots of		
				1	2	3-4
DT-2960	23⅞"	21 9/32"	29	$71.20	$71.20	$64.10
DT-2962	27⅜"	24 25/32"	30	73.50	73.50	66.15

*Registered Synthane Corp. trademark.

532X-77A

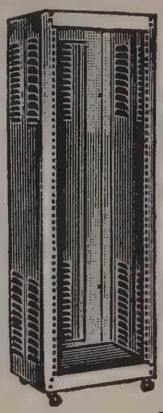
BUD Relay Racks

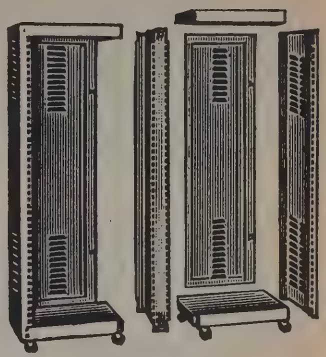
DELUXE RELAY RACKS WITH ADD-A-RACK

High quality relay racks made of 16-gauge steel with 7/64" panel supports. Panel mounting supports are recessed so that no panel edges will be exposed. Both back and sides are fully louvered for best ventilation. Snap catches are positioned on the door. Rounded corners give streamlined appearance. Base constructed with four special supports so that casters may be applied to base directly for mobility. Racks are 22" wide to accept all standard 19" panels.

Add-A-Rack Series—Where relay racks are to be joined in series. Provides additional strength and improved appearance. Includes door, top, bottom and coupling unit, all that is needed to make a double relay rack out of a single Deluxe series.

All Racks Listed are shipped knocked-down with all necessary hardware and assembly instructions. Casters optional. When ordering specify finish. Add suffix **"HG"** for gray hammertone; suffix **"GR"** for gray rinkletex; suffix **"BR"** for black rinkletex.





DELUXE RELAY RACKS WITH 19" WIDE PANEL SPACE

17⅛" Overall Depth

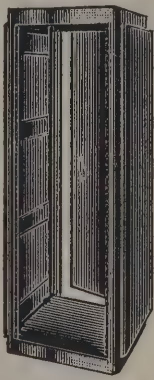
Bud No.	Size, Inches		Wt., Lbs.	Net Each, Lots of		
	Height, Overall	Panel Space		1	2-9	10-14
CR-1774	42 1/16	36¾	82	$108.95	$108.95	$ 98.05
CR-1771	47 5/16	42	92	123.15	123.15	110.85
CR-1772	66 9/16	61¼	115	154.30	154.30	138.85
CR-1780	75 5/16	70	125	158.25	158.25	142.45
CR-1773	82 5/16	77	135	177.70	177.70	159.95

ADD-A-RACK ASSEMBLIES

Includes door, top, bottom and coupling unit for add-on use with racks indicated.

Bud No.	For Use With Rack No.	Wt., Lbs.	Net Each, Lots of		
			1	2-9	10-14
AR-1778	CR-1774	70	$106.95	$106.95	$ 96.25
AR-1775	CR-1771	74	113.80	113.80	102.40
AR-1776	CR-1772	100	141.35	141.35	127.20
AR-1779	CR-1780	107	149.55	149.55	134.60
AR-1777	CR-1773	113	173.60	173.60	156.25

PRESTIGE BALL CORNER RACKS



Attractive, practical housing for permanent or mobile instrumentation. Standard Prestige relay rack consists of framework, top, bottom, two ball cornered sides, and a ball corner door. Sides attach to frame by means of a tongue-and-slot arrangement at bottom and two screws at top. Sides easily removable for access. Drilled and tapped panel mounting rails on all four vertical members of frame. Doors mount from either left or right side. Slotted base takes ball-cornered side panels on any of the four sides. Door and side clearance permits covering of equipment without damage to knobs or controls. Provision made for recessed casters. Extra doors available for placing on any of the sides. Knockout holes provided for attaching two or more units together. Bottom will support 500 lbs., panel rails 200 lbs. suspended vertically between rails. Units take Bud SD-1717 sliding drawer assembly or 60-2368 drawer. Shipped knocked-down, with necessary assembly hardware. **Gray hammertone finish only. Furnished with adjustable panel mounting rails.**

Bud No.	Size, Inches		Net Each, Lots of		
	Overall Height	Panel Space	1	2-9	10-14
CR-2280	66 9/16	61¼	$256.85	$256.85	$231.15
CR-2281	71 13/16	66½	263.10	263.10	236.80
CR-2282	82 5/16	77	295.75	295.75	266.20

DELUXE TELEPHONE-TYPE RELAY RACKS

Sturdy open rack with extra strength and greater capacity. Upright U-member is unitize-welded with ventilation provided at top. Two panel-mounting rails, at front and rear, tapped 10-32 with W.E. spacing. Made of 12 ga. steel throughout. Chassis-type base drilled for RC-7756 casters. Triangular brackets hold uprights to base; holes provided on both sides for bolting racks together in "Add-A-Rack" manner. Add suffix **HG** for gray hammertone finish; **BR** for black rinkletex; **GY** for gray rinkletex. Racks have 20⅞" base width and take 19" wide panels.

Bud No.	Size, Inches		Net Each, Lots of		
	Height, Overall	Panel Space	1	2-9	10-14
RR-1367	64⅝	61¼	$104.95	$104.95	$ 94.45
RR-1368	73⅜	70	112.90	112.90	101.60
RR-1369	80⅜	77	125.60	125.60	113.05

POWER OUTLET STRIPS

For racks or cabinets with a number of instruments requiring individual power sources. Steel raceways protect cords from damage. Mount vertically or horizontally; snap into clips in housing. Grounding-type receptacles rated 15 A at 125 V and spaced on 6" centers except POS-4, designed for horizontal mounting. With pushbutton-reset overload breaker, 6-ft. cord and grounding plug. UL Recognized components. Light gray enamel finish.

Bud No.	No. of Outlets	Length, Inches	Net Each, Lots of		
			1	2-5	10-14
POS-4	4	17½	$42.25	$42.25	$38.05
POS-7	7	48	44.50	44.50	40.05
POS-9	9	60	48.90	48.90	44.00
POS-11	11	72	53.35	53.35	48.00

TELEPHONE-TYPE RELAY RACKS

Heavy Duty Model RR-1265: Two 3½" x 5" x ¼", 20⅜" long angles form base. Steel channels are 3" x 1⅜", 71 29/32" long. Cross bars are ⅛" x 2 3/32" angles. Panel holes tapped 12-24 with W.E. space. Black rinkletex finish only. Usually bolted to floor.

Standard Models: 3" channels and crossbars of 7/64" steel. Base has chassis type bottom with side angles. Base drilled for RC-7756 casters. Suffix **BR**, black rinkletex; **HG**, gray hammertone.

FOR 19" WIDE PANELS

Bud No.	Size, Inches		Net Each, Lots of		
	Height, Overall	Panel Space	1	2-9	10-14
RR-1263	35 39/64	31½	$ 49.25	$ 49.25	$ 44.35
RR-1363	40 55/64	36¾	47.35	47.35	42.60
RR-1264	70 39/64	66½	56.30	56.30	50.65
RR-1364	75 55/64	71¾	59.10	59.10	53.20
RR-1366	81 7/64	77	64.65	64.65	58.20
RR-1265	72 5/32	66½	130.75	130.75	117.70

TABLE-MOUNT TELEPHONE RACK

Sturdy rack with chassis type base mounts heavy components on table where enclosures are not required. Panel mount rails recessed for flush mount of 19" panels. Shipped knocked down. Specify black rinkletex (suffix **BR**) or gray hammertone (suffix **HG**).

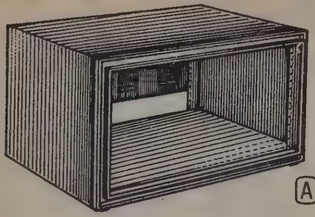
Bud No.	Size, Inches		Wt., Lbs.	Net Each, Lots of		
	Height, Overall	Panel Space		1	2-14	15-24
RR-1248	24	21	14¼	$24.90	$22.65	$20.40
RR-1249	31	28	16¾	26.70	26.70	24.05

RACK SHELVES

Heavy gauge steel shelves with 1" flange for rigidity and strength. Mount on chassis supporting angles in rack to hold power supplies, modulators, etc. Width 19". Black enamel finish.

Bud No.	Depth, Inches	Weight, Lbs.	Net Each, Lots of		
			1	2-14	15-24
CB-1976	15	6	$9.35	$8.50	$7.65
CB-1977	12	5	7.35	6.70	6.05

BUD Metal Cabinets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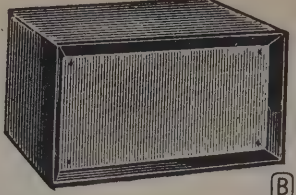
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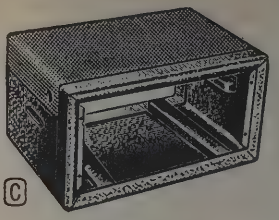
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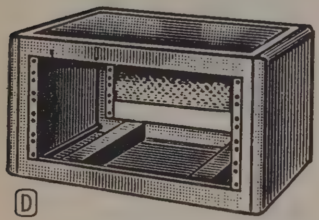
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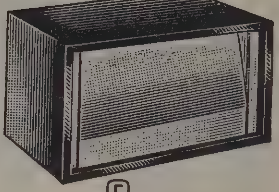
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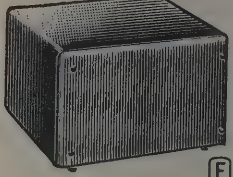
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STYLIST SERIES CABINET (FIG. A)

Highly modern cabinet designed to give you the style and construction advantages that add value to your products. Square-corner design, aluminum extrusion framing of front panel lends a contemporary dimension which complements the appearance of your product. Full width flanges along top and bottom of cabinet add strength at each corner. No tilt, no sway when cabinet is loaded; panel dimensions remain constant. Load bearing capacity is 500 lbs. Constructed of 16 gauge cold rolled steel. Structure is self-supporting, no internal framework. Has 16 gauge steel louvered rear panel, 1¾" high opening for cable accessories. Front and rear openings meet E.I.A. standards, accept either 19" panels or Stylist Series doors. Self-adhesive rubber feet furnished. Specify suffix for color: **RB**, royal blue; **HG**, hammertone gray. Example: S-1640**RB**. **Size:** 20 13/16" w. x 15¼" d., overall.

Bud No.	Size, Inches		Wt., Lbs.	Net Each, Lots of		
	Overall Height	Panel Space		1	2-4	5-9
S-1640	8 13/16	7	26¾	$85.50	$85.50	$76.95
S-1641	10 9/16	8¾	29	89.50	89.50	80.55
S-1642	12 5/16	10½	31	94.25	94.25	84.85
S-1643	14 1/16	12¼	33	98.10	98.10	88.30
S-1644	15 13/16	14	35¼	102.35	102.35	92.10
S-1645	19 9/16	15¾	37¼	113.55	113.55	102.20

FRONT DOORS FOR STYLIST SERIES CABINETS

Overall width, 19". Specify color by suffix, **RB**, royal blue; **HG**, hammertone gray. Example: SD-540**RB**.

Bud No.	Height, In.	Wt., Lbs.	Fits Cabinet	Net Each, Lots of		
				1	2-4	5-9
SD-540	7	4¾	S-1640	$20.55	$18.70	$16.85
SD-541	8¾	5½	S-1641	22.05	20.05	18.05
SD-542	10½	6¼	S-1642	23.05	20.95	18.85
SD-543	12¼	7	S-1643	23.80	21.65	19.50
SD-544	14	7¾	S-1644	25.35	23.05	20.75
SD-545	15¾	8½	S-1645	26.85	24.40	21.95

SHADOW CABINETS (FIG. B)

Front panel recessed 1". Front edge of body is beveled. Body of 18 gauge and panels of 16 gauge steel. Four rubber feet. Available in light gray hammertone finish only.

Bud No.	Overall Size, In. W. x H. x D.	Uses Bud Chassis		Net Each, Lots of		
		AC-	CB-	1	2-24	25-49
SB-2140	14¼ x 8 x 10	424	704	$20.00	$18.20	$16.40
SB-2141	13¼ x 7½ x 9	407	1193	17.40	15.80	14.20
SB-2142	17 x 9½ x 11	411	666	26.57	24.15	21.75
SB-2143	15½ x 6 x 9	409	1194	16.45	14.95	13.45

STANDARD PRESTIGE CABINETS (FIG. C)

Has two supporting rails, laterally movable to fit any chassis width, and shielded handle slots. Finger holes in cover for easy lifting. Of 16 gauge steel. Takes 19" panels. With embossed feet. **Size:** 21⅝" w. x 14¾" d. overall. Gray hammertone finish.

Bud No.	Size, Inches		Wt., Lbs.	Net Each, Lots of		
	Overall Height	Panel Space		1	2-14	15-24
C-1440	9 9/16	7	25	$68.95	$68.95	$62.05
C-1441	11 5/16	8¾	26	72.55	72.55	65.30
C-1442	13 1/16	10½	28½	75.75	75.75	68.20
C-1550*	9 9/16	7	23½	74.50	74.50	67.05
C-1551*	11 5/16	8¾	25	77.55	77.55	69.80
C-1552*	13 1/16	10½	27½	82.00	82.00	73.80

*With perforated cover; others solid.

PRESTIGE VERSA-CABINETS (FIG. D)

Balled corner, welded steel framework; sides top and botto easily attached. Standard 19" panels used to enclose front or to Has removable channels for shelf or chassis. Opening at bac 1¾" x 17 15/16" for controls, leads, etc. Cabinets may be attache side-to-side or stacked vertically. Perforated top panels and si handles available Gray Hammertone (**HG**) only. **Size:** 23 3/16" w. 15¾" d., overall. Weight, 27 to 35 lbs.

Bud No.	Size, Inches			Net Each, Lots of		
	Overall Height	Panel Space	Panel Rear	1	2-9	10-14
PC-1700	8¾	5¼	3½	$68.40	$68.40	$61.55
PC-1701	10½	7	5¼	72.30	72.30	65.05
PC-1702	12¼	8¾	7	74.15	74.15	66.75
PC-1703	14	10½	8¾	83.75	83.75	75.40
PC-1704	15¾	12¼	10½	88.35	88.35	79.50
PC-1710	Perforated steel top plate, 12¼ x 19			9.30	8.45	7.60

FUTURA CABINETS (FIG. E)

Handsome housing of 20 and 18 gauge steel. Four rubber feet Numbers MD-1960 thru MD-1962 have vertical front panel all others (Fig. E) have inclined front panel rising 2" vertically then inclining 15°. Specify color by suffix: **BBY**, dark blue texture body with light blue textured panels; **HG**, gray hammertone bod with light gray textured panels.

Bud No.	Overall Size, In. W. x H. x D.	Net Each, Lots of		
		1	2-14	15-24
MD-1960	13 x 8 x 7	$19.30	$17.55	$15.80
MD-1961	14 x 9 x 8	20.85	18.95	17.05
MD-1962	16 x 9 x 8	21.50	19.55	17.60
MD-1963	13 x 8 x 7	22.65	20.60	18.55
MD-1964	14 x 9 x 8	24.35	22.15	19.95
MD-1965	16 x 9 x 8	26.00	23.65	21.30

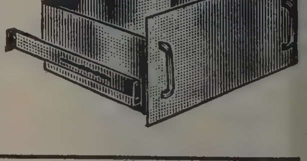
CONTOUR UTILITY CABINETS (FIG. F)

Constructed of 20 gauge steel. Both front and rear panels are removable; the front panel is solid while the rear panel is louvered for proper ventilation. Four rubber feet, attached to base, prevent scratching surface the unit is placed on. Body is textured dark gray enamel; panel is textured light gray enamel.

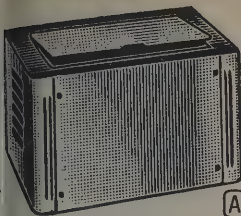
Bud No.	Overall Size, In. W. x D. x H.	Net Each, Lots of		
		1	2-24	25-49
CU-463	6 7/32 x 3¾ x 4 7/32	$11.65	$10.60	$ 9.55
CU-465	6 7/32 x 5¾ x 4 7/32	13.30	12.10	10.90
CU-585	8 7/32 x 5¾ x 5 7/32	17.10	15.55	14.00
CU-587	8 7/32 x 7¾ x 5 7/32	18.80	17.10	15.40
CU-7125	12 7/32 x 5¾ x 7 7/32	17.40	15.80	14.20
CU-7127	12 7/32 x 7¾ x 7 7/32	18.25	16.60	14.95

DRAWER WITH ADJUSTABLE SLIDES

Fits any cabinet or cabinet rack with 19" panel space. Slide bracket adjustable 16½" to 24¼" to fit any cabinet with depth 17" to 25½". Fastens by bracket to panel mounting rail in front and rear of cabinet. Nylon rollers for smooth movement. Hardware supplied. Specify color when ordering: Add suffix **HG** for gray hammertone; **BR** for black rinkletex; **GR** for gray rinkletex.



Bud No.	Inside Size, Inches	Wt., Lbs.	Net Each, Lots of		
			1	2	3-4
D-1721	16 19/32 x 6 11/32 x 16 13/64	19½	$83.10	$83.10	$74.80



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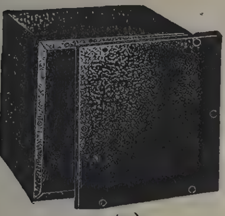

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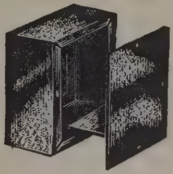

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METAL UTILITY CABINETS (FIG. D)

Highly useful housing for all types of electronic equipment. Both ont and back panels are removable for easy accessibility.

STEEL CABINETS

Specify black rinkletex (suffix **BR**) or gray hammertone (suffix HG) finish.

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1	2-49	50-99
U-883	2 x 4 x 4	¾	$ 3.20	$ 2.65	$ 2.40
U-728	3 x 5 x 4	1	3.90	3.25	2.95
U-729	4 x 5 x 6	1¾	4.90	4.10	3.70
U-1098	6 x 6 x 6	2¼	6.05	5.50	4.95
U-1099	5 x 6 x 9	3	6.90	6.25	5.65
U-879	7 x 8 x 10	3¼	9.35	8.50	7.65
U-1124	6 x 7 x 12	5	9.35	8.50	7.65
U-880	8 x 10 x 10	6¼	10.85	9.85	8.85
U-881	8 x 11 x 12	8½	12.05	10.95	9.85
U-882	7 x 9 x 15	8¼	12.10	11.00	9.90

NATURAL FINISH ALUMINUM CABINETS*

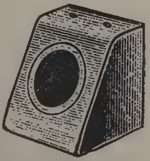
Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1	2-49	50-99
U-1083	2 x 4 x 4	¼	$4.10	$3.40	$3.05
U-1028	3 x 5 x 4	½	4.30	3.60	3.25
U-1029	4 x 5 x 6	¾	4.90	4.10	3.70
U-1039	6 x 6 x 6	1	6.60	6.00	5.40
U-1040	5 x 6 x 9	1½	7.35	6.70	6.05

GRAY HAMMERTONE ALUMINUM CABINETS*

U-1083HG	2 x 4 x 4	¼	$4.90	$4.10	$3.70
U-1028HG	3 x 5 x 4	½	5.50	4.60	4.15
U-1029HG	4 x 5 x 6	¾	5.80	4.85	4.35
U-1039HG	6 x 6 x 6	1	7.10	6.45	5.80
U-1040HG	5 x 6 x 9	1½	8.90	8.10	7.30

Aluminum alloy 5005 H-14.

UNIVERSAL METER CASES



Center hole punched for 2″ meters, plus easily emoved knock-out ring to provide fit for 3″ neters. Single piece detachable back and ides fastened to case with self-tapping screws or easy installation and servicing. Two ⅜″ nock-out holes in top provide for installation f feed-through insulators, switches, volume ontrols, etc. Gray hammertone finish only. **Size:** 4 19/64″ h. x 4″ w. x 4 1/16″ d.

Bud No.	Construction	Wt., Lbs.	Net Each, Lots of 1	2-49	50-99
M-1935	Steel	¾	$3.80	$3.15	$2.85
MA-1936	Aluminum	¼	4.50	3.75	3.40

WIDE UNIVERSAL METER CASE

ame as above, except extra wide to permit installation of small omponents along with a meter or accommodate a 4″ meter. Made of 5005 H-14 aluminum. **Size:** 4 19/64″ h. x 6″ w. x 4 1/16″ d.

Bud No.	Construction	Wt., Lbs.	Net Each, Lots of 1	2-49	50-99
MA-1930	Aluminum	½	$6.90	$6.25	$5.65

STREAMLINED CABINETS (FIG. A)

Ideal for housing devices not requiring excessive depth. Recessed, hinged cover with convenient finger lift for access. Panels fit flush with embossed, rounded corner fronts. Back opening 3½″ h. provides for cables or rear controls; louvered sides provide ample ventilation. **Size:** 8¼″ d. x 8″ h. overall. Specify black rinkletex (suffix **BR**), gray rinkletex (suffix **GR**) or gray hammertone (suffix **HG**) finish.

Bud No.	Size, Inches Overall Width	Panel Space	Wt., Lbs.	Net Each, Lots of 1	2-24	25-49
CD-1480	10½	8 x 8	6¼	$16.30	$14.80	$13.30
CD-1481	12½	8 x 10	6¾	16.45	14.95	13.45
CD-1482	14½	8 x 12	7½	17.55	15.95	14.35
CD-1483	16½	8 x 14	7¾	18.90	17.20	15.50
CD-1484	18½	8 x 16	9¼	20.00	18.20	16.40
CD-1485*	20⅝	12 x 18	17½	35.75	35.75	32.20

*Depth is 12″.

CARRYING CASES (FIG. C)

A versatile cabinet that accepts a variety of equipment. Removable front and back panels; handle may be attached to top. Available in sturdy steel or lightweight aluminum to suit your requirements.

STEEL CASES

Specify black rinkletex (suffix **BR**) or gray hammertone (suffix **HG**) finish when ordering.

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1	2-24	25-49
CC-1095	5 x 6 x 9	3	$ 7.70	$ 7.00	$ 6.30
CC-1091	5 x 9 x 6	3	7.70	7.00	6.30
CC-1096	6 x 7 x 12	5¼	10.85	9.85	8.85
CC-1092	6 x 12 x 7	5	10.85	9.85	8.85
CC-1097	7 x 7¾ x 15	7¼	12.20	11.10	10.00
CC-1100	8 x 10 x 10	7	12.40	11.25	10.15
CC-1093	7 x 15 x 9	8	15.05	13.70	12.35

NATURAL FINISH ALUMINUM CASES*

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1	2-24	25-49
ACC-2095	5 x 6 x 9	1½	$ 8.25	$ 7.50	$ 6.75
ACC-2091	5 x 9 x 6	1½	8.25	7.50	6.75
ACC-2096	6 x 7 x 12	2½	12.95	11.50	10.35
ACC-2092	6 x 12 x 7	2½	12.95	11.50	10.35

GRAY HAMMERTONE ALUMINUM CASES*

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1	2-24	25-49
ACC-2095HG	5 x 6 x 9	1½	$ 9.45	$ 8.60	$ 7.75
ACC-2091HG	5 x 9 x 6	1½	9.45	8.60	7.75
ACC-2096HG	6 x 7 x 12	2½	14.50	13.20	11.90
ACC-2092HG	6 x 12 x 7	2½	14.50	13.20	11.90

*Aluminum alloy 5005 H-14.

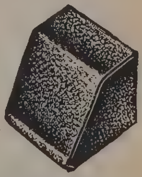
MINIATURE UTILITY CABINETS (FIG. E)

Ideal housing for construction of electronic devices. Front panel has a built-in chassis. Both front and rear panels are removable; fastened by self-tapping screws. Black rinkletex enamel finish.

Bud No.	Size, Inches W. x D. x H.	Chassis W. x D.	Net Each, Lots of 1	2-49	50-99
C-1793	4 x 4 x 2	3⅛ x 1⅞*	$3.80	$3.15	$2.85
C-1794	4 x 5 x 3	4⅛ x 2⅞*	4.30	3.60	3.25
C-1795	5 x 4 x 3	3⅛ x 2⅞†	4.80	4.00	3.60
C-1796	6 x 5 x 4	4⅛ x 3⅞‡	5.10	4.25	3.85
C-1797	5 x 6 x 4	5⅛ x 3⅞†	5.50	4.60	4.15
C-1798	6 x 6 x 6	4⅞ x 5⅞‡	7.00	6.35	5.70

*1″ high. †1¼″ high. ‡1¾″ high.

UNIVERSAL SLOPING PANEL CABINETS



Fully enclosed and shielded housing with one-piece detachable back and sides fastened to body with four self-tapping screws. Components may be mounted on back, bottom, sides or front. Gray hammertone finish only.

ALUMINUM MODELS

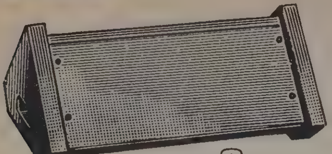
Aluminum alloy 5005 H-14.

Bud No.	Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Lots of 1	2-49	50-99
AC-1610	4 x 4 1/16 x 4 19/64	⅜	$5.20	$4.35	$3.90
AC-1611	5 x 4 1/16 x 4 19/64	½	5.10	4.25	3.85
AC-1612	6 x 4 1/16 x 4 19/64	9/16	5.60	4.70	4.25
AC-1613	7 x 4 1/16 x 4 19/64	⅝	5.70	5.20	4.70

STEEL MODELS

C-1606	4 x 4 1/16 x 4 19/64	1	$4.20	$3.50	$3.15
C-1607	5 x 4 1/16 x 4 19/64	1	4.40	3.65	3.30
C-1608	6 x 4 1/16 x 4 19/64	1¼	4.80	4.00	3.60
C-1609	7 x 4 1/16 x 4 19/64	1½	5.60	4.70	4.25

BUD Cabinets and Foundations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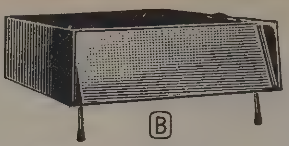
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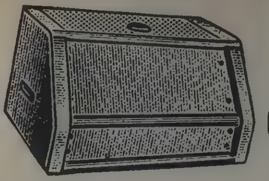
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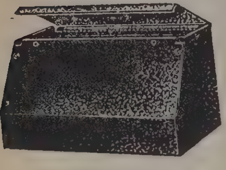
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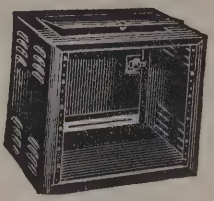
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"MARK-T" CABINETS (FIG. A)

Many applications in the realm of control enclosures. Of welded 16 ga. steel with removable front panel and hinged door. Angle of panel and door permit easy viewing of contents. Turn of knurled knob opens door latch. Recessed carrying handles. Four rubber feet. Gray textured body with light gray panel and door. Extra door or panel available on special order. All 6 33/64″ h.

Bud No.	Size, Inches W. x D.	Panel or Door Area, Inches	Net Each, Lots of		
			1	2-14	15-24
MT-214	16 x 10 15/32	13 15/16 x 5 17/32	$56.55	$56.55	$50.90
MT-219	21 x 10 15/32	18 15/16 x 5 17/32	61.95	61.95	55.75
MT-224	26 x 10 15/32	23 15/16 x 5 17/32	72.90	72.90	65.60

"TILT-A-VIEW" CABINETS (FIG. B)

Artfully designed to present variable viewing angles excellent for observing meters, dials, etc. Two-piece, 18-ga. steel. Fast, easy access to interior. Two 2″ high legs, detachable for changed viewing angle, have rubber feet. Can be mounted on desk, cabinet or wall. Hooded top. No screws in panels. Vinyl texture finish. Gray textured body with light sand panels.

Bud No.	Size, Inches W. x D. x H.	Net Each, Lots of		
		1	2-14	15-24
TV-2155	15 x 10 x 4½	$17.40	$15.80	$14.20
TV-2156	16 x 12 x 6½	20.30	18.45	16.60
TV-2157	17 x 14 x 8½	26.80	26.80	24.10

PRESTIGE SLOPING PANEL CABINETS (FIG. C)

Ventilated top opens completely. Removable panel trim bar permits installation or removal of panels with chassis attached. Top panel is swept back for easy viewing. Takes standard 19″ panels. Shielded lifting handles. Rear opening 2½″ x 18″ for controls, etc.; panel recess 1¼″; bottom panel 3½″ high. **Size:** 22″ w. x 9¼″ top depth. Gray hammertone finish only. Weight, 25, 27 and 30 lbs.

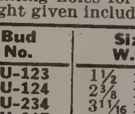
Bud No.	Size, In. H. x D.	Slope H., In.	Net Each, Lots of		
			1	2-14	15-24
C-1555	11⅞ x 14⅜	7	$78.40	$78.40	$70.55
C-1556	13¼ x 15⅛	8¾	83.50	83.50	75.15
C-1557	14¼ x 16⅛	10½	89.50	89.50	80.55

SLOPING PANEL CABINETS (FIG. D)

Hinged top for easy access; front panel also removable. Specify black rinkletex (suffix **BR**) or gray hammertone (suffix **HG**).

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of		
			1	2-24	25-49
C-1584	6½ x 7 1/16 x 7 9/32	2¾	$ 9.20	$ 8.35	$ 7.50
C-1587	8 x 8 1/16 x 8	4	12.10	11.00	9.90
C-1585	6½ x 9 1/16 x 7 9/32	2½	10.10	9.20	8.30
C-1588	8 x 10 1/16 x 8	4½	13.40	12.20	11.00
C-1586	6½ x 11 1/16 x 7 9/32	3¾	11.55	10.50	9.45
C-1894	8 x 14 1/16 x 8	6	13.95	12.70	11.45
C-1892	8 x 13 1/16 x 8 15/32	5½	15.75	14.30	12.85
C-1896	9 x 18 1/16 x 8 5/32	9¾	19.85	18.05	16.25
C-1893	10 x 18 1/16 x 10½	12½	20.40	18.55	16.70

ECONOBOX PRECISION DIECAST BOXES



Suitable for numerous uses where a small box is required. Diecast aluminum with close fitting, flange lid which attaches to bosses in the box by means of screws. Boxes are light weight and easily machined. CU-247 and CU-347 have 6 mounting holes for cover; all others have 4 mounting holes for cover. 6 x 32-½″ flat head screws supplied. Height given includes cover.

Bud No.	Size, Inches W. x D. x H.	Net Each, Lots of		
		1	2-24	25-49
CU-123	1½ x 3⅝ x 1 7/32	$2.90	$2.45	$2.20
CU-124	2⅜ x 4⅜ x 1 7/32	3.30	2.75	2.50
CU-234	3 11/16 x 4 11/16 x 2 7/32	5.20	4.35	3.90
CU-247	4 45/64 x 7 25/64 x 2 7/32	7.70	7.00	6.30
CU-347	4 45/64 x 7 25/64 x 3 7/32	8.45	7.70	6.95

DELUXE CABINET RACKS (FIG. E)

Heavy-gauge steel racks with recessed hinged door on top snap catch; rounded corners. The five large sizes have hin rear doors; others, welded rear panels. Louvered sides. Embos metal feet. Specify black rinkletex (suffix **BR**), gray rinkle (**GR**) or gray hammertone (**HG**). **Size:** 14¾″ x 22″ w. Fits panels.

Bud No.	Size, Inches		Wt., Lbs.	Net Each, Lots of		
	Overall Height	Panel Space		1	2-9	10-
CR-1726	8 25/32	7	28	$42.60	$42.60	$38.
CR-1741	10 9/16	8¾	30	45.15	45.15	40.
CR-1740	12 5/16	10½	34	53.00	53.00	47.
CR-1742	14 1/16	12¼	37	54.55	54.55	49.
CR-1739	15 13/16	14	40	74.05	74.05	66.
CR-1743*	19 5/16	17½	47	75.90	75.90	68.
CR-1727*	22 13/16	21	51	77.80	77.80	70.
CR-1744*	28 1/16	26¼	58	83.75	83.75	75.
CR-1728*	33 5/16	31½	68	89.00	89.00	80.
CR-1745*	36 13/16	35	78	93.60	93.60	84.

*These sizes have both top and rear doors.

HEAVY DUTY CABINET RACKS

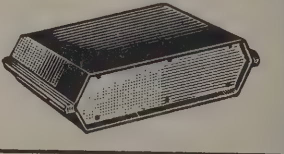
Similar to above units with Add-A-Cab feature (similar to Add- Rack) for continuously expanding systems. Panel mounting r are integral part of the sides. Removable rear door. Louvered si and 2½″ x 17⅞″ opening in the bottom of the back assure adequ ventilation. Made of 16 ga. steel. **Size:** 17⅛″ d. x 22″ w.

Bud No.	Size, Inches		Wt., Lbs.	Net Each, Lots of		
	Overall Height	Panel Space		1	2-9	10-1
CR-1736	24½	19¼	47	$76.40	$76.40	$68.7
CR-1737	31½	26¼	56	82.00	82.00	73.8
CR-1738	40¼	35	67	97.45	97.45	87.7

ADD-A-CAB FOR ABOVE CABINET RACKS

Bud No.	For Use With	Wt., Lbs.	Net Each, Lots of		
			1	2-14	15-24
ACR-1936	CR-1736	41	$75.75	$75.75	$68.20
ACR-1937	CR-1737	47	93.25	93.25	83.95
ACR-1938	CR-1738	55	96.10	96.10	86.50

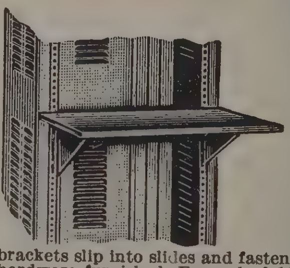
GRAND PRIX CABINETS



Excellent for audio equipment wherever appearance is imp tant. Match any decor. Upp and lower segments held gether by aluminum extrusion Body and panels of 20 gau steel. Four rubber feet. Speci color by suffix: **GGY**, textur dark gray with light panel; **H** gray hammertone.

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of		
			1	2-14	15-24
MD-1	4⅛ x 19¼ x 10½	7¼	$34.05	$34.05	$30.6
MD-2	7⅛ x 19¼ x 10½	7¾	35.75	35.75	32.2
MD-3	4⅛ x 12¼ x 8¾	7	27.55	27.55	24.8

SHELF ASSEMBLY

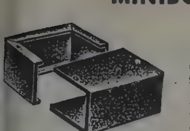


Immediately adds extra utili to a standard rack at ve little cost. Useful as a des work space, etc. Gray or bla rinkletex finish or gray ha mertone finish will match a standard Bud rack finishe Can't fall off or tilt; will su port any reasonable weigh Shelf portion supported b two brackets, punched to f standard panel mountin strips. No panel support nee ed but can be attached ov panel if desired. Slides welde to bottom of shelf; mountin brackets slip into slides and fasten with two screws. All necessar hardware furnished. Formed of 16 gauge steel; ⅝″ flange on a three sides; overall height, 7⅛″. Brackets are 7″ high. Specif black rinkletex (suffix **BR**), gray rinkletex (suffix **GR**), or ligh gray hammertone (suffix **HG**) finish.

Bud No.	Size, Inches D. x W.	Wt., Lbs.	Net Each, Lots of		
			1	2	3-4
SA-1719	16 x 22	13¼	$26.05	$23.70	$21.35
SA-1720	20 x 22	15¼	26.35	23.95	21.55

Boxes and Cases

MINIBOXES, HANDY BOXES



Design of this box permits installation of more components than would be possible in the conventionally designed boxes the same size. Two-piece construction. **Either snap-lock or screw type.** The flange type construction assures adequate shielding. Made from heavy .040 ga. aluminum. Available in natural aluminum finish and light gray finish.

GRAY HAMMERTONE MINIBOXES

Bud No.	Size, Inches L. x H. x W.	Wt., Lbs.	Net Each, Lots of 1	2-49	50-99
U-2100B	2¾ x 2⅛ x 1⅝	¼	$1.90	$1.60	$1.45
U-2101B	3¼ x 2⅛ x 1⅝	¼	1.90	1.60	1.45
U-2102B	4 x 2⅛ x 1⅝	¼	2.10	1.75	1.60
U-2103B	4 x 2¼ x 2¼	¼	2.30	1.90	1.70
U-2104B	5 x 2¼ x 2¼	¼	2.50	2.10	1.90
U-2105B	5 x 4 x 3	½	3.10	2.60	2.35
U-2106B	5¼ x 3 x 2⅛	¼	2.70	2.25	2.05
U-2107B	6 x 5 x 4	¾	3.90	3.25	2.95
U-2108B*	7 x 5 x 3	¾	4.40	3.65	3.30
U-2109B*	8 x 6 x 3½	1	5.70	4.75	4.30
U-2110B*	10 x 6 x 3½	1¼	6.30	5.25	4.75
U-2111B*	12 x 7 x 4	1¾	7.80	7.10	6.40
U-2112B*	17 x 5 x 4	2¼	7.85	7.15	6.45
U-2113B*	10 x 2 x 1⅝	½	3.20	2.65	2.40
U-2114B*	12 x 2½ x 2¼	¾	4.30	3.60	3.25
U-2115B	4 x 2 x 2¾	¼	2.30	1.90	1.70
U-2116B	4¼ x 2¼ x 1½	¼	2.30	1.90	1.70
U-2117B	3¼ x 2⅛ x 1⅛	¼	2.30	1.90	1.70

050″ aluminum.

NATURAL FINISH MINIBOXES

U-3000B	2¾ x 2⅛ x 1⅝	¼	$1.60	$1.35	$1.20
U-3001B	3¼ x 2⅛ x 1⅝	¼	1.60	1.35	1.20
U-3002B	4 x 2⅛ x 1⅝	¼	1.80	1.50	1.35
U-3003B	4 x 2¼ x 2¼	¼	2.10	1.75	1.60
U-3004B	5 x 2¼ x 2¼	¼	2.10	1.75	1.60
U-3005B	5 x 4 x 3	½	2.30	1.90	1.70
U-3006B	5¼ x 3 x 2⅛	¼	2.30	1.90	1.70
U-3007B	6 x 5 x 4	¾	3.10	2.60	2.35
U-3008B*	7 x 5 x 3	¾	3.90	3.25	2.95
U-3009B*	8 x 6 x 3½	1	5.00	4.20	3.80
U-3010B*	10 x 6 x 3½	1¼	5.40	4.50	4.05
U-3011B*	12 x 7 x 4	1¾	6.90	6.25	5.65
U-3012B*	17 x 5 x 4	2¼	6.90	6.25	5.65
U-3013B*	10 x 2 x 1⅝	½	3.00	2.50	2.25
U-3014B*	12 x 2½ x 2¼	¾	3.80	3.15	2.85
U-3015B	4 x 2 x 2¾	¼	2.10	1.75	1.60
U-3016B	4¼ x 2¼ x 1½	¼	2.10	1.75	1.60
U-3017B	3¼ x 2⅛ x 1⅛	¼	1.80	1.50	1.35

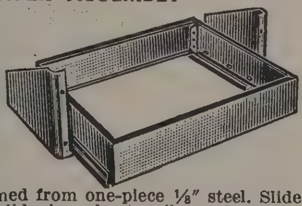
050″ aluminum.

HANDY BOXES

imilar to Miniboxes in design and construction, except made of gauge steel. Black rinkletex finish only. Screw type only.

Bud No.	Size, Inches L. x H. x W.	Wt., Lbs.	Net Each, Lots of 1	2-49	50-99
B-1621	4¼ x 2¼ x 1½	¼	$3.80	$3.15	$2.85
B-1622	4 x 2 x 2¾	½	3.80	3.15	2.85

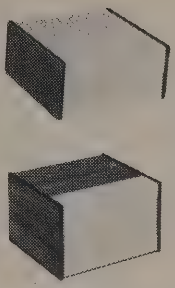
SLIDING DRAWER ASSEMBLY



leal for use as a record player ounting base, typewriter ıse, apparatus and instrument base, writing desk, etc. ıstalls quickly and simply in ıy standard rack. Can't fall ıt or tilt. Provides a cometely safe mounting base for ıything put on it. Ball bearg suspension for easy sliding. hassis formed from one-piece gauge aluminum; electroelded. Support brackets formed from one-piece ⅛″ steel. Slide il fastens securely to chassis, slides in and out easily on channeled ıll bearings. Stop screw on slide rail prevents drawer from falling ıt of channel. Support brackets finished in black, channel finished natural aluminum; chassis, slide and plate finished in light gray ımmertone. Will support up to 30 lbs. **Chassis Size:** 16¾″ x 14″ x , with ½″ flange top and bottom. Drawer plate fastens to top bottom.

Bud No.	Description	Wt., Lbs.	Net Each, Lots of 1	2	3-4
SD-1717	Sliding drawer	5	$29.55	$29.55	$26.60
TP-1718	Drawer plate	1½	7.80	7.10	6.40

CONTEMPO ENCLOSURES



Clean contemporary design—versatile, highly functional, .062″ aluminum top and body. Molded .160″ cycolac plastic end panels. Twenty-two sizes with either wood grain and eggshell or black pebble and smooth gray finish. Top slides into grooves in end panels and is secured with two screws. The letter **B** in the Bud Model No. designates black end panels with gray body; the letter **W** designates wood grain finish on end panels and body with eggshell body, front and rear panels.

Bud No.	Inside Dimen., Inches*			Net Each, Lots of		
	H. x	W. x	D.	1	2-49	50-99
JB-1650	2⅛	3⅝	5 9/16	$ 6.80	$ 6.15	$ 5.55
JB-1651	2⅛	4 11/16	5 9/16	7.30	6.60	5.95
JB-1652	2⅛	5 11/16	5 9/16	7.60	6.90	6.20
JB-1653	2⅛	6 11/16	5 9/16	8.10	7.35	6.60
JB-1654	2⅛	7¾	5 9/16	9.05	8.25	7.45
JB-1655	2⅛	9⅞	5 9/16	11.55	10.50	9.45
JW-3200	2⅛	3⅝	5 9/16	7.20	6.60	5.95
JW-3201	2⅛	4 11/16	5 9/16	7.60	6.90	6.20
JW-3202	2⅛	5 11/16	5 9/16	8.10	7.35	6.60
JW-3203	2⅛	6 11/16	5 9/16	9.05	8.25	7.45
JW-3204	2⅛	7¾	5 9/16	10.25	9.30	8.35
JW-3205	2⅛	9⅞	5 9/16	13.20	12.00	10.80

*Add 7/16″ to H., ¼″ to W. and ⅜″ to D. to obtain outside dimensions.

Bud No.	Inside Dimen., Inches*			Net Each, Lots of		
	H. x	W. x	D.	1	2-49	50-99
LB-1660	2 15/16	3⅝	6 11/16	$ 7.40	$ 6.70	$ 6.05
LB-1661	2 15/16	4 11/16	6 11/16	7.70	7.00	6.30
LB-1662	2 15/16	5 11/16	6 11/16	8.45	7.65	6.90
LB-1663	2 15/16	6 11/16	6 11/16	9.70	8.80	7.90
LB-1664	2 15/16	7¾	6 11/16	10.85	9.85	8.85
LB-1665	2 15/16	9⅞	6 11/16	13.65	12.40	11.15
LW-3210	2 15/16	3⅝	6 11/16	7.70	7.00	6.30
LW-3211	2 15/16	4 11/16	6 11/16	8.45	7.65	6.90
LW-3212	2 15/16	5 11/16	6 11/16	9.70	8.80	7.90
LW-3213	2 15/16	6 11/16	6 11/16	10.85	9.85	8.85
LW-3214	2 15/16	7¾	6 11/16	12.50	11.35	10.20
LW-3215	2 15/16	9⅞	6 11/16	15.00	13.60	12.25

*Add ⅜″ to H., ¼″ to W. and 5/16″ to D. to obtain outside dimensions.

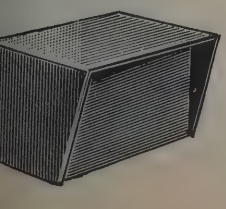
Bud No.	Inside Dimen., Inches*			Net Each, Lots of		
	H. x	W. x	D.	1	2-49	50-99
MB-1670	4 3/16	4¾	6 5/16	$ 7.70	$ 7.00	$ 6.30
MB-1671	4 3/16	5¾	6 5/16	8.45	7.65	6.90
MB-1672	4 3/16	6¾	6 5/16	9.70	8.80	7.90
MB-1673	4 3/16	7 13/16	6 5/16	10.85	9.85	8.85
MB-1674	4 3/16	9 15/16	6 5/16	13.65	12.40	11.15
MB-1675	4 3/16	11 15/16	6 5/16	16.95	15.40	13.85
MW-3220	4 3/16	4¾	6 5/16	8.45	7.65	6.90
MW-3221	4 3/16	5¾	6 5/16	9.70	8.80	7.90
MW-3222	4 3/16	6¾	6 5/16	10.85	9.85	8.85
MW-3223	4 3/16	7 13/16	6 5/16	12.50	11.35	10.20
MW-3224	4 3/16	9 15/16	6 5/16	15.00	13.60	12.25
MW-3225	4 3/16	11 15/16	6 5/16	17.80	16.20	14.60

*Add ⅜″ to H., ¼″ to W. and ¼″ to D. to obtain outside dimensions.

Bud No.	Inside Dimen., Inches*			Net Each, Lots of		
	H. x	W. x	D.	1	2-24	25-34
DB-1680	4 3/16	7¾	10 7/32	$19.25	$17.50	$15.75
DB-1681	4 3/16	9¾	10 7/32	20.60	18.70	16.85
DB-1682	4 3/16	11¾	10 7/32	22.45	20.40	18.35
DB-1683	4 3/16	13¾	10 7/32	24.25	22.05	19.85
DW-3230	4 3/16	7¾	10 7/32	20.60	18.70	16.85
DW-3231	4 3/16	9¾	10 7/32	22.45	20.40	18.35
DW-3232	4 3/16	11¾	10 7/32	24.90	22.65	20.40
DW-3233	4 3/16	13¾	10 7/32	28.80	26.20	23.60

*Add 7/16″ to H., 5/16″ to W. and 5/32″ to D. to obtain outside dimensions.

COWL-TYPE MINIBOXES



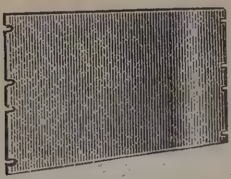
The cowl-type Minibox has a projecting cover to reduce glare on the panel from overhead lighting. It also provides protection for controls and dials. Cover has two box braces to which bottom is attached with sheet metal screws. When assembled, this type of construction results in a sturdy, rigid housing. Constructed of .040″ aluminum and available in natural or light hammertone gray finish.

Bud No.	Overall Size, In. H. x W. x D.	Net Each, Lots of 1	2-49	50-99
SC-2130*	6 x 10 x 7	$13.95	$12.70	$11.45
SC-2131*	7 x 12 x 8	15.25	13.85	12.45
SC-2132*	3 x 8 x 5	8.00	7.25	6.55
SC-2133*	5 x 5 x 5	8.25	7.50	6.75
SC-3030†	6 x 10 x 7	10.10	9.20	8.30
SC-3031†	7 x 12 x 8	10.95	9.95	8.95
SC-3032†	3 x 8 x 5	5.80	5.25	4.75
SC-3033†	5 x 5 x 5	6.15	5.60	5.05

*Painted light gray hammertone. †Natural aluminum finish.

BUD Relay Rack Panels, Cases

STANDARD RELAY RACK PANELS



Choice of steel or aluminum relay rack panels, ⅛″ or 3/16″ thick, in both 19″ and 24″ widths. Specify color when ordering, use suffix: **BR**, black rinkletex; **GR**, gray rinkletex; **HG**, gray hammertone; **BY**, light blue textured; **GY**, light gray textured; **WH**, white; **S**, sand. Aluminum panels 5005 H-36 or 2024 T-3 alloy.

	24″ WIDE PANELS				19″ WIDE PANELS			
	⅛″ 5005 H-36 ALUMINUM				3/16″ 5005 H-36 ALUMINUM			
		Net Each, Lots of				Net Each, Lots of		
Ht., In.	Bud No.	1	2-49	50-99	Bud No.	1	2-49	50-9
1¾	PA-2401	$ 5.90	$ 4.95	$ 4.45	PA-3101	$ 5.50	$ 4.60	$ 4.1
3½	PA-2402	7.10	6.45	5.80	PA-3102	7.10	6.45	5.
5¼	PA-2403	9.45	8.60	7.75	PA-3103	9.45	8.60	7.
7	PA-2404	10.95	9.95	8.95	PA-3104	11.55	10.50	9.
8¾	PA-2405	13.70	12.45	11.20	PA-3105	13.70	12.45	11.
10½	PA-2406	16.60	15.10	13.60	PA-3106	17.25	15.70	14.1
12¼	PA-2407	18.80	17.10	15.40	PA-3107	19.85	18.05	16.
14	PA-2408	22.65	20.60	18.55	PA-3108	22.10	20.10	18.1
15¾	PA-2409	24.55	22.30	20.05	PA-3109	25.80	23.45	21.1
17½	PA-2410	25.50	23.20	20.90	PA-3110	25.65	25.65	23.1
19¼	PA-2411	25.55	25.55	23.00	PA-3111	28.05	28.05	25.
21	PA-2412	28.15	28.15	25.35	PA-3112	30.65	30.65	27.

19″ WIDE ⅛″ STEEL AND ALUMINUM PANELS

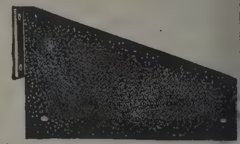
	⅛″ STEEL				⅛″ 2024 T-3 ALUMINUM				⅛″ 5005 H-36 ALUMINUM				
		Net Each, Lots of				Net Each, Lots of				Net Each, Lots of			
Ht., In.	Bud No.	1	2-49	50-99	Bud No.	1	2.49	50-99	Bud No.	1	2-49	50-99	Ht., In.
1¾	PS-1250	$ 3.00	$ 2.50	$ 2.25	PA-1131	$ 4.40	$ 3.65	$ 3.30	PA-1101	$ 3.60	$ 3.00	$ 2.70	1¾
3½	PS-1251	3.60	3.00	2.70	PA-1132	5.70	4.75	4.30	PA-1102	5.00	4.20	3.80	3½
5¼	PS-1252	4.40	3.65	3.30	PA-1133	7.10	6.45	5.80	PA-1103	6.00	5.45	4.90	5¼
7	PS-1253	4.80	4.00	3.60	PA-1134	9.00	8.20	7.40	PA-1104	7.55	6.85	6.15	7
8¾	PS-1254	6.00	5.45	4.90	PA-1135	11.10	10.10	9.10	PA-1105	8.50	7.70	6.95	8¾
10½	PS-1255	7.00	6.35	5.70	PA-1136	12.85	11.70	10.55	PA-1106	10.95	9.95	8.95	10½
12¼	PS-1256	7.70	7.00	6.30	PA-1137	14.80	13.45	12.10	PA-1107	12.60	11.45	10.30	12¼
14	PS-1257	8.90	8.10	7.30	PA-1138	16.05	15.60	14.05	PA-1108	14.40	13.10	11.80	14
15¾	PS-1258	9.65	8.75	7.90	PA-1139	18.55	16.85	15.15	PA-1109	16.00	14.55	13.10	15¾
17½	PS-1259	10.75	9.75	8.80	PA-1140	19.90	18.10	16.30	PA-1110	17.55	15.95	14.35	17½
19¼	PS-1260	11.65	10.60	9.55	PA-1141	21.50	19.55	17.60	PA-1111	19.10	17.35	15.60	19¼
21	PS-1261	13.50	12.25	11.05	PA-1142	24.80	22.55	20.30	PA-1112	21.25	19.30	17.35	21

SURFACE SHIELD PANELS

Bright aluminum alloy 5005 H-36 panels have blemish-free mill finish. Covered on both sides with sturdy, pressure-sensitive, white paper; protects against damage and useful for marking for drilling, positioning, etc. Standard notched sizes.

	⅛″ ALUMINUM				3/16″ ALUMINUM			
		Net Each, Lots of				Net Each, Lots of		
Ht., In.	Bud No.	1	2-49	50-99	Bud No.	1	2-49	50-99
1¾	SFA-1831	$ 3.00	$ 2.50	$ 2.25	SFA-3161	$ 5.80	$ 4.85	$ 4.35
3½	SFA-1832	5.10	4.25	3.85	SFA-3162	7.55	6.85	6.15
5¼	SFA-1833	6.05	5.50	4.95	SFA-3163	9.85	8.95	8.05
7	SFA-1834	7.45	6.75	6.10	SFA-3164	12.30	11.20	10.10
8¾	SFA-1835	8.65	7.85	7.05	SFA-3165	14.50	13.20	11.90
10½	SFA-1836	11.22	10.20	9.20	SFA-3166	17.00	15.45	13.90
12¼	SFA-1837	12.85	11.70	10.55	SFA-3167	21.40	19.45	17.50
14	SFA-1838	14.50	13.20	11.90	SFA-3168	24.40	22.20	20.00
15¾	SFA-1839	16.45	14.95	13.45	SFA-3169	27.40	24.90	22.40
17½	SFA-1840	18.10	16.45	14.80	SFA-3170	27.45	27.45	24.70
19¼	SFA-1841	20.00	18.20	16.40	SFA-3171	30.30	30.30	27.25
21	SFA-1842	21.85	19.85	17.85	SFA-3172	32.75	32.75	29.50

CHASSIS MTG. BRACKETS

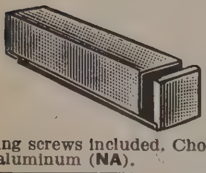


Mounts chassis to panels; supports entir chassis weight. Heavy gauge steel 6½ high, cut away at bottom to mount flusl to panel. Black enamel finish.

Bud No.	Depth, In.	Net per Pair, Lots of		
		1	2-49	50-99
MB-458	8	$3.80	$3.15	$2.85
MB-448	10	3.80	3.15	2.85
MB-459	11	4.30	3.60	3.25
MB-449	12	4.90	4.10	3.70
MB-460	13	4.60	3.85	3.45
MB-450	10	5.60	4.70	4.25
MB-451*	13	5.80	4.85	4.35

*8½″ high for chassis height of 4″.

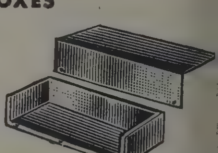
MINISLIDES



Ideal for housing components or assemblies where easy access to internally mounted parts is important. Can be mounted in a number of positions in a rack or cabinet. Accessibility achieved by removing sliding cover. Design of Minislide Box provides adequate shielding and protection from dust. Sturdily made of .050 aluminum. 4 self-tapping fastening screws included. Choice of gray hammertone (**HG**) or natural aluminum (**NA**).

Bud No.	Finish	Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Lots of		
				1	2-49	50-99
MS-2150	(HG)	3⅛ x 13 x 2⅝	1	$9.20	$8.35	$7.50
MS-2151	(HG)	5⅛ x 13 x 2⅝	1½	10.30	9.35	8.40
MS-2152	(HG)	3⅛ x 17 x 2⅝	1¼	10.00	9.10	8.20
MS-3050	(NA)	3⅛ x 13 x 2⅝	1	6.90	6.25	5.65
MS-3051	(NA)	5⅛ x 13 x 2⅝	1½	8.35	7.60	6.85
MS-3052	(NA)	3⅛ x 17 x 2⅝	1¼	8.20	7.45	6.70

CONVERTA-BOXES

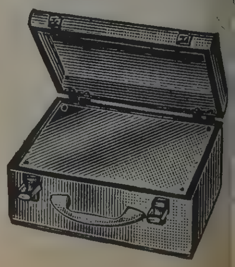


Versatile enclosure combines welded base and two-sided cover. Components or controls are easily mounted to any surface of the unit. All contents easily accessible. Cover and base are fastened by self-tapping screws. Rigid 20 ga. cadmium-plated steel.

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of		
			1	2-24	25-49
CU-341	1½ x 4 x 3	½	$5.20	$4.35	$3.9
CU-452	2 x 5 x 4	¾	5.10	4.25	3.8
CU-482	2 x 8 x 4	1¼	5.40	4.50	4.0
CU-592	2½ x 9½ x 5	1¾	5.70	4.75	4.3
CU-622	2½ x 12 x 6	2¼	5.80	5.25	4.7
CU-712	2½ x 15 x 7	3	7.70	*7.00	6.3

TRANSICASE PORTABLE INSTRUMENT CASES

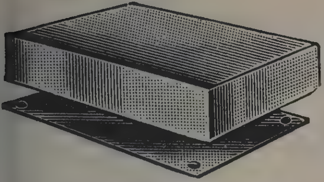
Handsome, portable instrument case with unlimited applications. Contour design fabricated of .040″ aluminum with flush-fitting aluminum panel. Lid protects instruments in case; mounted on two slide-off, bright nickel-plated hinges with toggle catches. Rubber feet at both base and back; metal plugs supplied to fill holes if rubber feet are not used. Bright nickel-plated handle. **Specify Color:** Add suffix **BBY** for textured blue; **GGY** for textured gray enamel.



Bud No.	Inside Panel Size, Inches	Clear Internal Space, Inches		Internal Aperture, Inches	Overall Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Lots of		
		Below Panel	Above Panel				1	2-9	10-14
TC-300	8 15/16 x 5 15/16	4 13/32	1 15/32	8 x 5 31/32	10 1/16 x 7 x 5	2½	$43.85	$43.85	$39.45
TC-301	10⅜ x 7¼	4 13/32	1 15/32	9 7/16 x 7 9/32	11½ x 8¼ x 6	3¼	45.15	45.15	40.65
TC-302	11⅞ x 7 15/16	5 29/32	1 15/32	10 15/16 x 7 31/32	13 x 9 x 7½	4	48.25	48.25	43.45
TC-303	15⅜ x 7 15/16	5 29/32	1 15/32	14 7/16 x 7 31/32	16½ x 9 x 7½	4¾	48.95	48.95	44.05
TC-304	19 x 7	7 11/32	1 15/32	18 1/16 x 7 1/32	20⅛ x 8 x 9	6¾	51.70	51.70	46.55

BUD Chassis Bases and Slides

ALUMINUM CHASSIS BASES



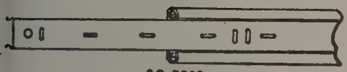
Each chassis is made from a single sheet of metal. All corners are reinforced and spot welded. Natural finish aluminum alloy 5005 H-14. All four sides are folded at the bottom for added rigidity and strength. Bottom plates available to fit all sizes.

Bud No.	Size, Inches D. x W. x H.	Ga.	Wt., Lbs.	Net Each, Lots of 1	2-24	25-49
AC-1401	2½ x 4½ x 1	18	⅛	$2.60	$2.15	$1.95
AC-1402	3½ x 4½ x 1	18	⅛	2.70	2.25	2.05
AC-1403	3½ x 5½ x 1	18	⅛	2.70	2.25	2.05
AC-1404	4 x 5 x 2	18	¼	3.20	2.65	2.40
AC-1405	4 x 6 x 1½	18	¼	2.80	2.35	2.10
AC-430	4 x 6 x 3	18	⅓	3.50	2.90	2.60
AC-431	4 x 6 x 2	18	¼	3.10	2.60	2.35
AC-1406	4 x 8 x 2	18	¼	3.80	3.15	2.85
AC-432	4 x 17 x 3	16	1	5.50	5.00	4.50
AC-1407	4½ x 8 x 1½	18	¼	3.50	2.90	2.60
AC-402	5 x 7 x 2	18	⅓	3.30	2.75	2.50
AC-429	5 x 7 x 3	18	½	3.70	3.10	2.80
AC-1408	5 x 9 x 1½	18	⅓	3.50	2.90	2.60
AC-1409	5 x 9½ x 1½	18	⅓	3.50	2.90	2.60
AC-403	5 x 9½ x 2	18	½	3.60	3.00	2.70
AC-401	5 x 9½ x 2½	18	½	4.20	3.50	3.15
AC-421	5 x 9½ x 3	18	⅝	4.30	3.60	3.25
AC-404	5 x 10 x 3	18	⅝	4.30	3.60	3.25
AC-422	5 x 13 x 3	18	¾	5.00	4.20	3.80
AC-1410	5 x 13½ x 2½	18	¾	4.60	3.85	3.45
AC-1411	5½ x 5½ x 1	18	⅕	3.10	2.60	2.35
AC-1412	5½ x 9½ x 1½	18	⅓	3.50	2.90	2.60
AC-1413	6 x 8 x 2	18	⅓	3.60	3.00	2.70
AC-1414	6 x 14 x 3	16	1⅛	5.80	5.25	4.75
AC-433	6 x 17 x 3	16	1¼	6.60	6.00	5.40
AC-405	7 x 7 x 2	18	½	3.60	3.00	2.70
AC-406	7 x 9 x 2	18	½	3.70	3.10	2.80

Bud No.	Size, Inches D. x W. x H.	Ga.	Wt., Lbs.	Net Each, Lots of 1	2-24	25-49
AC-407	7 x 11 x 2	18	⅝	$4.30	$3.60	$3.25
AC-408	7 x 12 x 3	18	⅞	5.20	4.35	3.90
AC-409	7 x 13 x 2	18	¾	4.40	3.65	3.30
AC-1415	7 x 15 x 2	16	1	6.35	5.75	5.20
AC-411	7 x 15 x 3	16	1¼	6.60	6.00	5.40
AC-1416	7 x 17 x 2	16	1⅛	5.90	5.35	4.80
AC-1417	7 x 17 x 2½	16	1¼	6.15	5.60	5.05
AC-423	7 x 17 x 3	16	1½	6.60	6.00	5.40
AC-1418	8 x 10 x 2½	18	1	5.40	4.50	4.05
AC-1419	8 x 12 x 2½	16	1⅛	5.80	5.25	4.75
AC-424	8 x 12 x 3	16	1¼	5.70	5.20	4.70
AC-425	8 x 17 x 2	16	1½	5.90	5.35	4.80
AC-412*	8 x 17 x 3	16	1¾	6.90	6.25	5.65
AC-1420	8½ x 15 x 3	16	1½	6.35	5.75	5.20
AC-1421	9 x 15 x 3	16	1½	7.25	6.60	5.95
AC-413	10 x 12 x 3	16	1¼	6.90	6.25	5.65
AC-414	10 x 14 x 3	16	1½	6.90	6.25	5.65
AC-415*	10 x 17 x 2	16	1½	6.60	6.00	5.40
AC-416*	10 x 17 x 3	16	1¾	7.55	6.85	6.15
AC-427*	10 x 17 x 4	14	2½	10.75	9.75	8.80
AC-1422	10 x 17 x 5	16	2¼	15.45	14.05	12.65
AC-1423	10 x 23 x 3	14	2¾	11.50	10.45	9.40
AC-426*	11 x 17 x 2	14	2	8.35	7.60	6.85
AC-417*	11 x 17 x 3	14	2¼	9.65	8.75	7.90
AC-1424	12 x 12 x 3	16	1½	7.00	6.35	5.70
AC-1425	12 x 17 x 2	16	1⅝	8.65	7.85	7.05
AC-418*	12 x 17 x 3	14	2¼	9.85	8.95	8.05
AC-419*	13 x 17 x 2	14	2⅝	8.55	7.75	7.00
AC-420*	13 x 17 x 3	14	2¾	10.15	9.25	8.35
AC-428*	13 x 17 x 4	14	3¼	12.40	11.25	10.15
AC-1426	13 x 17 x 5	14	3½	17.10	15.55	14.00
AC-1427	14 x 17 x 3	14	2¾	12.10	11.00	9.90
AC-1428	15 x 17 x 4	14	3¼	17.10	15.55	14.00
AC-1429	15 x 17 x 6	14	4⅛	23.55	21.40	19.25
AC-1430	17 x 17 x 3	14	3¼	14.40	13.10	11.80
AC-1431	17 x 17 x 4	14	3⅞	20.30	18.45	16.60

*Punched to accommodate chassis mounting brackets.

PRECISION SLIDING MECHANISMS



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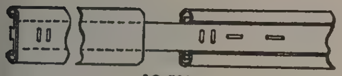

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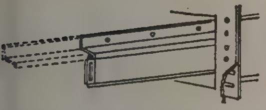


AS-5080

ll steel commercial design provides a wide
ariety of models for a wide range of
urposes. Provides smooth, light telescop-
ng movement with unsurpassed reliability
nd minimal wear. **Specifications:** Slide
embers and component parts made from
ork hardened, cold rolled steel; bearings
re nickel-plated carburized steel. Electro-
inc plate finish; grease is high-low tem-
erature type. **Mounting:** Units require 2
ach BAS-5100 front mounting brackets
nd 2 each BAS-5101 rear mounting
rackets per pair to attach slides to EIA
ails. One each NAS-5110 rail bar nut used
ith each mounting bracket.

2 MEMBER, ¾ EXTENSION
FRICTION DISCONNECT

Bud Number	Slide Length, Inches	Slide Travel, Inches	Load Rating, Lbs.	Net per Pair, Lots of 1	2-4	5-9
AS-5000	12	9	140	$17.60	$16.00	$14.40
AS-5001	16	12	120	20.40	18.55	16.70
AS-5002	20	15	92	22.30	20.25	18.25
POSITIVE STOP						
AS-5060	12	9	108	$16.00	$14.55	$13.10
AS-5061	16	12	95	17.45	15.85	14.25
AS-5062	20	15	82	18.25	16.60	14.95

3 MEMBER, FULL EXTENSION
POSITIVE STOP

Bud Number	Slide Length, Inches	Slide Travel, Inches	Load Rating, Lbs.	Net per Pair, Lots of 1	2-4	5-9
AS-5020	12	12.88	175	$38.05	$38.05	$34.25
AS-5021	16	16.88	160	42.15	42.15	37.95
AS-5022	20	20.88	142	45.55	45.55	41.00
POSITIVE W/FRONT DISCONNECT, ⅜ SIDE SPACE						
AS-5040	12	11.88	120	$50.25	$50.25	$45.25
AS-5041	16	15.88	108	54.45	54.45	49.00
AS-5042	20	19.88	92	58.15	58.15	52.35

DUAL MEMBER W/DRAWER SECTION, FULL EXTENSION AND LIFT-OFF DISCONNECT

Drawer section lengths are equal to slide lengths. Provides full extension in ⅜″ side space. Equipped with stationary front, and adjustable rear mounting brackets for EIA rails. Chassis mounts to drawer section. Removable by lining up open slot in drawer section over tab in moving member and lifting off.

Bud Number	Slide Length, Inches	Slide Travel, Inches	Load Rating, Lbs.	Net per Pair, Lots of 1	2-4	5-9
AS-5080	12	12	80	$46.20	$46.20	$41.60
AS-5081	16	16	70	47.20	47.20	42.50
AS-5082	20	20	60	51.85	51.85	46.65

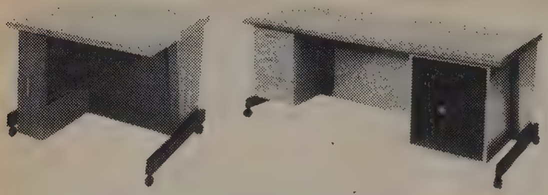
MOUNTING BRACKETS

Bud No.	Description	Net Each, Lots of 1	2-4	5-9	Bud No.	Description	Net Each, Lots of 1	2-4	5-9
BAS-5100	Front bracket	$2.70	$2.05	$1.85	BAS-5103	Rear bracket*	$2.70	$2.05	$1.85
BAS-5101	Rear bracket	2.70	2.05	1.85	NAS-5110	Bar nut	2.70	2.05	1.85
BAS-5102	Front bracket*	2.70	2.05	1.85	SB-5107	Adapter kit†	7.55	6.85	6.15

For use with 3 member front disconnect types only. †For use with Series 2000, 60 and Classic II.

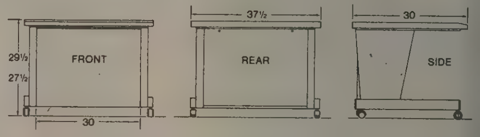
Work Stations

BUD COMMANDER MODULAR WORK STATIONS

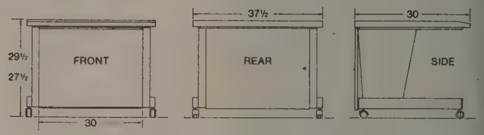


Contemporary styling, ruggedly built work stations to provid maximum efficiency and flexibility. Nine standard one-, two- o three-bay units—all with rear compartment—give the option t utilize any combination of cabinets, three-drawer pedestals o shelves to house electronic equipment or for storage. Frame an pylons are 14 gauge steel; struts are 11 gauge steel; top is particl board with wood grain finish. Field adjustable heights. Convenien cable access and excellent cable management. Shipped assemble or knocked down. Choice of 19 standard colors.

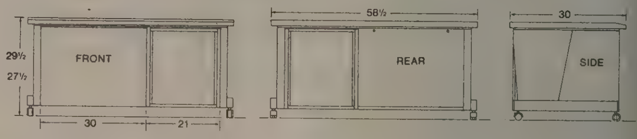
COMMANDER CD-16000
One-bay desk with standard one-bay rear unit.


29½
27½
FRONT
30
37½
REAR
30
SIDE

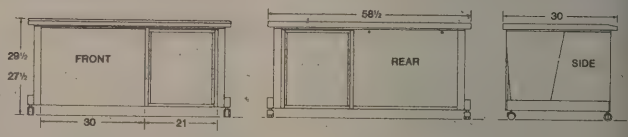
COMMANDER CD-16001
One-bay desk with deluxe one-bay rear unit.


29½
27½
FRONT
30
37½
REAR
30
SIDE

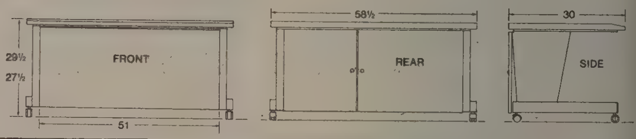
COMMANDER CD-16002
Two-bay desk with standard one-bay rear unit plus cabinet.


29½
27½
FRONT
30
21
58½
REAR
30
SIDE

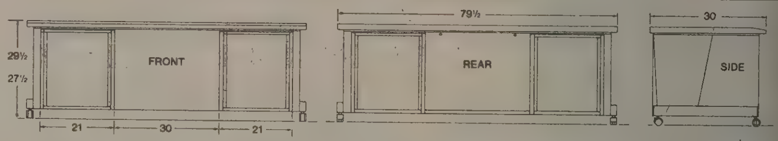
COMMANDER CD-16003
Two-bay desk with deluxe one-bay rear unit plus cabinet.


29½
27½
FRONT
30
21
58½
REAR
30
SIDE

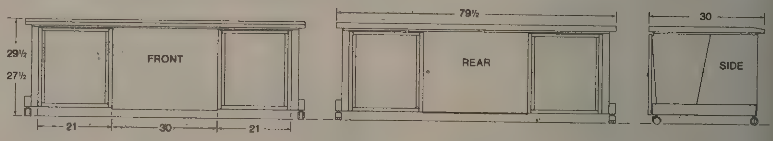
COMMANDER CD-16004
Two-bay desk with deluxe two-bay rear unit.


29½
27½
FRONT
51
58½
REAR
30
SIDE

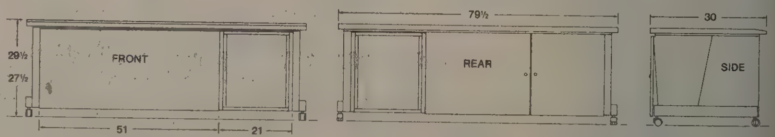
COMMANDER CD-16005
Three-bay desk with standard one-bay rear unit and two cabinets.


29½
27½
FRONT
21
30
21
79½
REAR
30
SIDE

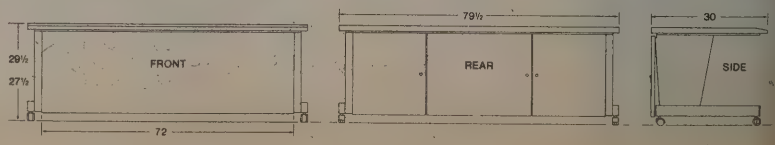
COMMANDER CD-16006
Three-bay desk with deluxe one-bay rear unit and two cabinets.


29½
27½
FRONT
21
30
21
79½
REAR
30
SIDE

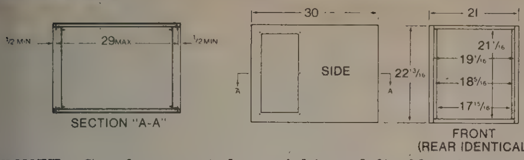
COMMANDER CD-16007
Three-bay desk with deluxe two-bay rear unit and one cabinet.


29½
27½
FRONT
51
21
79½
REAR
30
SIDE

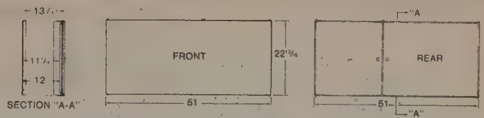
COMMANDER CD-16008
Three-bay desk with deluxe three-bay rear unit.


29½
27½
FRONT
72
79½
REAR
30
SIDE

Work Stations



ABINET—Can be mounted on right or left side of two- or ree-bay desk framework. Front and rear adjustable mounting ails tapped 10-32 on E.I.A. spacing. Solid bottom panel supplied. erforated bottom panel and doors optional. 16 gauge steel.



TWO-BAY DELUXE REAR UNIT—For storage, cable routing and/or mounting 19″ x 21″ equipment. Reversible rear doors affixed with pin hinges along one side; locking bar and magnetic latch on opposite side. Optional 21″ and 30″ shelves, mounting rails and divider panels available. Modesty panel and rear frame, 16 gauge steel. Doors, 18 gauge steel. Door mounting strips, 11 gauge steel.

OPTIONAL MODULES AND ACCESSORIES

Bud No.	Description	Quan.
D-16009	Vertical drawer	1
D-16010	3-drwr. pedestal	1
D-16012	30″ shelf	1
C-7760	Caster	2/4
L-7765	Leveler	2/4
L-7766	Leveler	2/4
L-7767	Leveler	2/4

D-16009	Vertical drawer	1
D-16010	3-drwr. pedestal	1
D-16011	Mounting rail	1–4
D-16012	30″ shelf	1/2
D-16014	Divider panel	1/2

asters and levelers same as above.

D-16009	Vertical drawer	1
D-16012	30″ shelf	1
D-16015	21″ door	1/2
D-16016	Perf. bottom panel	1

asters and levelers same as above.

D-16009	Vertical drawer	1
D-16011	Mounting rail	1–4
D-16012	30″ rail	1/2
D-16014	Divider panel	1/2
D-16015	21″ door	1/2
D-16016	Perf. bottom panel	1

asters and levelers same as above.

D-16009	Vertical drawer	1/2
D-16010	3-drwr. pedestal	1/2
D-16011	Mounting rail	1–8
D-16012	30″ shelf	1/2
D-16013	21″ shelf	1/2
D-16014	Divider panel	1–4

asters and levelers same as above.

D-16009	Vertical drawer	1
D-16012	30″ shelf	1
D-16015	21″ shelf	1–4
D-16016	Perf. bottom panel	1/2

asters and levelers same as above.

D-16009	Vertical drawer	1
D-16011	Mounting rail	1–4
D-16012	30″ shelf	1/2
D-16014	Divider panel	1/2
D-16015	21″ door	1–4
D-16016	Perf. bottom panel	1/2

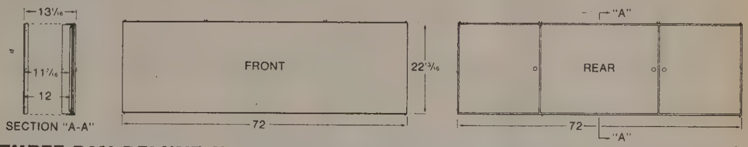
asters and levelers same as above.

D-16009	Vertical drawer	1/2
D-16010	3-drwr. pedestal	1
D-16011	Mounting rail	1–8
D-16012	30″ shelf	1/2
D-16013	21″ shelf	1/2
D-16014	Divider panel	1–4
D-16015	21″ door	1/2
D-16016	Perf. bottom panel	1

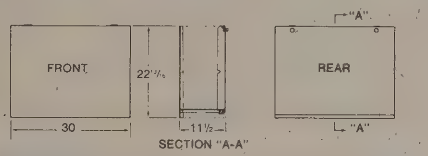
asters and levelers same as above.

D-16009	Vertical drawer	1/2
D-16010	3-drwr. pedestal	1/2
D-16011	Mounting rail	1–12
D-16012	30″ shelf	1/2
D-16013	21″ shelf	1–4
D-16014	Divider panel	1–6

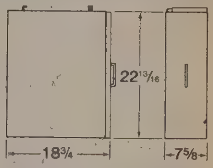
sters and levelers same as above.



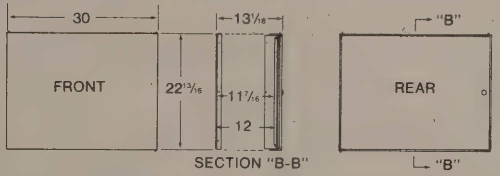
THREE-BAY DELUXE UNIT—For storage, cable routing and/or mounting 19″ x 21″ equipment. Reversible rear doors affixed hinges along one side; locking bar and magnetic latch on opposite side. Optional 21″ x 30″ shelves, mounting rails and divider panels available. Modesty panel and rear frame, 16 gauge steel. Doors, 18 gauge steel. Door mounting strips, 11 gauge steel.



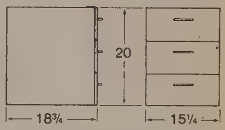
STANDARD REAR UNIT—For storage and/or cable routing. Rear quick-disconnect panel secured by two ¼-turn fasteners at top and two open slots at bottom. Optional 30″ shelf. Modesty panel and shelf, 16 gauge steel. Rear panel, 20 gauge steel. Knobs, black plastic.



VERTICAL DRAWER—Mounts on either side of desk frame or next to a cabinet. Two ball-bearing telescoping slides. Pencil tray at top; divider panel at bottom. 20 gauge steel.



ONE-BAY DELUXE REAR UNIT—For storage, cable routing and/or mounting 19″ x 21″ equipment. Reversible rear door affixed with pin hinges along one side; locking bar and magnetic latch on opposite side. Optional 30″ shelves, mounting rails and divider panels available. Modesty panel and rear frame, 16 gauge steel. Door, 18 gauge steel. Door mounting strips, 11 gauge steel.



THREE-DRAWER PEDESTAL—Mounts on either side of desk frame. Telescoping slides with ball bearings. One movable divider per drawer. 20 gauge steel.

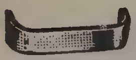
Bud No.	Net Each, Lots of 1-2	3-4	5-7	8-10
CD-16000	$441.40	$419.35	$397.25	$388.40
CD-16000-KD	391.40	369.35	347.25	338.40
CD-16001	509.00	483.75	458.10	447.90
CD-16001-KD	449.00	423.75	398.10	387.90
CD-16002	592.20	562.80	532.95	521.15
CD-16002-KD	542.20	512.80	482.95	471.15
CD-16003	658.65	625.95	592.75	579.60
CD-16003-KD	598.65	565.95	532.75	519.60
CD-16004	680.25	646.50	612.25	598.60
CD-16004-KD	620.25	586.50	552.25	538.60
CD-16005	753.30	715.95	678.00	662.90
CD-16005-KD	703.30	665.95	628.00	612.90
CD-16006	820.00	779.35	738.00	721.60
CD-16006-KD	760.00	719.35	678.00	661.60
CD-16007	845.05	803.15	760.55	743.65
CD-16007-KD	785.05	743.15	700.55	683.65
CD-16008	881.85	838.15	793.70	776.05
CD-16008-KD	811.85	768.15	733.70	716.05
CD-16009	82.10	78.05	73.90	72.25
CD-16010	137.90	131.05	124.10	121.35
CD-16011	13.20*	7.90†	7.40†	7.30†
CD-16012	10.55	10.05	9.50	9.30
CD-16013	9.60	9.10	8.60	8.40
CD-16014	10.00	9.50	9.00	8.80
CD-16015	48.65	46.20	43.75	42.80
CD-16016	11.35	10.80	10.25	10.00

*Price per one pair; two pairs, **$8.30.** †Price per pair.

Bud No.	Net Each, Lots of 1	2-24	25-49	50-99	100-149
RC-7760	$5.80	$4.85	$4.35	$3.90	$3.70
RL-7765	2.80	2.35	2.10	1.90	1.75
RL-7766	2.00	1.65	1.50	1.35	1.25
RL-7767	2.00	1.65	1.50	1.35	1.25

BUD Cabinet Hardware, Brackets

BUD HANDLES

A

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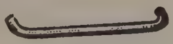
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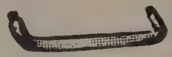
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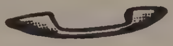
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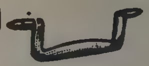
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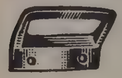
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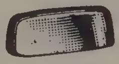
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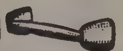
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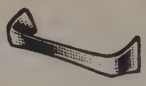
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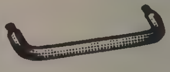
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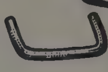


Fabricated from steel, brass or cast aluminum. Durable finish provides long wear and attractive appearance. Skin packed in pairs or bulk packed (priced singly) with all necessary mounting hardware. Designed for rugged applications, they have unlimi use in electronic, electrical and other fields.

Bud No.	Fig.	Description	Net per Pair, Lots of			Bulk Pack:* Net Ea., Lots		
			1	2-49	50-99	1	2-99	100-1
H-9100	A	1″ x ¼″ chrome plated solid brass; 4″ x ½″ mtg. centers; 1″ hand clearance; four ½″ x 6-32 threaded screws	$15.80	$14.35	$12.90	$6.35	$5.75	$5.2
H-9101	A	Same, but 8″ x ½″ mtg. centers	23.80	21.65	19.50	10.40	9.45	8.5
H-9102	A	⅝″ x ¼″ chrome plated solid brass; 4″ mtg. centers; 1″ hand clearance; two ½″ x 6-32 threaded screws	11.30	10.25	9.25	5.70	4.75	4.3
H-9103	A	Same, but has 6″ mounting centers	14.35	13.05	11.75	6.35	5.75	5.2
H-9110	B	⅜″ steel rod angular formed, chrome plated; 6″ mtg. centers; 1¼″ hand clearance; two ½″ x 10-32 screws	9.45	8.60	7.75	3.60	3.00	2.7
H-9111	B	⅜″ steel rod, chrome plated, 4″ mtg. centers; 1″ hand clearance; two ½″ x 10-32 threaded screws	5.50	4.60	4.15	2.50	2.10	1.9
H-9112	B	6″ mtg. center version of H-9111	5.70	5.20	4.70	2.70	2.25	2.0
H-9113	B	8″ mtg. center version of H-9111	6.45	5.85	5.25	2.80	2.35	2.1
H-9114	B	½″ steel rod, chrome plated; 8″ mtg. centers; 1½″ hand clearance; two ½″ x ¼-28 thd. screws	10.40	9.45	8.50	4.10	3.50	3.1
H-9115	C	⅜″ steel rod, chrome plated; 4″ mtg. centers; 1⁵⁄₁₆″ hand clearance; two ¼-28 thd. nuts	7.80	7.10	6.40	3.30	2.75	2.5
H-9116	C	Same, but has 6″ mtg. centers	8.80	8.00	7.20	3.60	3.00	2.7
H-9120	D	Silver-anodized diecast aluminum; 4⅜″ inside, 5⅜″ outside mtg. centers; 1″ hand clearance; four ½″ x 6-32 threaded screws	13.80	12.55	11.30	6.05	5.50	4.9
H-9121	D	Same, except chrome plated alloy	18.35	16.70	15.05	8.00	7.25	6.5
H-9123	D	Similar to H-9120 but 4½″ mtg. centers; 1″ hand clearance; two ½″ x 10-32 thd. screws	9.10	8.25	7.45	4.10	3.40	3.0
H-9122	E	Silver-anodized diecast aluminum; hinged on ¼″ steel pins with 2 hinge blocks; 6½″ inside, 7¼″ outside mtg. centers; 1½″ hand clearance; four ⅜″ x 10-32 threaded screws	24.90	22.65	20.40	11.10	10.10	9.1
H-9130	F	Silver-anodized diecast aluminum; 3″ mtg. centers; two ⅜″ x 10-32 thd. screws; size 4¹⁵⁄₁₆″ x 3″	20.30	18.45	16.60	9.20	8.35	7.5
H-9131	G	Silver-anodized diecast aluminum; size, 4″ x 2⅞″; 2¼″ mtg. centers; two ¾″ x ¼-28 thd. raised, countersunk screws and nuts	12.40	11.25	10.15	5.90	5.35	4.8
H-9140	H	Silver-anodized diecast aluminum; 3½″ mtg. centers; ¾″ hand clearance; two ½″ x 10-32 threaded screws	7.35	6.70	6.05	3.50	2.90	2.6
H-9149	......	5¾″ x 3¹³⁄₁₆″ black shell, chrome handle; flip-up and out handle lies flat in frame when not in use; for Classic Series cabinets; four 8-32 x ½″ countersunk screws with nuts	24.35	22.15	19.95	10.85	9.85	8.8
H-9150	I	Silver-anodized diecast aluminum; 4″ x ⅝″ mtg. centers; 1¼″ hand clearance; four ½″ x 10-32 threaded screws	10.85	9.85	8.85	5.60	4.70	4.2
H-9151	J	Silver-anodized diecast aluminum; 5⁵⁄₃₂″ x ⅝″ mtg. centers; 1⅜″ hand clearance; four ½″ x 10-32 threaded screws	17.95	16.30	14.65	8.80	8.00	7.2
H-9152	J	Similar to above except 3⅞″ mtg. centers; 1⅛″ hand clearance; two ½″ x 10-32 threaded screws	13.85	12.60	11.35	6.05	5.50	4.9
H-9160	K	Chrome plated ⅜″ steel rod; 3½″ mtg. centers; 1¹¹⁄₁₆″ hand clearance; two ¼″-28 hex nuts	8.65	7.85	7.05	3.60	3.00	2.7
H-9161	K	Same, but with 5¼″ mounting centers	9.75	8.85	7.95	3.60	3.00	2.7
H-9162	K	Same, but with 7″ mounting centers	10.00	9.10	8.20	3.90	3.25	2.9
H-9163	K	Same, but with 8¾″ mounting centers	10.40	9.45	8.50	4.20	3.50	3.1
H-9164	K	Same, but with 10½″ mounting centers	11.85	10.75	9.70	4.40	3.65	3.3
H-9165	K	Same, but with 12¼″ mounting centers	12.75	11.60	10.45	4.80	4.00	3.6
H-9166	L	Chrome plated ¼″ brass rod; 1²⁹⁄₃₂″ mtg. centers; 1″ hand clearance; two ½″ x 6-32 thd. screws	4.40	3.65	3.30	1.90	1.60	1.4
H-9168	L	Same, but 3″ mtg. centers; two ½″ x 6-32 thd. screws	4.60	3.85	3.45	1.90	1.60	1.4
UH-70A	......	Handle. Formed from aluminum tubing with etched finish. 5⅛″ long with 4⅝″ mtg. ctrs.	1.50	1.15	1.05	......	......	......
UH-71A	......	Same as UH-70A except 3⅞″ long with 3¼″ mtg. ctrs.	1.30	1.00	.90	......	......	......
H-9347	......	Flush-mount catch set. Standard on Bud racks. Chrome plated. Fits flush on cabinets.	3.10	2.35	2.10	......	......	......
H-3360	......	Non-locking lever type handle. Satin chrome finish.	10.00	9.10	8.20	......	......	......
H-3361	......	Same as H-3360 except with lock and key.	13.50	12.25	11.05	......	......	......

*Number shown is for skin packed pairs. For bulk packed handles (priced singly), add suffix **B** to number (example: H-9100**B**).

CASTERS AND LEVELERS

Bud No. RC-7760 Caster—Black nylon wheel and hood with steel pin ⅜″ x 16 thread. Load rating 110 lbs.
Bud No. RC-7756 Caster—Ball bearing wheels are hard tread composition. Load rating 125 lbs.
Bud No. RC-7758 Caster—Same except load rating of 200 lbs.
Bud No. RL-7765 Leveler—Black nylon construction with steel pin ⅜″ x 16 thread. Load rating 110 lbs.
Bud No. RL-7766 Leveler—Steel cap and stem with ⅜″ x 16 thread. Load rating 200 lbs. Rubber pad.
Bud No. RL-7767 Leveler—Same except white nylon pad.

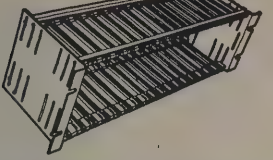
Bud No.	Height	Net Each, Lots of		
		1-24	25-49	50-99
RC-7760	2½″	$4.85	$4.35	$3.90
RC-7756	2⅝″	2.10	1.90	1.70
RC-7758	3¼″	5.50	4.95	4.40
RL-7765	2½″	2.35	2.10	1.90
RL-7766	3¾″	1.65	1.50	1.35
RL-7767	3¾″	1.50	1.50	1.50

RUBBER FEET

No. F-7264A: Has recessed head with mounting stud; rubb portion ¹⁵⁄₁₆″ x ¹¹⁄₃₂″ thick. **No. F-8038:** May be applied to any su face; ¾″ dia. x ⅛″ thick self adhesive sponge rubber pad. **N** **F-9653:** Press-fit type for 7⁄16″ hole.

Bud No.	Description	Net per 100, Lots of		
		100	101-200	201-29
F-7264A	High grade black rubber	$21.45	$19.50	$17.5
F-8038	Sponge rubber pad	6.00	4.50	4.0
		1	2-49	50-99
F-9653	Top grade gray rubber	$9.50	$8.65	$7.8

RAPID RACK CIRCUIT CARD AND CONNECTOR MOUNTING FILE KIT

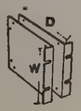


A complete kit system holding up to 34 cards 2.0″ to 6.25″ wide and 6″ to 8″ long. There are 8 kits available, two with spacing variable in ⅛″ increments and 6 with fixed spacing. Each kit contains all the parts for a complete file and mounts in a 19-inch rack or enclosure. The nylon card guides are 6″ in length and are self-lubricating, non-conductive, and offer shock and vibration protection. All metal parts are aluminum extrusions or 0.90″ sheets.

Scanbe No.	Card Width		Connector Mtg. Centers		Card Spacing	No. of Positions
	Min.″	Max.″	Min.″	Max.″		
60060	2.0	4.5	1.625	4.117	Variable	27
60065	2.0	6.25	1.625	5.867	Variable	27
60000	2.0	4.5	1.625	4.117	.50	34
60005	2.0	6.25	1.625	5.867	.50	34
60010	2.0	4.5	1.625	4.117	.625	26
60015	2.0	6.25	1.625	5.867	.625	26
60020	2.0	4.5	1.625	4.117	.75	21
60025	2.0	6.25	1.625	5.867	.75	21

Scanbe No.	Net Each		
	1-9	10-24	25-49
60060	$45.76	$43.50	$41.58
60065	46.59	44.29	42.34
60000	41.42	39.60	37.78
60005	42.58	40.71	38.83
60010	31.04	29.51	28.20
60015	31.87	30.29	28.96
60020	28.77	27.35	26.15
60025	29.58	28.12	26.88

RAPID RACK CARD FILE SYSTEM END PLATES



Three styles of these end plates—pre-punched for Scanbe cards, slotted, and blank—offer complete convenience in mounting guide assemblies. When selecting end plates, the card length and end-plate length should be proportional. End plates are supplied in pairs.

BLANK PLATES

Scanbe No.	Size		Net Each		
	W″	D″	1-9	10-14	25-49
60051	5.22	10.00	$2.79	$2.66	$2.53
60052	6.97	10.00	3.26	3.10	2.96
60053	8.72	10.00	3.62	3.44	3.29
60054	10.47	10.00	4.03	3.83	3.66
60055	12.22	10.00	4.47	4.25	4.06
60056	13.97	10.00	4.75	4.52	4.32
60057	15.72	10.00	4.83	4.60	4.39
60058	17.47	10.00	5.52	5.25	5.02

SLOTTED PLATES

Scanbe No.	Style	Size		Card Width		Connector Mtg. Centers	
		W″	D″	Min.″	Max.″	Min.″	Max.″
60026	Single Row	5.22	8.75	2.0	4.5	1.625	4.117
60027	Single Row	6.97	8.75	2.0	6.25	1.625	5.867
60046	Single Row	5.22	10.00	2.0	4.57	2.38	5.098
60047	Single Row	6.97	10.00	2.0	6.32	2.38	6.692
60048	Single Row	8.72	10.00	3.758	8.07	4.13	8.442
60049	Single Row	10.47	10.00	5.508	9.82	5.88	10.192

SLOTTED PLATE PRICES

Scanbe No.	Net Each		
	1-9	10-24	25-49
60026	$2.21	$2.10	$2.01
60027	2.63	2.50	2.38
60046	2.46	2.34	2.24
60047	2.93	2.78	2.66
60048	3.59	3.41	3.27
60049	4.03	3.83	3.66

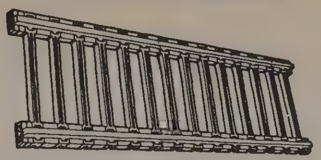
PRE-PUNCHED PLATE PRICES

Scanbe No.	Net Each		
	1-9	10-24	25-49
60061	$2.65	$2.52	$2.40
60062	3.26	3.10	2.96
60063	3.01	2.87	2.74
60064	4.47	4.25	4.06
60066	5.52	5.25	5.02
60071	3.45	3.29	3.14

PRE-PUNCHED PLATES FOR SCANBE CARDS

Scanbe No.	Style	Size		Scanbe Cards
		W″	D″	
60061	Single Row	5.22	8.25	11374 & 11640
60062	Double Row	10.47	8.25	11374 & 11640
60063	Single Row	5.22	11.25	11642 & 11643
60064	Double Row	10.47	11.25	11642 & 11643
60071	Single Row	8.72	9.00	11641 & 11466
60066	Double Row	17.47	9.00	11641 & 11466

CARD GUIDE ASSEMBLIES

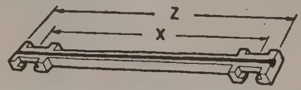


All nylon guides for standard printed-circuit or wire-wrapped cards. These units enable the designer to produce the card-rack configuration that is needed. Two single-column assemblies and the appropriate end plates (listed below) form a single rack to fit standard 19-inch equipment enclosures. Vertically stacked racks can be formed by mounting a double-column guide between two single-column guides. Assemblies are complete with nylon guides, aluminum mounting bars, and aluminum connector-mounting bars.

Scanbe No.	No. of Cards	Card Spacing	Stacking	Net Each		
				1-9	10-24	25-49
60030	14	1.2	Single	$11.38	$10.82	$10.34
60035	14	1.2	Double	20.16	19.16	18.32
60023	20	0.8	Single	13.76	13.07	12.50
60024	20	0.8	Double	25.16	23.92	22.86
60013	23	0.7	Single	14.64	13.91	13.30
60014	23	0.7	Double	26.68	25.46	24.24
60003	27	0.6	Single	15.88	15.10	14.43
60004	27	0.6	Double	29.00	27.56	26.36
60045	34	0.5	Single	22.05	21.08	20.11
60050	34	0.5	Double	39.98	38.22	36.46

INDIVIDUAL COMPONENTS FOR CUSTOM CARD-GUIDE ASSEMBLIES

A custom card-guide assembly can be produced easily and can be spaced at any increment for constant or variable spacing. Components are adaptable to most card sizes and configurations.



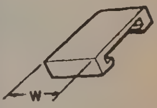
CARD GUIDES

Scanbe No.	Z″	X″
T-309-28	2.75	1.875
T-309-29	2.94	2.065
T-309-34	3.437	2.562
T-309-39	3.875	3.0
T-309-42	4.187	3.312
T-309-43	4.30	3.425
T-309-48	4.75	3.875
T-309-51	5.125	4.25
T-309-60	6.0	5.125
T-309-65	6.5	5.625
T-309-70	7.0	6.125
T-309-75	7.5	6.625

T-309 (any length)—Net per 100. Lots of 1–199.......**$20.00**
200–499..**$18.90**; 500–999..**$18.40**; 1000–1999.. **17.90**

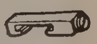
SPACERS

Scanbe No.	W″	Card Spacing
T-101-62	0.062	0.562
T-101-100	0.100	0.600
T-101-125	0.125	0.625
T-101-152	0.152	0.650
T-101-173	0.173	0.673
T-101-200	0.200	0.700
T-101-250	0.250	0.750
T-101-300	0.300	0.800
T-101-375	0.375	0.875
T-101-500	0.500	1.000
T-101-700	0.700	1.200
T-101-750	0.750	1.250
T-101-1000	1.000	1.500



	1-199	200-499	500-999	1000-1999
T-101—(up to .499) Net per 100	$5.70	$5.40	$5.10	$4.80
—(.500 to 1.000) Net per 100	6.40	6.10	5.90	5.60

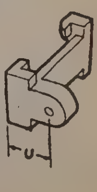
SPACER STOP



A clamp to compress and hold card guides when rack is not full.

T-910—Net per 100. Lots of 1–199.......**$22.10**
200–499.......**$21.00**; 500–999....... **20.00**
1000–1999........................... **19.40**

CONNECTOR MOUNTING FEET



Scanbe No.	U″
A-305-AII	.395
A-305-BII	.457
A-305-CII	.310

A305-A, -B, -C—Net per 100. Lots: 1–199..**$26.00**
200–499.......**$25.00**; 500–999....... **24.00**
1000–1999........................... **23.00**

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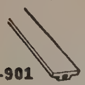
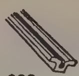
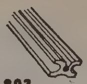
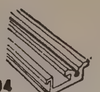

TS-901


TS-802


TS-803


TS-804

GUIDE MOUNTING BARS

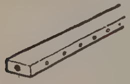
17″ long, finished

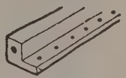
Scanbe No.	Style	Net Each 1-4	5-9	10-24	25-49
TS-901-17.000	Extra Thin	$2.14	$1.93	$1.73	$1.56
TS-802-17.000	Single Row	1.83	1.65	1.48	1.33
TS-803-17.000	Double Row	1.97	1.77	1.60	1.44
TS-804-17.000	Single Row	2.46	2.22	2.00	1.80

24″ and 36″ long, unfinished

Scanbe No.	Style	Net Each 1-4	5-9	10-24	25-49
XTS-901-24.000	Extra Thin	$1.56	$1.41	$1.27	$1.14
XTS-802-24.000	Single Row	1.16	1.04	.93	.84
XTS-803-24.000	Double Row	1.32	1.20	1.07	.97
XTS-804-24.000	Single Row	1.92	1.73	1.56	1.41
XTS-901-36.000	Extra Thin	2.21	1.98	1.79	1.61
XTS-802-36.000	Single Row	1.60	1.44	1.29	1.17
XTS-803-36.000	Double Row	1.85	1.66	1.50	1.35
XTS-804-36.000	Single Row	2.74	2.47	2.23	2.01

CONNECTOR MOUNTING BARS

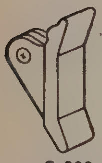


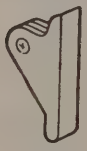


No. 26480 is a heavy-duty "L" bar with 0.500″ spacing. All others are ¼″ x ½″ rectangular with spacings as listed.

Scanbe No.	No. of Connectors	Card Spacing	Net Each 1-4	5-9	10-24
60001	34	.500	$6.64	$5.97	$5.38
60002	27	.600	6.64	5.97	5.38
60011	26	.625	6.04	5.43	4.89
60012	23	.700	6.53	5.87	5.29
60021	21	.750	6.53	5.87	5.29
60022	20	.800	5.93	5.33	4.81
60031	14	1.200	5.44	4.89	4.41
60036	Blank	—	4.14	3.72	3.35
26480	34	.500	9.14	8.22	7.41

CIRCUIT CARD EJECTORS FOR EASY CARD REMOVAL


S-200

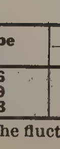

S-203

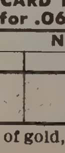
Unique circuit card ejectors can be used with most circuit card support systems. Attach to cards of either 1⁄16″ or 3⁄32″ thickness. Ejector operates by lever action against the card guide which disengages the card from its connector. Provides quick and convenient removal of any individual card from the file, and adds system reliability by preventing damage to card components and connectors from improper card removal. Individual handle eliminates need for special extraction tools. Ejectors attach easily to cards with a mounting pin furnished with the ejector. Two ejectors, one on each side, are recommended for cards wider than their length to avoid bending stresses on connectors and guides.

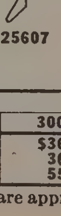
Scanbe No.	Size Width	Depth†	Height	For Card Thickness	Scanbe No.	For Card Thickness
S-200	.375″	.500″	1.125″	.062″	S-200-100	.093″
S-202	.250″	.500″	1.125″	.062″	S-202-100	.093″
S-203	.250″	.375″	1.093″	.062″	S-203-100	.093″
S-205	.312″	.500″	1.125″	.062″	S-205-100	.093″
S-208	.250″	.500″	1.062″	.062″	S-208-100	.093″

†Measured from center of mounting hole to extreme end.

S-200, -202, -203, -205, -208—Net per 100. Lots of 1–99. **$19.70**
100–249............. **$16.70**; 250–499............. **16.00**


S-206

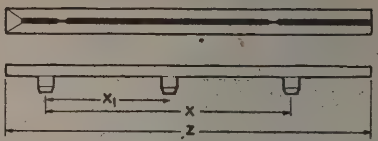

24963


25607

CIRCUIT CARD EJECTORS
(Special, for .062″ Cards)

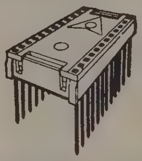
Scanbe No.	Net per 100 1-99	100-299	300-499
S-206	$44.00	$40.00	$36.00
S-209	44.00	40.00	36.00
24963	67.00	61.00	55.00

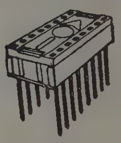
SNAP-IN CARD GUIDES



For snap-in installation in pre-drilled 1⁄16″ or 3⁄32″ metal plat

Scanbe No.	Z″	X″	X1″	Net Per 100 1-99	100-249	250-499	500 99
11633-1	2.5	1.5	—	$14.00	$13.00	$12.00	$11.
11633-2	4.5	3.5	—	16.00	14.00	13.00	12.
11633-3	6.5	5.5	—	17.00	15.00	14.00	12.0
11633-4	10.0	9.0	4.5	18.00	17.00	15.00	14.0
11633-5	12.0	11.0	5.5	19.00	18.00	16.00	15.0


24-Pin Wire Wrap


16-Pin Low Profile

IC SOCKETS

ME-2, field-proven, wire wrap sockets feature closed ent positive edge-wipe, gas tight connection with tapered IC le entry. Available with 14, 16, 18 or 24 pins. **W** = Wire Wr **G** = Gold-Plate, **T** = Tin-Plate.

US-2, low-profile sockets feature anti-wicking, anti flux t design, closed and tapered entry, positive edge-wipe, gas tig connection with IC lead. Available in 8, 14, 16, 18, 22, 24, and 40 pins. 100 microinch gold inlay at contact surface, without gold, in CA-770 contact material needing no plati Superior soldering, corrosion resistance, spring characterist exceeds EIA-RS-415 specifictions.

Scanbe No.	Net Per 100 1-99	100-499	500-999	1000-3999
WIRE WRAP SOCKETS*				
ME-2B-14-W-G-B-10	$58.11	$52.48	$47.30	$42.56
ME-2B-14-W-T-B	52.37	47.30	42.56	38.37
ME-2B-16-W-G-B-10	62.40	56.23	50.72	45.64
ME-2B-16-W-T-B	55.90	50.39	45.42	40.91
ME-2B-18-W-G-B-10	72.24	65.31	58.70	53.03
ME-2B-18-W-T-B	63.11	57.02	51.24	46.31
ME-2B-24-W-G-B-10	98.60	89.15	80.22	72.35
ME-2B-24-W-T-B	86.42	78.12	70.25	63.32
LOW PROFILE SOCKETS (Solder Tail)**				
US-2-08-110-G-B	$28.70	$25.30	$23.10	$20.90
US-2-14-110-G-B	35.30	30.90	27.50	25.30
US-2-16-110-G-B	39.70	36.30	33.10	30.90
US-2-18-110-G-B	45.30	40.70	36.30	33.10
US-2-22-110-G-B	54.90	49.40	43.80	39.90
US-2-24-110-G-B	58.40	52.90	50.70	44.10
US-2-28-110-G-B	69.40	62.80	55.10	48.50
US-2-40-110-G-B	98.10	89.30	78.20	68.40

*3-level wire wrap pins shown. Consult distributor for 2-lev 1-level and solder tail versions.

**Gold inlay shown with .110″ long solder tails. Consult distrib for no-gold and .160″ long solder tail versions.

PIN STRIPS††

Pin strips are available in 11-, 12-, 14-, 18-, or 20-pin mode The body is molded of durable U.L. approved nylon. Precisi edge-gripping contacts assure high reliability with maximu contact pressure while still assuring easy insertion and extractio Removable cap provides either closed or open entry. Availab with cap (C) or without cap (N). Pins are 0.025″ square.

Scanbe No.	Net Per 100* 1-99	100-499	500-999	1000-3999
ME-2S-N-11-WGB-10	$68.91	$62.08	$56.01	$50.39
ME-2S-C-11-WGB-10	81.14	73.21	65.93	59.31
ME-2S-N-12-WGB-10	71.12	64.17	57.89	52.04
ME-2S-C-12-WGB-10	83.35	75.19	67.81	61.08
ME-2S-N-14-WGB-10	76.85	69.35	62.52	56.34
ME-2S-C-14-WGB-10	89.20	80.38	72.44	65.27
ME-2S-N-18-WGB-10	87.98	79.38	71.56	64.39
ME-2S-C-18-WGB-10	100.22	90.41	81.48	73.43
ME-2S-N-20-WGB-10	93.71	84.57	76.19	68.39
ME-2S-C-20-WGB-10	106.39	95.92	86.44	77.84

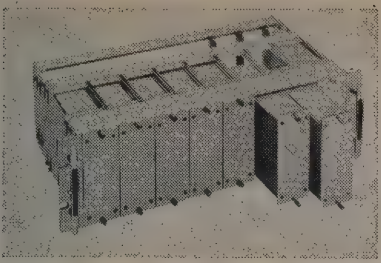
††3-level wire wrap pins shown. Consult distributor for 2-lev and 1-level versions.

PIN STRIP CAPS

Scanbe No.	Net Per 100 1-99	100-499	500-999	1000-3999
ME-25-CAP-11, 12	$8.82	$7.94	$7.17	$6.39
ME-25-CAP-14, -18, -20	9.16	8.27	7.50	6.73

*Due to the fluctuating price of gold, these prices are approximate. Check with the distributor for the latest prices.

Vector Cases and Cages



VECTOR-PAK SYSTEM

The Vector-Pak System is a coordinated packaging system which provides modular cases and cages for nearly all Vector Plugbords and many industry-standard plug-in boards. Versatility, adjustability and compatibility are integral features for maximum customer benefit. All cages listed are completely assembled. Unassembled kits and parts, plus many other variations and products are available—write for catalog.

Vector No. CMA3-20 Cage—Fully assembled, 5¼″ h. x 8.9″ d., all aluminum with anodized finish, fits 19″ racks. Holds eight 2″ wide x 6½″ long x 4.6″ high modules (EFP204-6.6). Connectors mount easily on adjustable rear struts without drilling holes. Net Each..**$56.87**

Vector No. CMA4-20 Cage—Same as CMA3-20, except holds eight 2″ wide x 9.7″ long x 4.6″ high modules (EFP204-9.7) and is 12″ deep. Net Each..**$58.17**

Vector No. CMA3-16 Cage—Same as CMA3-20, except holds ten 1.6″ wide x 6.6″ long x 4.6″ high modules (EFP164-6.6). Net Each..**$61.74**

EFP MODULES

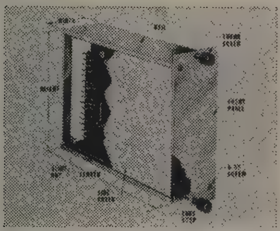
All-aluminum modules are anodized finished and have 5¼″ high front panels with thumb screws, solid rear panels for connector mounting or circuit board slotting, rear sliding side covers, plus inner multiple-grooved top and bottom rails to hold 1/16″ thick circuit boards without special bracketing.

Vector No. EFP164-6.6 Case—Has 6 circuit board grooves spaced 0.150″ apart on top and bottom rails, holds circuit boards 4.5″ wide x 6.5″ maximum length inside. Net Each..........**$6.88**

EFP204-6.6 Case—Same as EFP164-6.6, except has 9 circuit board grooves. Net Each..**$7.08**

Vector No. EFP204-9.7 Case—Same as EFP164-6.6, except holds circuit boards 4.5″ wide x 9.6″ maximum length inside Net Each..**$8.12**

CAGE KIT

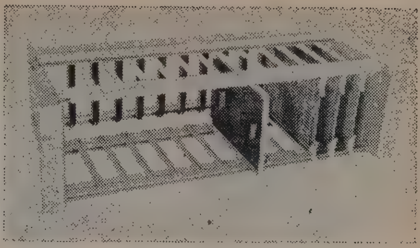


Vector No. CA52HP-89 Cage Kit—All-aluminum 19″ rack mounting unit is 5¼″ x 8.9″ deep and has 6 bracket-mounted cross members, slotted side walls, and all assembly hardware. Use for maximum flexibility in card or module cage design. Net Each..**$27.60**

PLUG-IN CASES

Sleek and sturdy aluminum cases have .075″ wide slots on .150″ centers across case width for screw-free mounting of circuit cards or shielding panels. Easily removable fourth side permits side cover to slide off for quick access. Clear anodized; colors available.

Vector No.	Size, Inches			For Circuit Card Size, In.	Net Each
	Width	Length	Height		
W16-12-12B	1.6	1.21	1.21	1.10 x 1.10	$3.51
W16-31-31B	1.6	3.10	3.10	2.98 x 2.98	3.55
W20-15-15B	2.0	1.51	1.51	1.40 x 1.40	4.45
W20-28-46B	2.0	2.85	4.61	2.73 x 4.50	3.78
W20-66-46B	2.0	6.61	4.61	4.50 x 6.50	4.73
W30-66-46B	3.0	6.61	4.61	4.50 x 6.50	5.75
W30-86-46B	3.0	8.61	4.61	4.50 x 8.50	6.42
W45-66-46B	4.5	6.61	4.61	4.50 x 6.50	7.52
W45-86-46B	4.5	8.61	4.61	4.50 x 8.50	8.49
W45-100-46B	4.5	10.00	4.61	4.50 x 9.88	9.94
FT-3	Rubber bumper feet (package of 8)				.87



VECTOR-PAK CARD CAGES

19″ rack mounting cages are supplied completely assembled, ready for connectors. Models listed accommodate 1/16″ thick cards 4.5″ maximum to 3″ minimum width x 6.5″ long. Heavy extruded aluminum cross members (T-Struts) provide strength and easy infinitely variable connector spacing. 21 pairs of 4-40 connector mounting nuts are furnished installed.

Vector No. CCK-13 Card Cage—19″ wide x 5¼″ high x 8.9″ deep. Has 21 pairs of riveted anodized aluminum card guides. Net Each..**$34.07**

Vector No. CCK-3 Card Cage—Has 108 grooves 0.075″ wide for 1/16″ circuit cards in extruded aluminum plates mounted top and bottom. Vertically and horizontally adjustable rear cross members have 21 pairs of 4-40 nuts in captive grooves for easy connector mounting. Net Each..**$28.82**

CARD GUIDES

Extruded plastic or aluminum guides are supplied with screws and nuts for mounting wherever required. Package of 12 with mounting hardware.

Vector No. BR20-4HP Card Guide—Plastic for 5″ long cards. Net Each..**$2.47**

Vector No. BR20-4H Card Guide—Aluminum for 5″ long cards. Net Each..**2.47**

Vector No. BR20-6HP Card Guide—Plastic for 6.5″ long cards. Net Each..**2.55**

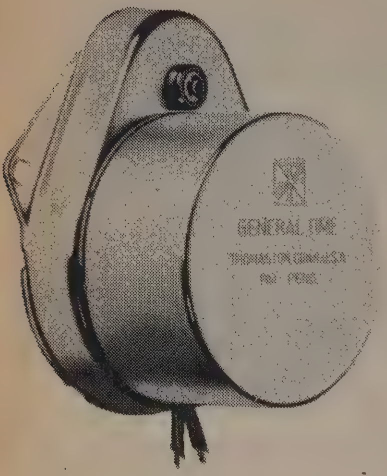
Vector No. BR20-6H Card Guide—Aluminum for 6.5″ long cards. Net Each..**2.55**

MULTI-MOD CASES

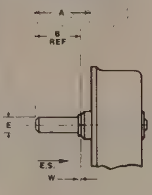
Modular plug-in cases have tube base type plugs, metal covers, fastening hardware, and aluminum bases where indicated. Ideal for building plug-in solid-state circuits or incorporating newer circuitry without chassis rewiring.

Vector No.	Plug Type	Size, Inches	Internal Structure	Net Each
B-8	8 Octal	2″ sq. x 2″	None	$2.30
B-10	8 Octal	2″ sq. x 2.5″	None	2.24
C-10	8 Octal	2″ sq. x 2.5″	None	2.31
C-12K1.02	8 Octal	2″ sq. x 3″	None	1.77
G2.1-8	9 Min.	¾″ rd. x 2″	Cntr. Screw/ Ins. Spacer	1.75
G2.1-8F	9 Min.	¾″ rd. x 2″	None	1.81
G2.2-8	7 Min.	⅝″ rd. x 2″	Cntr. Screw/ Ins. Spacer	1.70
G2.2-8F	7 Min.	⅝″ rd. x 2″	None	1.81
511	Terminal card for C-12K1.02, .093″ holes			.99
514	Terminal card for C-12K1.02, .062″ holes			1.24

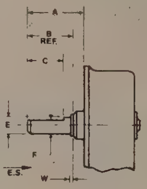
THE H4 MOTOR SYSTEM



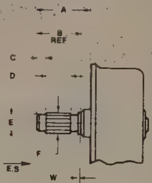
CODE A & H
MR2-2211-901
MR2-2311-901
(ROUND)



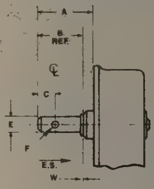
CODE B
MR2-2221-901
(FLATTED)



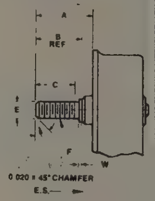
CODE C & D
MR2-2231-901
MR2-1131-902
(KNURLED)



CODE E
MR2-2241-901
(CROSS DRILLED)



CODE F & G
MR2-2251-901
MR2-2261-901
(THREADED)



IT'S MODULAR FOR YOUR ECONOMY AND CONVENIENCE

The H4 Motor System is designed to save you money, time and inventory problems. It is a modular system which eliminates the necessity of stocking hundreds of motors in different voltages, output speeds and shaft configurations. The H4 modular system lets you order motors as you need them. They'll be assembled from an inventory of components and delivered in a matter of days rather than weeks or months.

This powerful system can't help but attain a new level of manufacturing, purchasing, design and financial flexibility for you. Savings of up to 30% have been achieved.

The H4 Motor System has many advanced features, including state-of-the-art performance and reliability for prime mover and gear train components.

The H4 motor is assembled from interchangeable components—prime mover, gear train, lock-in output shaft and flexible output leads.

The H4 motor, which develops 40 oz.-in. of torque at 1 rpm, will stand up to high loads and provide long life in continuous or intermittant applications. Truly of superior quality, this compact, close-tolerance motor is conservatively rated to assure efficient performance. Its modular design permits automated manufacture of components with uniform quality. Prime movers and gear trains are given more than 40 on-line quality checks and all H4 motor assemblies are completely tested to assure performance to specifications.

SHAFT DIMENSIONS

Code	Shaft No.	Type	Dimensions (Inches)					
			E (1)	B (Ref.)	C	F	D	A
A	MR2-2211-901	Round	0.125	⅜	......	....	......	29/64
B	MR2-2221-901	Flatted	0.125	⅜	0.343	0.110 (2)	......	29/64
C	MR2-2231-901	Knurled	0.125	⅜	0.093	0.133 (3)	0.218	29/64
D	MR2-1131-902	Knurled	0.100	⅛	0.050	0.107 (3)	0.050	13/64
E	MR2-2241-901	Cross Drilled	0.125	⅜	0.125	0.065 (3)	......	29/64
F	MR2-2251-901	Threaded (RH)	0.125	⅜	5/16	NC 5-40 RH	......	29/64
G	MR2-2261-901	Threaded (LH)	0.125	⅜	5/16	NC 5-40 LH	......	29/64
H	MR2-2311-901	Round	0.125	½	......	....	......	37/64

SPECIFICATIONS

Output Shaft Speeds Available (60 Hz Operation): RPM—1/240, 1/200, 1/180, 1/150, 1/120, 1/100, 1/90, 1/75, 1/72, 1/60, 1/50, 1/30, 1/26, 1/25, 3/65, 1/24, 1/20, 6/100, 1/15, 2/25, 1/12, 1/10, 12/100, 1/6, 1/5, 24/100, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 9/10, 96/100, 1, 1.2, 2, 2.4, 3, 3.6, 4, 4.8, 5, 6, 7.2, 8, 9.6, 10, 12, 15, 16, 18, 19.2, 20, 24, 30, 36, 40, 48, 60, 72, 120, 144. **RPH**—1/360, 1/168, 1/140, 1/100, 1/80, 1/50, 1/48, 1/40, 1/36, 1/30, 1/25, 1/24, 1/20, 1/16, 1/15, 3/40, 2/25, 1/12, 1/10, 1/8, 2/15, 3/20, 1/6, 1/5, 6/25.

Guaranteed Torque (At 1 RPM, 60 Hz Operation): 40 oz. in. at rated voltage, starting and synchronous.

Voltages: 24, 117 and 240 VAC, 50 or 60 Hz. Note that frequency variations affect torque output.

Watt Input: 3.5 watts at rated voltage and frequency.

Rotation (Looking Toward Output Shaft): Right (CW) or left (CCW).

Output Shaft Material: Centerless ground, hardened, cold rolled steel shafts. Optional shaft materials include various types of stainless steel.

Gear Train Rating: 40 oz.-in. static, life expectancy is dependant on dynamic load.

Frictions: One-way friction available for motors with speeds of 10 RPM and slower. No frictions are available for faster speeds; gear train and rotor turn before the friction would slip, and therefore the friction is unnecessary.

Frequency: 50 or 60 Hz.

Temperature Range: Class A, −40° F to +140° F (standard motor); Class B, −40° F to +185° F.

Lead Egress: 6 and 12 o'clock, viewed from output shaft side.

Leads: 6 inches ±¼ inch, stripped ½ inch ±1/16 inch.

WE CARRY MOST MAJOR BRANDS. IF YOU CAN'T FIND WHAT

YOU WANT, CALL OR WRITE US FOR INFORMATION.

PAMOTOR
ONE OF THE PURDY GROUP OF COMPANIES

Miniature Metal Fans

PAMOTOR FANS FOR EFFICIENT COOLING AND HIGH RELIABILITY

- **All metal construction**
- **Low noise level**
- **Long operating life without maintenance**
- **Low operating temperature**

Pamotor fans designed for high reliability and long life. All metal, non-flammable construction provides extra strength and durability. No cracking, creeping or warping to cause lock-up or bearing failure. Special moisture-resistant finish prevents corrosion or other deterioration from high humidity or extreme temperature variations. Pamotor fans will operate dependably throughout life of the equipment they cool. Housings and venturies aerodynamically designed for maximum air flow with minimum air turbulence to provide more efficient airstream characteristics and reduced noise levels. Speech interference level (SIL) is characteristically 5 dB to 10 dB below that of competitive designs with comparable air flow.

PENTAFLOW™ MINIATURE FANS

- **Premium grade**
- **5 year warranty**

For custom-designed professional-grade instrumentation and equipment; in permanently installed systems requiring optimum performance and absolute dependability for many years; field-replacements or retrofit units for original-equipment fans that have proved to be unreliable, too noisy or inefficient.

TYPES AND SPECIFICATIONS

Pamotor Number	Voltage VAC	Frequency Hz	Air Flow cfm	SIL dB	Nominal Size, Inches
4600XP	115	50/60	120	34	4½ x 4½ x 1½
8500P	115	50/60	43	22.3	3⅛ x 3⅛ x 1½*

*Standard mounting dimensions for EIA 3½″ rack panels.

WEIGHT AND PRICING

Pamotor Number	Wt., Oz.	Net Each, Lots of				
		1-9	10-24	25-49	50-99	100-249
4600XP	18	**$24.05**	**$21.45**	**$19.80**	**$18.70**	**$17.80**
8500P	18	**24.40**	**21.75**	**20.10**	**18.95**	**18.05**

INDUCTION-TYPE GENERAL PURPOSE FANS

TYPES AND SPECIFICATIONS

Pamotor Number	Voltage VAC	Frequency Hz	Cap. μF	Input Power Watts	Air Flow cfm	Speed rpm	SIL dB
900	24–42	50/60	5.6	2–3	34	1700	16.8
1300	230	50/60	2.0	25	120	3400	37.6
2110	115	400	0.5	30	125	3720	44.9
3000	115	50/60	4.0	15	65	3180	29.3
3050U	230	50/60	1.0	15	65	3150	29.3

*At 24 VAC.

SIZE, WEIGHT AND PRICING

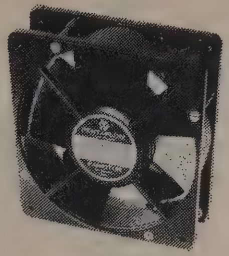
Following pricing does not include the cost of applicable capacitor where required. See below for Pamotor capacitor number and pricing.

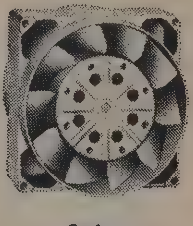
Pamotor Number	Nominal Size, Inches	Wt., Lbs.	Net Each, Lots of		
			1-9	10-24	25-49
900	3 dia. x 1½ d.	⅜	**$16.45**	**$14.65**	**$13.55**
1300	4½ sq. x 2 d.	2⅝	**31.25**	**28.20**	**25.35**
2110	4½ sq. x 2 d.	2¹⁄₁₆	**64.60**	**58.25**	**52.35**
3000	3½ sq. x 2 d.	1³⁄₁₆	**38.50**	**34.35**	**31.70**
3050U	3½ sq. x 2 d.	1³⁄₁₆	**38.95**	**34.80**	**32.10**

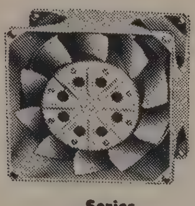
CAPACITORS FOR INDUCTION-TYPE FANS

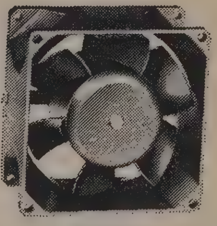
Capacitors supplied are either Sprague oval can type or German stud mount (final suffix **G**). When ordering 4 μF or 6 μF capacitors, specify desired type.

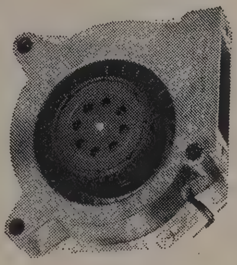
Pamotor Number	For Models	Cap. μF	Net Each, Lots of		
			1-9	10-24	25-49
1004	2000	6.0	**$3.45**	**$3.15**	**$2.80**
1004G	2000	6.0	**5.25**	**4.95**	**4.65**
1005	3000	4.0	**3.45**	**3.15**	**2.80**
1005G	3000	4.0	**5.25**	**4.95**	**4.65**
1006	1300, 2050	2.0	**3.45**	**3.15**	**2.80**
1009	3050U	1.0	**2.80**	**2.50**	**2.35**
1009G	3050U	1.0	**3.65**	**3.30**	**3.20**
1010	2110	0.5	**2.80**	**2.50**	**2.35**
1011	900	5.6	**2.75**	**2.55**	**2.30**
1011G	900	5.6	**4.50**	**4.20**	**3.80**

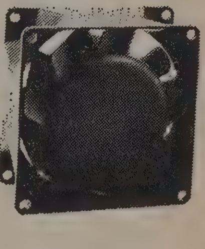

Pentaflow


Series 1000A-1500


Series 2000-2500


Series 3000


RL90-18/24


8112

PAMOTOR METAL FANS AND BLOWERS

DC FANS

TYPES AND SPECIFICATIONS

Pamotor Number	Voltage VDC	Air Flow cfm	SIL dB	Speed rpm	Input Power Watts	Input Current mA	Wt. Oz.
4112X	9.5-14	106	32.9	2775	4.0	330	21
4124X	19–28	106	32.9	2775	4.1	170	21
4148X	38–56	106	32.9	2775	4.1	85	21
8112	9.5-14	37	27.9	3225	4.0	230	19
8124	19–28	37	27.9	3225	2.8	115	19
RL90-18/24	19–28	28	44.9	2500	5.0	235	22

SIZE AND PRICING

Pamotor Number	Size, Inches	Net Each, Lots of				
		1-9	10-24	25-49	50-99	100-249
4112X	4½ sq. x 1½ d.	**$66.70**	**$59.50**	**$54.95**	**$51.95**	**$49.35**
4124X	4½ sq. x 1½ d.	**66.70**	**59.50**	**54.95**	**51.95**	**49.35**
4148X	4½ sq. x 1½ d.	**74.25**	**66.75**	**61.85**	**57.85**	**54.25**
8112	3⅛ sq. x 1½ d.	**66.70**	**59.50**	**54.95**	**51.95**	**49.35**
8124	3⅛ sq. x 1½ d.	**66.70**	**59.50**	**54.95**	**51.95**	**49.35**
RL90-18/24	4¾ sq. 1½ d.	**66.70**	**59.50**	**54.95**	**51.95**	**49.35**

RADIAL BLOWERS

Size: 4¾″ sq. x 1½″ d. Weight: 20 oz.

TYPES AND SPECIFICATIONS

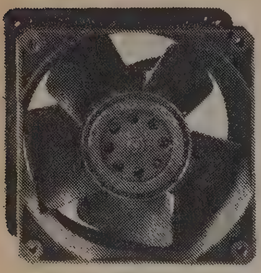
Pamotor Number	Voltage VAC	Frequency Hz	Input Power Watts	Air Flow cfm	Speed rpm	SIL dB
RL90-18/00	115	50/60	21	29	2700	42.7
RL90-18/50	230	50/60	19	29	2600	42.7

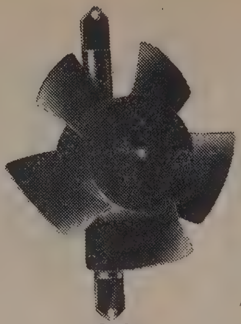
PRICING

Pamotor Number	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
RL90-18/00	**$24.80**	**$22.15**	**$20.40**	**$19.30**	**$18.35**
RL90-18/50	**24.80**	**22.15**	**20.40**	**19.30**	**18.35**

PAMOTOR
ONE OF THE PURDY GROUP OF COMPANIES

Miniature Metal Fans


Series 4600

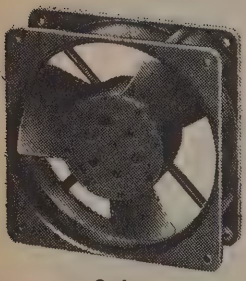

Series 4700

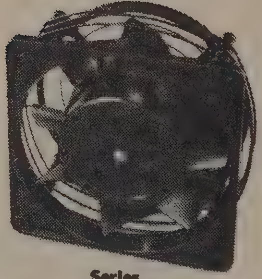
SHADED-POLE TYPE GENERAL PURPOSE FANS
TYPES AND SPECIFICATIONS

All models are available in 220 V 50/60 Hz versions.

Pamotor No.	Voltage VAC	Frequency Hz	Input Power Watts	Air Flow cfm	Speed rpm	SIL YdB	Nominal Size, Inches
2500S	115	50/60	27	115	3300	37.5	4½ sq. x 2 d.
2550S	230	50/60	27	115	3300	37.5	4½ sq. x 2d.
4600X	115	50/60	18	120	3100	34.0	4½ sq. x 1½ d.
4606	115	50/60	18	120	3100	35.0	4½ sq. x 1½ d.
4650X	230	50/60	18	120	3100	34.0	4½ sq. x 1½ d.
4656X*	230	50/60	18	120	3100	35.0	4½ sq. x 1½ d.
4700	115	50/60	20	65	2900	25.0	4½ dia. x 1½ d
4800X	115	50/60	10	70	1900	21.0	4½ sq. x 1½ d.
5500S	115	50/60	40	140	3300	37.0	4½ sq. x 2 d.
5550S	230	50/60	38	140	3300	37.0	4½ sq. x 2 d.
7600S	115	50/60	38	250	3200	40.0	6 dia. x 2 d.
7606*	115	50/60	38	250	3200	41.0	6 dia. x 2 d.
7650S	230	50/60	38	250	3200	40.0	6 dia. x 2 d.
7656*	230	50/60	38	250	3200	41.0	6 dia. x 2 d.
7900S	115	50/60	41	225	2900	47.0	6 dia. x 1½ d.
7950S	230	50/60	40.5	225	2900	47.0	6 dia. x 1½ d.
8500C	115	50/60	13	43	3200	22.3	3⅛ sq. x 1½ d.
8506*	115	50/60	13	43	3200	23.0	3⅛ sq. x 1½ d.
8550C	230	50/60	13	43	3200	22.3	3⅛ sq. x 1½ d.
8556*	230	50/60	13	43	3200	23.0	3⅛ sq. x 1½ d.

*High-temperature, ball-bearing versions. ‡Standard mounting dimensions for EIA 3½″ rack panels.

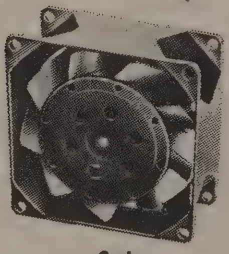

Series 4800


Series 5500

WEIGHT AND PRICING

Pamotor Number	Wt., Lbs.	Net Each, Lots of				
		1-9	10-24	25-49	50-99	100-249
2500S	32	$31.80	$28.40	$26.20	$24.75	$23.50
2550S	32	32.50	28.95	26.75	25.30	24.00
4600X	18	18.30	16.30	15.05	14.25	13.50
4606X	18	33.30	29.70	27.45	25.90	24.65
4650X	18	19.10	17.05	15.75	14.90	14.15
4656X	18	30.85	27.60	25.35	23.95	22.85
4700	15	17.80	15.85	14.65	13.85	13.15
4800X	18	19.10	17.05	15.75	14.90	14.15
5500S	35	36.95	33.20	30.45	28.90	27.45
5550S	35	36.95	33.20	30.45	28.90	27.45
7600S	38	32.75	29.45	27.30	25.55	24.15
7606	38	52.40	47.10	43.65	40.80	38.60
7650S	38	32.75	29.45	27.30	25.55	24.15
7656	38	52.40	47.10	43.65	40.80	38.60
7900S	27	37.15	33.15	30.60	28.90	27.50
7950S	27	37.15	33.15	30.60	28.90	27.50
8500C	18	19.45	17.35	16.00	15.15	14.40
8506	18	33.75	30.10	27.75	26.25	24.75
8550C	18	20.80	18.55	17.10	16.20	15.40
8556	18	33.75	30.10	27.75	26.25	24.75

Series 7600


Series 8500C

ACCESSORIES

Pamotor Number	Description	For Series	Net, 1-499
5501	Brackets (pair)	2000, 2110, 2500, 4100, 4500, 4600, 4800, 5500S	$0.75
5502	Filter		2.20
5503	Screen assembly		3.80
5504	Fingerguards	As above	2.15
5505	Plug and cord	4500, 4600, 4800, 4100	.85
5506	Fingerguards	7500, 7900, 7600	3.90
5507	Fingerguards	1300, 1500	1.30
5508	Fingerguards	8100, 8500	1.50
5509	Air straightener	7500, 7900	4.50
5511	Adapter ring	7500, 7900	2.50
5512	Adapter ring	7500, 7900	3.50

WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR UNLISTED ITEMS. NO SPECIAL ORDER NUMBERS NECESSARY, JUST USE THE MANUFACTURER'S MODEL NUMBERS.

Rotron Fans and Blowers

ROTRON
INCORPORATED

Muffin® Fan

he dependable, low cost, largest elling fan for commercial cooling pplications.

- 105 cfm free air delivery
- 4.71″ sq. x 1.50″ depth
- weight 17 oz.
- acoustical rating as low as NC-43
- more than 10 years continuous duty at 20°C
- impedance protected
- operates in ambients of −18°C to +70°C
- UL yellow card recognized and CSA certified

odel o.	Part No.	Bearing	Volts	Hz	Watts	CFM
U2A1	028021	Sleeve	115	50/60	15/14	88/105
U2A2	028022	Sleeve	115	50/60	15/14	88/105
U2B1	028027	Ball	115	50/60	15/14	88/105
U2B2	028028	Ball	115	50/60	15/14	88/105
U3A1	028023	Sleeve	220/230	50/60	15/14	88/105
U3A2	028024	Sleeve	220/230	50/60	15/14	88/105
U3B1	028029	Ball	220/230	50/60	15/14	88/105
U3B2	028030	Ball	220/230	50/60	15/14	88/105

atalog Sheet COM 040

Sentinel® Fan

An especially rugged fan for severe application conditions, including temperature and shock.

- 105 cfm free air delivery
- 4.71″ sq. x 1.50″ depth
- weight 16 oz.
- acoustical rating as low as NC-43
- stainless steel ball bearings
- impedance protected
- for ambients to 100°C
- meets MIL E-4970A
- UL yellow card recognized

Model No.	Part No.	Volts	Hz	Watts	CFM
S747	020138	115	50/60	14	105
S756	020146	230	50/60	14	105

Catalog Sheet COM 060

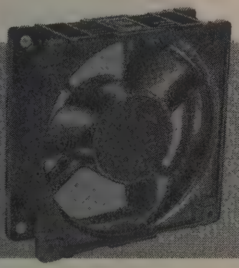
Muffin® XL Fan

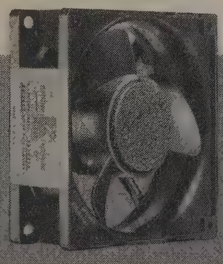
Sturdy one-piece metal venturi provides popular mounting and terminal configurations of Centaur fan. High performance and low noise level, with Muffin reliability.

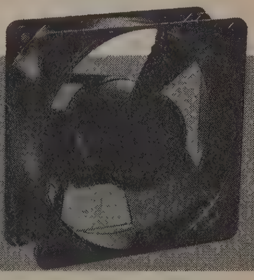
- 115 cfm
- 4.69″ square x 1.53″ depth
- weight 21 oz
- single piece sturdy all metal housing, integral motor mounting struts
- acoustical rating as low as NC-45
- sleeve or ball bearing models available
- 115 VAC, or 220/230 VAC, single phase, 50/60 Hz
- for ambients to 70°C
- impedance protected

Model No.	Part No.	Bearing	Volts	Hz	Watts	CFM
MX2A3	028316	Sleeve	115	50/60	18/15	98/115
MX3A3	028324	Sleeve	220/230	50/60	16/15	98/115
MX2B3	028422	Ball	115	50/60	18/15	98/115
MX3B3	028423	Ball	220/230	50/60	16/15	98/115

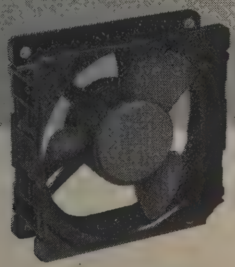
Catalog Sheet COM-043

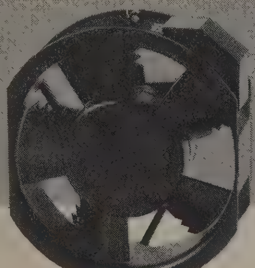






FOR COMMERCIAL APPLICATIONS





Whisper® Fan

The quiet one—for efficient cooling where low acoustical disturbance is a must.

- 52 to 75 cfm free air delivery
- 4.71″ sq. x 1.50″ depth
- weight 17 oz.
- acoustical rating as low as NC-26
- 10 years continuous duty at 20°C
- impedance protected
- for ambients to 70°C
- UL yellow card recognized and CSA certified

Model No.	Part No.	Volts	Hz	Watts	CFM
WR2A1	027117	115	50/60	7/7	51/52
WR3A1	028171	220/230	50/60	11/11	56/65
WR2H1	027119	115	50/60	8/7	64/75

Major® Fan

For low cost, low noise, high pressure/volume cooling in the tightest of spaces.

- 240 cfm free air delivery
- 6.75″ x 5.92″ x 2.00″ depth
- weight: 1.84 lbs.
- acoustical rating as low as NC-53
- all metal one piece housing
- long life ball bearings
- thermally protected
- for ambients to 70°C
- permanent split capacitor motor, capacitor provided
- UL yellow card recognized and CSA certified

Model No.	Part No.	Volts	Hz	Watts	CFM
MR2B3	028245	115	50/60	40/39	200/240
MR77B3	028309	220/240 208/230	50/60	33/35	200/240

Patriot® Fan

Quiet high pressure performance in a compact rugged fan.

- 240 cfm free air delivery
- 6.75″ dia. x 2″ depth
- weight: 1.84 lbs.
- acoustical rating as low as NC-47
- all-metal one-piece housing
- long life ball bearings
- permanent split capacitor motor, capacitor provided
- for ambients to 70°C
- UL yellow card recognized and CSA certified

Model No.	Part No.	Volts	Hz	Watts	CFM
PT2B3	028154	115	50/60	40/39	200/240
PT77B3	028250	220/240 208/230	50/60	33/35	200/240

®ROTRON
INCORPORATED

Rotron Fans and Blowers

Biscuit® Blower

The only air moving device that fits inside a 1¾″ rack panel mounted instrument.

- 25 cfm free air delivery
- high pressure capability
- built around famous Muffin fan features
- 4.75″ square x 1.56″ depth
- weight 19 oz.
- acoustical rating as low as NC-42
- for ambients to 72°C
- UL yellow card recognized

Model No.	Part No.	Volts	Hz	Watts	CFM
BT2A1	025447	115	50/60	16	25
BT3A1	025449	230	50/60	17	25

Catalog Sheet COM 130

Sprite® Fan

A smaller size fan that delivers relatively high pressures at close-to-maximum air delivery.

- 35 cfm free air delivery
- 3.14″ sq. x 1.64″ depth
- acoustical rating as low as NC-28
- weight: 18 oz.
- for ambients to 70°C
- UL yellow card recognized and CSA certified
- leadwire and terminal models

Model No.*	Part No.	Volts	Hz	Watts	CFM
SU2A1	028267	115	50/60	13/11	29/35
SU3A1	028269	220/230	50/60	13/11	29/35
SU2E1	028275	115	50/60	7/6	23/27
SU3E1	028276	220/230	50/60	11/10	22/27
SU2C1	028270	115	50/60	5/5	19/21

*Leadwire model. Terminal models also available.
Catalog Sheet COM 030

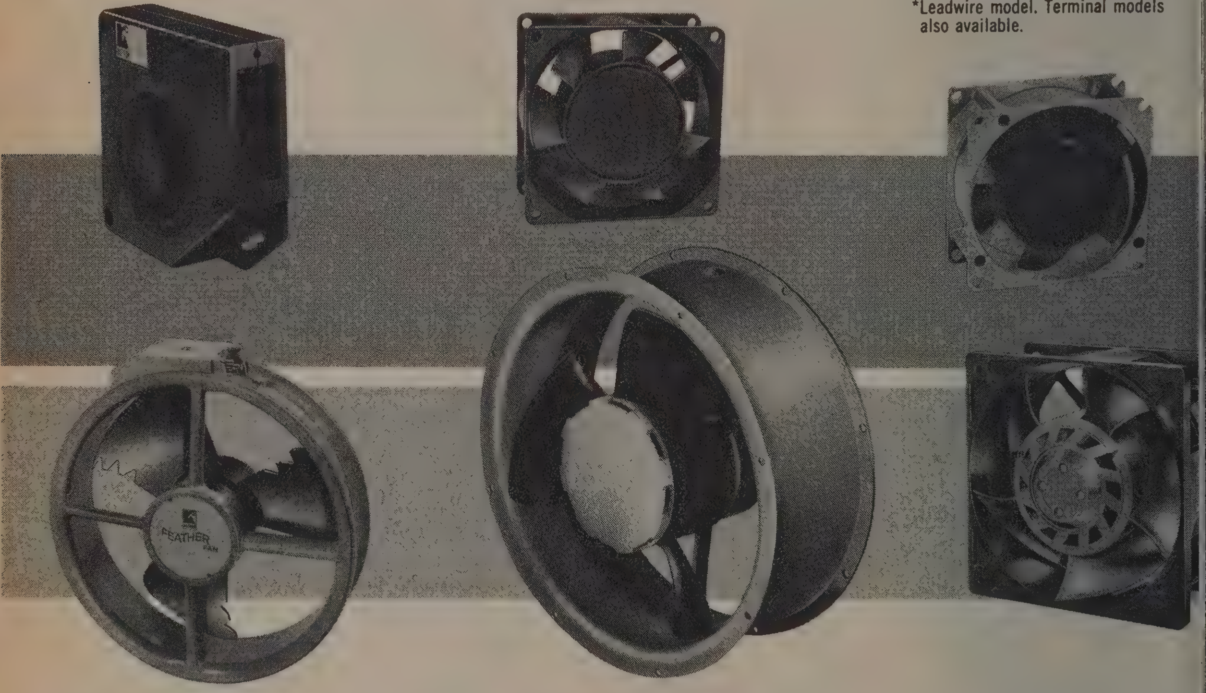
Lyric® Fan

Thinness and low noise level are features that make this small fan the ideal choice for computer terminals.

- 31 cfm free air delivery
- 3.14″ sq. x 1.38″ depth
- weight: 15 oz.
- rugged all-metal housing
- acoustical rating as low as NC-
- leadwire and terminal models
- impedance protected
- for ambients to 70°C
- UL yellow card recognized and CSA certified

Model No.*	Part No.	Volts	Hz	Watts
LY2A1	028172	115	50/60	8.5
LY3A1	028173	230	50/60	8.5
LY2E1	028176	115	50/60	8.5
LY3E1	028177	230	50/60	8.5

*Leadwire model. Terminal models also available.



Feather® Fan

High volume air performance where space is severely limited, particularly in depth.

- 270 cfm free air delivery
- 7″ dia. x 2.47″ depth
- weight 1.5 lbs.
- exclusive new Feathered Edge™ (pat. pend.) blade is extra quiet at free delivery; NC-48
- permanently lubricated ball bearings
- multi-slot split capacitor motor, capacitor provided
- for ambients to 65°C
- UL yellow card recognized

Model No.	Part No.	Volts	Hz	Watts	CFM	Thermal Protector
FF103	026161	115	50/60	20	270	No
FF113	026165	115	50/60	20	270	Yes
FF203	026162	230	50/60	20	270	No
FF213	026166	230	50/60	20	270	Yes

Caravel® Fan

Maximum air volume, from a narrow fan, for flushing large racks and cabinets.

- 590 cfm free air delivery
- 10″ dia. x 3.5″ depth
- weight 4.4 lbs.
- ball bearing thermally protected slow speed motor
- acoustical rating as low as NC-45
- for ambients to 60°C
- UL yellow card recognized and CSA certified
- exclusive new Feathered Edge™ (pat. pend.) blade for low noise level operation

Model No.*	Part No.	Volts	Hz	Watts	CFM
CL2L2	020188	115	50/60	61	590
CL2T2	020189	115	50/60	61	590
CL3L2	020190	230	50/60	61	590
CL3T2	020191	230	50/60	61	590

*T = with terminals, L = with leads

Tarzan® Fan

High air volume and pressure combined, for tightly packed cabinets and chassis.

- 340 cfm free air delivery
- 6.91″ square x 4.34″ depth
- weight 5 lbs.
- acoustical rating as low as NC
- ball bearing thermally protecte motor
- for ambients to 55°C
- centrifugal blower performanc a compact axial flow fan
- UL yellow card recognized anc CSA certified

Model No.*	Part No.	Volts	Hz	Watts
TN3A2	020174	115	50/60	85
TN3C2	020169	115	50/60	85
TN3A3	020172	230	50/60	85
TN3C3	020177	230	50/60	85

*A = terminals, C = leads

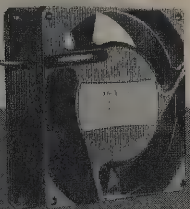
Rotron Fans and Blowers

Vafer Fan

″ thickness and low oise level for cooling applications tight spots in equipment sed near operators.

- 37 cfm free air delivery
- 3.63″ sq. x 1″ depth
- weight: 10 oz.
- acoustical rating as low as NC-41
- all metal one piece housing
- impedance protected
- for ambients to 55°C
- UL yellow card recognized

Model No.	Part No.	Bearing	Volts	Hz	Watts	CFM
VA2E79	028196	Ball	115	50/60	14/12	37
VA2F79	028334	Sleeve	115	50/60	14/12	37
VA2E77	028200	Ball	208-240	50/60	13/11	37
VA2F77	028392	Sleeve	208-240	50/60	13/11	37



Mohawk™ Fan

Highest air flow, quietest performance for 5¼″ rack mounted equipment.

- 127 cfm free air delivery
- 5.06″ sq. x 1.53″ depth
- weight: 22 oz.
- all metal housing
- exclusive Feathered Edge™ blade for low noise level operation, as low as NC-45
- slow speed 100 cfm model for noise levels as low as NC-42
- noise attenuator accessory provides even further noise reduction of 5 dB
- impedance protected
- for ambients to 70°C
- UL yellow card recognized and CSA certified

Model No.	Part No.	Volts	Hz
MW2A1	028178	115	50/60
MW3A1	028179	230	50/60
MW2C1	028180	115	50/60
MW3C1	028181	230	50/60

Spartan Fan

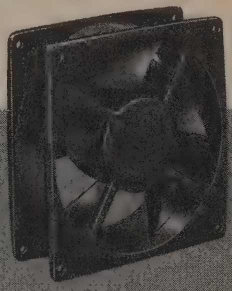
The MIL SPEC version of the famous MUFFIN

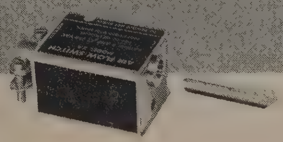
- 113 cfm free air delivery (132 cfm for 400 Hz model)
- unusually high pressure characteristics (up to .5″ hg)
- dimensionally interchangeable with Muffin fan (4.68″ square x 1.50″)
- Double shielded stainless steel ball bearings
- lubricated for life
- highly efficient multi-slot motor
- withstands ambients from −60°F (−54°C) to +212°F (+100°C)
- venturi, spiders, and hub are single aluminum casting for shock and vibration resistance
- meets all applicable mil specs for ground and shipboard

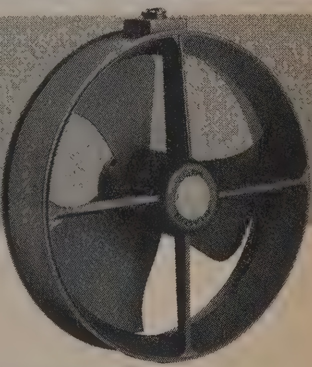
Motor Series	Volts	Hz	Watts	CFM
682YS	115	50/60	13	113
810DS	115	400	13	132

Type SL with leads, Type ST with terminals

Catalog Sheet MIL 070







Airflow Interlock Switches

Model 2A Airflow Switch detects loss of airflow to protect equipment.

- rated at 5 amps 250 VDC
- SPDT actuation
- interchangeable vanes available for 8 sensitivity ranges
- mounts to round or flat duct with single screw

Determinator Kit available with complete set of 8 vanes and Model 2A Switch in plastic box.

Saucer® Fan

High volume and high pressure both, from a minimum of fan space.

- 275 cfm free air delivery
- generates pressures up to .5″ H_2O
- driving motor entirely within hub for minimum depth - 2.50″, dia. 7″
- pre-lubricated stainless steel ball bearings
- for ambients from −60°F (−54°C) to +257°F (+125°C)
- clamping rings at venturi ends for easy mounting
- meets all applicable military specifications

Motor Series	Volts	Hz	Watts	CFM
340ZS	115	50/60	25	275

SEE LAST ROTRON PAGE FOR PRICING

® ROTRON INCORPORATED

Rotron Fans and Blowers

Aximax® - 1, 2, & 3

Family of miniature, high-performance air movers for air-borne and other critical space/weight/performance applications.

- free air delivery from 11 cfm to 160 cfm
- optional Altivar® motors automatically increase speed with altitude
- life expectancies from 10,000 hours up at 72°C
- withstand ambients up to 257°F (125°C)
- sizes: 1½″ x 1½″, 2″ x 1½″, and 3″ x 2 5/16″
- weight 4 oz., 4½ oz., and 14 oz. respectively
- meet all applicable military specifications

Models for 115 VAC, 1 phase, 400 Hz; 200 VAC, 3 phase, 400 Hz; and 115 VAC 1 phase, 60 Hz (except Aximax 1)

Catalog Sheets MIL 020, 030, 040

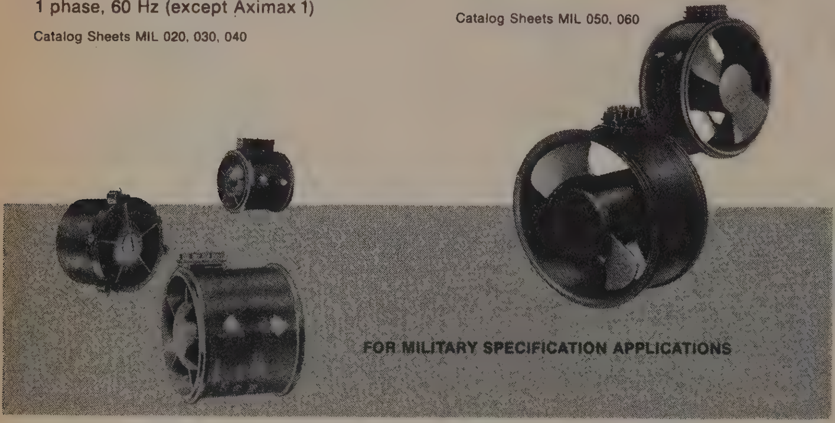
Propimax® 2, 3, & 3B

Large-volume and high-pressure air movers for airborne equipment.

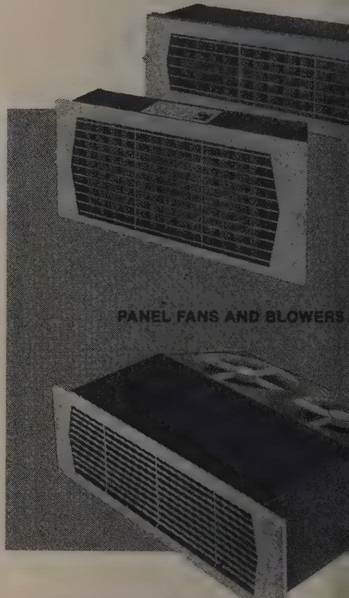
- free air delivery from 22 cfm to 225 cfm
- offer pressures as high as 7″ H_2O at cut-off
- optional Altivar® motors automatically increase speed with altitude
- life expectancies of 10,000 hours at 14.7 psia and 72°C
- withstand ambients up to 257°F (125°C)
- size/weight: 3½″ x 1½″ and 6.5 oz. for Propimax 2 3¾″ x 2″ and 16 oz. for Propimax 3 and 3B
- meet all applicable military specifications

Models for 115 VAC, 1 phase, 400 Hz; 200 VAC, 3 phase, 400 Hz; 115 VAC, 1 phase, 60 Hz

Catalog Sheets MIL 050, 060



FOR MILITARY SPECIFICATION APPLICATIONS



PANEL FANS AND BLOWERS

Modulair® Fans

Special air moving packages incorporate proven Rotron fans to maximize air flow and simplify installation.

- fit standard 19″ relay racks and cabinets
- incorporate washable filters, and grilles for attractive appearance

MB-9100

- uses three Muffin Fans to provide 240 cfm free air delivery
- 5¼″ high, 19″ wide, 3½″ deep

MB-9200

- uses two Feather Fans to provide 400 cfm free air delivery
- 8¾″ high, 19″ wide, 3½″ deep

MB-5100

- uses two Feather Fans to provide 400 cfm
- special angle allows base mounting, minimizes eddying
- 5¼″ high, 19″ wide, 13 21/32″ deep, 13 lbs.

SEE LAST ROTRON PAGE FOR PRICING

Rotron Fans and Blowers

PRICE LIST

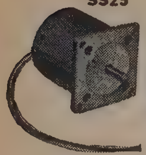
MODEL & PART NUMBER		NET EACH, LOTS OF			
		1-9	10-24	25-49	50-99
AXIMAX *1	—	$72.75	$66.75	$57.80	$54.50
AXIMAX *2	—	65.45	59.15	52.05	49.05
AXIMAX *3	—	88.35	79.95	70.30	66.25
PROPIMAX *2	—	82.75	69.95	65.20	62.05
PROPIMAX *3B	—	88.25	77.05	69.30	65.10
*Prices Differ Per Motor Series					
SPARTAN					
Type SL (leads)					
Series 682YF	020027	59.20	49.70	45.60	44.15
Series 810DF	026985	88.80	74.50	69.90	66.05
Type ST (terminal block)					
Series 682YF	020028	63.15	53.00	49.60	46.90
Series 810DF	026984	92.75	77.75	72.95	69.00
Type SM (MS connector)					
Series 682YF	020284	74.35	63.30	56.05	51.85
SAUCER*					
Series 340ZH	026990	87.20	74.15	67.80	64.35
AIRFLOW SWITCH					
Switch with Vane**	—	12.30	11.15	10.30	9.55

		NET EACH, LOTS OF				
		1-4	5-9	10-24	25-49	50-99
MB5100—Type 100	020099	$115.80	$110.05	$105.00	$100.15	$ 95.30
MB7400—Type 100	027385	153.70	145.50	138.35	134.50	130.65
MB7400—Type 101	027386	153.70	145.50	138.35	134.50	130.65
MB7500—Type 100	027387	145.60	138.35	131.10	127.45	123.80
MB7500—Type 101	027388	145.60	138.35	131.10	127.45	123.80
MB9100—Type 100	024475	71.20	68.75	64.85	63.65	62.50
MB9200—Type 100	024488	92.30	88.20	86.30	83.60	80.90
MB9300—Type 100	027384	132.70	126.05	119.40	116.10	112.85
MB9400—Type 100	029062	131.65	125.05	118.50	115.30	112.15
FILTER, FRAME & GRILLE						
FFG-5	027499	24.00	23.10	21.70	20.25	18.80
FFG-7	026821	24.75	23.85	22.45	21.00	19.55
FFG-8	026807	25.50	24.60	23.20	21.75	20.30

		NET EACH, LOTS OF					
		1-11	12-47	48-95	96-239	240-479	480-999
MUFFIN							
MU2A1	028021	$15.15	$13.20	$11.85	$11.10	$10.40	$ 9.80
MU3A1	028023	15.60	13.60	12.20	11.45	10.70	10.10
WHISPER							
WR2A1	027117	16.20	14.10	12.65	11.85	11.10	10.45
WR2H1	027119	16.90	14.70	13.20	12.35	11.60	10.90
MUFFIN XL							
MX2A3 (Flow L)	028316	15.80	13.75	12.35	11.65	10.85	10.20
MX3A3 (Flow L)	028324	16.25	14.15	12.70	11.90	11.15	10.50
MOHAWK							
MW2A1	028178	20.45	17.80	16.00	14.95	14.05	13.20
MW3A1	028179	20.90	18.20	16.35	15.30	14.35	13.50
SENTINEL							
S747	020138	30.00	26.15	23.45	21.95		
S756	020146	30.40	26.50	23.75	22.30		
FEATHER							
FF103	026161	43.00	37.45	33.65	31.50	29.50	
FF113	026165	44.85	39.10	35.10	32.90	30.80	
MAJOR							
MR2B3	028245	48.40	42.20	37.85	35.50	33.20	
MR77B3	028309	49.55	43.20	38.75	36.35	34.00	
PATRIOT							
PT2B3	028154	47.55	41.45	37.20	34.85	32.65	
PT77B3	028250	48.85	42.60	38.20	35.80	33.55	
BISCUIT							
BT2A1	025447	20.65	18.00	16.15	15.15	14.15	13.35
BT3A1	025449	21.10	18.40	16.50	15.50	14.50	13.65
CARAVEL							
CL2T2	020189	32.15	28.05	25.15	23.60		
CL3T2	020191	32.85	28.65	25.70	24.10		
TARZAN							
TN3A2	020174	40.75	35.50	31.85	29.85		
TN3A3	020172	40.75	35.50	31.85	29.85		

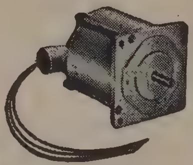
Superior Electric Slo-Syn Motors

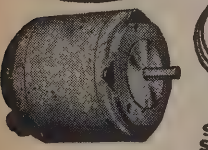
SLO-SYN® SYNCHRONOUS/STEPPING MOTORS


SS25

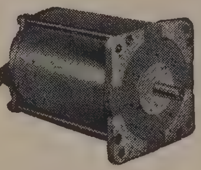
SS400

SS50, HS50


X250


SS150, SS152, SS250, SS252

X1000


SS1800

Units may be used as DC stepping motors and start at full-rated torque. Slo-Syn syı chronous motors are permanent magnet types (AC) having instant start, stop and revers characteristics and a basic shaft speed of 72 rpm with 60 Hz applied. Adaptable for use a a DC stepping motor or incremental positioning device that can be stepped 200 times pe revolution of the motor shaft. Negligible overshoot; no ratchets or detents are usec Single-pole, three-position switch gives complete forward, reverse and "off" contro because motor has only three leads. Starts or stops in less than 0.025 second or, approx mately 1.5 Hz. No need for mechanical or electrical braking; stops in less than 5° c motor shaft rotation. Starting and operating currents nearly identical; no excessiv inrush current when motor is turned on. Lubricated-for-life, sealed ball-bearings. Type with **X** in number are explosion-proof and UL Approved for Class 1, Group D servic

SPECIAL DUTY TYPES available. Request latest SLO-SYN literature covering:

Double End: Have output shafts projecting from both ends. Types available in al cataloged torque ratings. Those with 50, 150, 250 and 400 oz.-in. ratings can also in clude planetary gear assemblies if desired.

200 RPM: Types TS25, TS50 and TS52 are similar to standard models, but operate at synchronous speed of 200 rpm and take 5° steps when used for DC stepping.

28.8 RPM: Type LS50 runs at 28.8 rpm at 60 Hz without stepdown gearing. Makes 50 steps/rev as a DC stepping motor. Torque rating, 60 oz.-in. Stops with 25 msec.

MOTOR UNITS

Specifications at 50/60 Hz, one phase, 72 rpm at 60 Hz.

Superior Type	Torque (Oz.-In.)	V	Max. Amps	Resistor, Ohms	Capacitor, μF	Shpg., Lbs.	Net Each
•SS25	25	120	0.1	500 ±5%, 5 W	0.75 ±6%, 330 VAC	1.5	$ 71.0
•SS50†	50	120	0.3	250 ±5%, 25 W	2.6 ±6%, 330 VAC	3.5	64.0
SS50 1268	80	120	0.3	400 ±5%, 25 W	2.25 ±6%, 330 VAC	3.5	64.0
•SS150‡	150	120	0.4	250 ±5%, 25 W	3.75 ±6%, 330 VAC	8	76.0
SS152§	150	240	0.2	1000 ±5%, 25 W	1.0 ±6%, 660 VAC	8	84.0
•SS250	250	120	0.6	150 ±5%, 50 W	6.5 ±6%, 330 VAC	8	103.0
•X250	250	120	0.6	150 ±5%, 50 W	6.5 ±6%, 330 VAC	9	169.0
•SS252	250	240	0.3	750 ±5%, 50 W	1.75 ±6%, 660 VAC	8	107.0
SS400	400	120	0.6	150 ±5%, 50 W	6.5 ±6%, 330 VAC	13.75	157.0
SS400-1101	700	120	1.0	150 ±5%, 50 W	11 ±6%, 330 VAC	15.5	165.0
•X1000*	1000	120	3.0	65 ±5%, 160 W	30.0 ±5%, 330 VAC	33	334.0
•X1500	1500	120	3.0	50 ±5%, 375 W	30.0 ±6%, 330 VAC	40	365.0
SS1800*	1800	120	4.0	40 ±5%, 280 W	60.0 ±6%, 330 VAC	50	435.0

*For 60 Hz operation only. †‡§Available with resistor-capacitor integrally mounted o end of motor, add suffix **RC** to number. Prices slightly higher.

PLANETARY GEAR ASSEMBLIES

Standard types of Slo-Syn synchronous/stepping motors with special gear planetary assemblies are available. Speed reduction assembly is completely enclosed in dust-proof housing mounted on shaft end of motor. Load is evenly distributed over three special nylon gears. Planetary gear shaft is ball-bearing mounted; self lubricated nylon gears. To order, basic type number must be suffixed with the desired planetary gear assembly number For example, SS50-**P1**. See tables at right for specifications of planetary gear types and price schedule.

PLANETARY GEAR TYPES

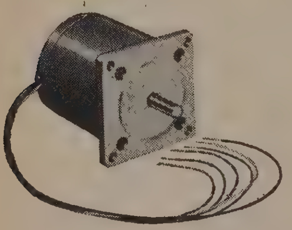
Planetary Assembly Suffix	Gear Ratio	Approx. Speed* rpm	Output Torque			
			SS50	SS150, SS152	SS250, SS252, SS400	X250
P1	4-⅓	16.6	120 oz.-in.	400 oz.-in.	650 oz.-in.	650 oz.-in.
P2	21-⅔	3.32	600 oz.-in.	2000 oz.-in.	....	2000 oz.-in.
P3	108-⅓	0.665	2000 oz.-in.	2000 oz.-in.	....	2000 oz.-in.

*Exact speed may be calculated from basic motor speed of 72 rpm and given ratio.

PRICE SCHEDULE FOR PLANETARY GEAR ASSEMBLIES

Plan. Assem. Suffix	Net Each						
	Planetary Gear Assemblies for Motor Types						
	SS50	SS150	SS152	X250	SS250	SS252	SS400
P1	$ 99.00	$110.00	....	$205.00	$139.00	....	$195.00
P2	102.00	110.00	....	205.00	....	....	....
P3	115.00	....	....	....	....	....	....

M SERIES SLO-SYN® STEPPING MOTORS



The M Series SLO-SYN motors represent the most advanced permanent magnet stepping motor design available. Offer the most complete range, both in torque ratings and in size configuration. Motors provide the highest torque per pound and torque to inertia ratios; can be driven at rates above 20,000 steps per second with a minimum of power input. Standard drives available for rates to 5,000 steps per second. Higher rates can be supplied on special order. Class B insulation; may be operated at an ambient temperature range of −40° C to +65° C. Continuous duty temperature rise is 65° C. Stepping increment is 1.8° with a choice of ±5% or precision ±3% accuracies available as standard. An eight-step input sequence gives a stepping increment of 0.9°.

Superior Type	Accuracy	DC Volts	Amps per Winding	Min. Holding Torque* Oz.-In.	Min. Residual Torque† Oz.-In.	Shaft Dia. Inches	Approx. Shpg. Wt. Lbs.	Net Each
•M061-FC08 •M061-FD08	±3% ±5%	1.3	3.9	53	5	.250	1½	$ 92.00 83.00
•M061-FC02 •M061-FD02	±3% ±5%	5.1	1.0	53	5	.250	1½	92.00 83.00
•M062-FC09 •M062-FD09	±3% ±5%	1.7	4.7	100	8	.250	2½	110.00 101.00
•M062-FC04 •M062-FD04	±3% ±5%	4.3	1.8	100	8	.250	2½	110.00 101.00
•M063-FC09 •M063-FD09	±3% ±5%	2.2	4.6	150	10	.250	3¼	135.00 126.00
•M063-FC06 •M063-FD06	±3% ±5%	3.4	2.9	150	10	.250	3¼	135.00 126.00
•M091-FC09 •M091-FD09	±3% ±5%	1.8	4.8	150	5	.375	4	89.00 79.00
•M091-FC06 •M091-FD06	±3% ±5%	2.9	3.05	150	5	.375	4	89.00 79.00
•M092-FC09 •M092-FD09	±3% ±5%	2.5	4.6	300	10	.375	6¾	99.00 90.00
•M093-FC11 •M093-FD11	±3% ±5%	2.8	5.5	450	15	.375	9	130.00 120.00
•M093-FC14 •M093-FD14	±3% ±5%	2.2	7.0	450	15	.375	9	130.00 120.00
M092-FD310	±5%	1.65	6.8	300	4	.375	6¾	115.00
M093-FD301	±5%	1.5	11.0	450	7	.375	9.0	145.00
•M111-FD12	±5%	2.3	6.1	625	15	.375	9¼	148.00
•M111-FD16	±5%	1.7	8.0	625	15	.375	9¼	148.00
•M112-FJ12	±5%	3.6	6.1	1125	30	.625	16¼	259.00
•M112-FJ25	±5%	1.8	12.7	1125	30	.625	16¼	259.00
M112-FJ326	±5%	1.45	15.2	1125	12	.625	16¼	259.00
M112-FJ327	±5%	2.1	9.2	1125	12	.625	16¼	259.00

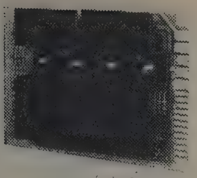
*Both windings energized at rated current. †Approximate value with neither coil energized.

•AVAILABLE OFF-THE-SHELF FROM STOCK.

Superior Electric

Slo-Syn® Modular Stepping Motor Controls

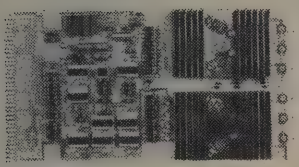
SLO-SYN TRANSLATOR STM101



1000 Steps/Second: Translator module is printed circuit board providing sequencing and switching logic for bidirectional control of SLO-SYN stepping motors. Converts pulses from a minicomputer, microprocessor or other external logic source into necessary stepping sequence. External logic controls step rate, direction and number of steps taken. Internal oscillator with 0-1000 pulse/sec range provided for "off-line" or manual positioning control. Requires an external 24 VDC, 6 amp. power source such as MPS1000 and MPS1000X listed. **External Pulse Requirements:** High level 2.4-5.5 VDC, low level 0-0.4 VDC. Dim. 4¼" x 6½". For use with M061-F(C)(D)08, M062-F(C)(D)03, M063-F(C)(D)06, M091-F(C)(D)06, M092-F(C)(D)08, M093-F(C)(D)07, M112-F(D)(J)08 motors.

Superior Type STM101—Net Each.......................**$85.00**

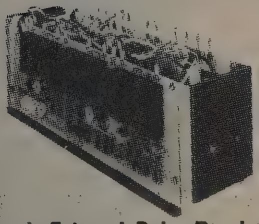
SLO-SYN TRANSLATOR STM103



3000 Steps/Second: Similar to STM101 but with rates to 3000 full-steps (1.8°) or 6000 half-steps (0.9°) per second. Operation in the half-step mode permits finer system resolution with no loss of positioning speed. Adjustable acceleration and deceleration circuitry increases load handling capability. STM103 requires an external 24 VDC, 10 amp. power supply such as MPS3000 or MPS3000X listed. Internal oscillator range 0-6000 pulse/sec. **External Pulse Requirements:** High level 2-5.24 VDC, low level 0-0.8 VDC. Dim. 5¾" x 11". For use with M061-F(C)(D)08, M062-F(C)(D)09, M063-F(C)(D)09, M091-F(C)(D)09, M092-F(C)(D)09, M093-F(C)(D)11, M111-FD12, M112-F(D)(J)12 motors.

Superior Type STM103—Net Each.....................**$135.00**

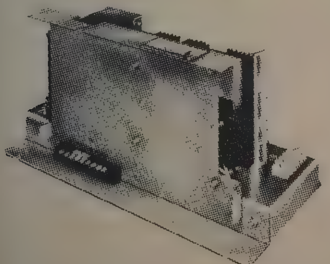
SLO-SYN TRANSLATOR TBM105



5000 Steps/Second: Open chassis unit incorporating a d-c power supply and the sequencing and switching logic needed for bidirectional control of SLO-SYN motors. Operates in either half-step (0.9°) or full-step (1.8°) mode. **Power Input:** 120/220/240 VAC, 50/60 Hz, 5 amp max. Internal oscillator range 0–1000 pulses/sec base speed, 200–10,000 pulse/sec high speed. **External Pulse Requirements:** 2–5.25 VDC high level, 0–0.5 VDC low level. Dim: 21" L x 7" W x 8" H. Factory adjusted for optimum performance with M062-F(C)(D)09, M063-F(C)(D)09, M092-FD310, M093-FD301, M112-FJ32(6)(7) motors.

Superior Type TBM105—Net Each.....................**$650.00**

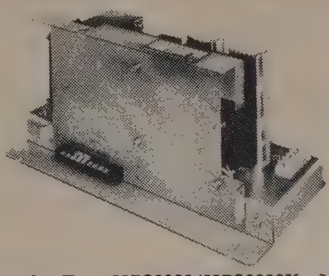
SLO-SYN POWER SUPPLIES MPS1000/MPS1000X



For use with STM101 translator modules or PIM151 preset indexer modules which have compatible voltage and current ratings and which can be integrally mounted. Terminal strips for all a-c input, d-c output and motor connections. **Output:** 24 VDC; 5 VDC. **Power Input:** MPS1000 120 VAC, 60 Hz, 3 amp; MPS1000X 220/240 VAC, 60 Hz, 1.5 amp. Dim. 17" Lx8" Wx8" H.

Superior Type MPS1000/MPS1000X—Net Each.....**$190.00**

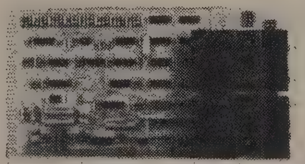
SLO-SYN POWER SUPPLIES MPS3000/MPS3000X



For use with STM103 translator modules or PIM153 preset indexer modules which have compatible voltage and current ratings and which can be integrally mounted. Have terminals for all a-c input, d-c output and motor connections. **Output:** 24 VDC; 5 VDC. **Power Input:** MPS3000 120 VAC, 60 Hz, 5 amp; MPS3000X 220/240 VAC, 60 Hz, 3 amp. Dim. 17" Lx8" Wx8" H.

Superior Type MPS3000/MPS3000X—Net Each.....**$240.00**

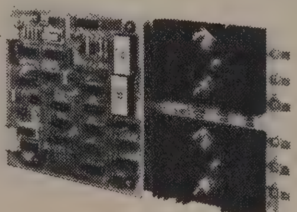
SLO-SYN PRESET INDEXER PIM151



1000 Steps/Second: Provides translator functions of sequencing and switching logic and internal oscillator and pulse counting circuitry for complete control of stepping rate, direction and number of steps taken. Count insertion via external BCD logic switches. Requires external 24 VDC, 6 amps/5 VDC, 1 amp power supply such as MPS1000 and MPS1000X listed. **Internal Oscillator Range:** 4–1000 pulses/sec. **External Function:** Index start, run, jog clear and count complete. Max. count 99,999 motor steps. Dim: 5¾" x 11". Use with M061-F(C)(D)08, M062-F(C)(D)03, M063-F(C)(D)06, M091-F(C)(D)06, M092-F(C)(D)08, M093-F(C)(D)07, M112-F(D)(J)08 motors.

Superior Type PIM151—Net Each.....................**$265.00**

SLO-SYN PRESET INDEXER PIM153



3000 Steps/Second: Similar to PIM151 but with rates to 3000 full-steps (1.8°) or 6000 half-steps (0.9°) per second. Has adjustable acceleration and deceleration. PIM153 requires an external power supply capable of providing 24 VDC, 10 amp/5 VDC, 1 amp such as MPS3000 and MPS3000X listed. **Internal Oscillator Range:** 0–6000 pulses/sec. **External Functions:** Index start, run, jog, high speed, count complete and clear. Count insertion by external BCD logic switches or voltage levels. Maximum count 99,999 motor steps. Dim. 5¾" x 11". Used with M061-F(C)(D)08, M062-F(C)(D)09, M063-F(C)(D)09, MC91-F(C)(D)09, M092-F(C)(D)09, M093-F(C)(D)11, M111-FD12, M112-F(D)(J)12 motors.

Superior Type PIM153—Net Each.....................**$375.00**

SLO-SYN PRESET INDEXER TBM155

5000 Steps/Sec: Can provide indexing motions up to 99,999 motor steps, controlled from external BCD logic switches or from a computer or microprocessor. Adjustable acceleration and deceleration. Operates in either the half-step (0.9°) or full-step (1.8°) mode. External functions: index, run, jog, high speed, close and clear signals. **Power Input:** 120/220/240 VAC, 50/60 Hz. **Internal oscillator range:** base speed 0–1000 pulses/sec; high speed 200–5000 pulse/sec. Dim. 21" L x 7" W x 8" H. Factory adjusted for optimum performance with M062-F(C)(D)09, M063-F(C)(D)09, M092-FD310, M093-FD301, M112-FJ32(6)(7) motors.

Superior Type TBM155—Net Each.....................**$795.00**

SERIES RESISTORS

For use with 1000 and 3000 steps/second translator and preset indexer modules.

Superior Type	Ohms	Net Each
BM102088-G14	11 ±5%, 50 W	$6.00
BM132278-G6	3.5 ±5%, 75 W	7.00
BM13382-G9	4 ±5%, 160 W	6.00
DR103788-G9	6 ±5%, 100 W	7.50
DR103788-G14	6.5 ±5%, 100 W	7.00
DR103788-G15	7 ±5%, 100 W	7.00
DR103788-G16	7.5 ±5%, 100 W	7.00

PACKAGED CONTROLS

All modular translators and preset indexers described are available as 19-inch rack/bench top units. Write or telephone for additional information.

TRW GLOBE MOTOR DIVISION

LOOK SHARPER; DESIGN SHARPER

If you like hearing other engineers say "Why didn't I think of that," you'll like working with TRW/Globe on your motor specifications. There are many ways we can help you look sharper to your associates and design sharper motion systems.

Maximum choice; minimum compromise

You don't have to compromise on an "almost-right" motor when you select from the TRW/Globe line:

- AC and DC motors from 1/400 to 1/10 hp.
- Diameters from ¾″ to 2⁵⁄₁₆″.
- DC motor and gearmotor speeds to 25,000 rpm; torque to 1,100 in. lb.
- AC motor and gearmotor speeds to 24,000 rpm; torque to 550 in. lb.
- Miniature fans and blowers with air delivery to 500 cfm.
- Prices from $5.00 up.

A sampling of our line is shown on the opposite page. These "best-sellers" alone offer more choices than most manufacturers show in their entire lines.

Gain from others' experience

We have built over 4 million motors for applications from aerospace to zoom lenses.

TRW/Globe motors have flown to the moon and back. In the other direction, they operate 20,000 feet underground at the end of an oil drill bit. In between, they drive a vast array of commercial/industrial and military equipment.

Engineering depth

In our design and development, testing, quality control, and application sections, we offer more technical expertise than you will ever need.

The Engineering Department has its own model shop. Our testing laboratory can duplicate almost any conditions you specify, such as shock, vibration, temperature, and other environmental factors.

It is common practice to test a customer's total system, not just the motor alone, to get as close as possible to actual operating conditions.

Furthermore, we test every motor before it leaves our plants. Typically, DC motors must prove themselves for 24 hours; AC, 16 hours.

If you have a quality control inspection at your input end, we can duplicate it at our output end.

Order by the box or box-car

If you only need a few catalog motors, you can get them quickly from a nearby office of one of our distributors.

Each of these distributors has a Modification/Assembly Center, staffed by Globe-trained technicians who can make thousands of variations of our basic motor modules: RFI filtering, special shaft configurations, marking, lubrication, tachs, gear ratios, and many others.

If your requirements are more specialized, our Small Order Department is geared for quick production of non-catalog motors.

On the other hand, if you need high production quantities, our new plant in Dothan, Alabama, can cough out motors by the thousands.

A "motor-plus" can cut the fuss

Engineers often find they have to add detail parts to the motor (such as clutches, brakes, limit switches, couplings, special mounting, tachometers, etc.) in order to make it work in their systems.

TRW/Globe can combine such multiple functions in one "motor-plus" with many advantages:

1. simplifies purchasing;
2. simplifies delivery schedules;
3. eliminates second assemblies;
4. reduces interfacing problems;
5. cuts inspection costs;
6. simplifies inventory;
7. saves space in your design;
8. clarifies responsibility.

All of which can add up to considerable savings for you!

Exploit the resources of TRW

As a division of one of the technological giants of industry, TRW Inc., we provide access to a virtually bottomless pool of engineering resources.

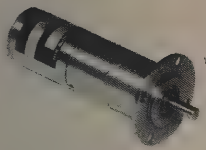
Quality doesn't cost; it pays

Frankly, you can buy cheaper motors than you can get from TRW/Globe. But many of our customers have tried the lowest-bid route, and then have come to us to get the reliability and performance that pays off in the long run.

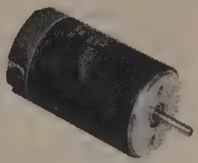
You get more than just product when you buy from TRW Globe!

TRW GLOBE MOTOR DIVISION

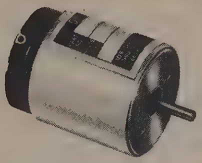
THE "BEST-SELLERS"



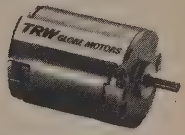
Type SS gearmotor
DC permanent magnet.
Planetary gears.
Power source: up to 50 v.d.c.
Max. rated torque: 300 oz. in.
Standard gear ratios: 21.
Diameter: 7/8″ (22 mm).
Max. length: 3 29/64″ (88 mm).



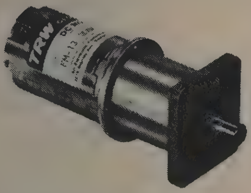
Type CLL
DC permanent magnet.
Power source: up to 75 v.d.c.
RPM: to 19,000.
Max. rated torque: to 1.8 oz. in.
Standard gear ratios: 83.
Diameter: 1.25″ (32 mm).
Max. motor length: 2.09″ (53 mm).



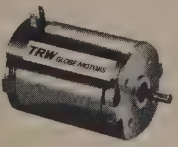
Type CMM
DC permanent magnet.
Power source: up to 50 v.d.c.
RPM: to 22,800.
Max. rated torque: to 1.00 oz. in.
Standard gear ratios: 83.
Diameter: 1.25″ (32 mm).
Max. motor length: 1.75″ (45 mm).



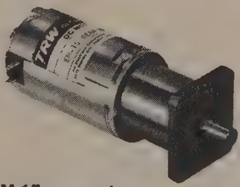
Type EM-13
DC permanent magnet.
Power source: up to 30 v.d.c.
RPM: to 6,000.
Max. rated torque: to 3.0 oz. in.
Diameter: 1.25″ (32 mm).
Max. motor length: 1.85″ (47 mm) and 2.17″ (55 mm).



EM-13 gearmotor
DC permanent magnet.
Planetary gears.
Power source: up to 30 v.d.c.
Standard gear ratios: 30.
Max. rated torque: 1250 oz. in.
Diameter: 1.25″ (32 mm).
Max. length: 4.75″ (120 mm).



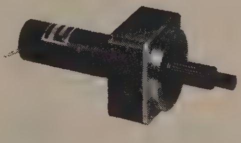
Type EM-15
DC permanent magnet.
Power source: up to 30 v.d.c.
RPM: to 6,000.
Max. rated torque: to 5.5 oz. in.
Diameter: 1.5″ (38 mm).
Max. motor length: 2.3″ (58 mm) and 2.5″ (64 mm).



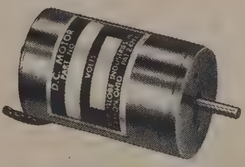
EM-15 gearmotor
DC permanent magnet.
Planetary gears.
Power source: 6, 12, 24 v.d.c.
Standard gear ratios: 30.
Max. rated torque: 1250 oz. in.
Diameter: 1.5″ (38 mm).
Max. length: 5.15″ (130 mm).

Type CFC
AC hysteresis synchronous and induction.
Power source: 115 v.a.c., 60 Hz.
RPM: to 3,600.
Max. rated torque: to 2.0 oz. in.
Diameter: 1.7″ (43 mm).
Max. motor length: 2.8″ (71 mm).

Type CFC gearmotors
AC hysteresis synchronous.
Planetary gears.
Power source: 115 v.a.c., 60 Hz.
Max. rated torque: 1250 oz. in.
Standard gear ratios: 83.
Diameter: 1.7″ (43 mm).
Max. length: 5.18″ (132 mm).



BD/BL gearmotors
DC permanent magnet.
Planetary gears.
Power source: up to 115 v.d.c.
Max. rated torque: 550 lb. in.
Standard gear ratios: 19.
Diameter: 1½″ (38 mm).
Max. length: 5.72″ (145 mm).



Mil-spec motors and gearmotors
Available in DC permanent magnet, AC hysteresis, synchronous, and AC induction motors.
RPM: to 26,000.
Max. rated torque: up to 28.0 oz. in. w/o gearing; up to 550 lbs. in. with gearing.
Standard gear ratios: 143.
Diameter: 0.625″ to 3.75″ (17 mm to 95 mm).
Max. motor length: 1.32″ to 4.35″ (34 mm to 110 mm).

Blowers and fans
Available for both AC and DC operation.
Types: propeller, centrifugal, tubeaxial, vaneaxial, and prop-axial.
Free air flow: 10 to 1808 cfm.
Diameters: 1.1″ to 7.0″ (31 mm to 178 mm).
Lengths: to 6.36″ (160 mm).

If you add parts to your motor

TRW/Globe will combine multiple functions in one assembly which will greatly reduce your costs in secondary operations, quality control, interfacing, inventory, purchasing, and scheduling.

HOW TO SELECT AND APPLY D.C. MOTORS

Globe manufactures d.c. motors up to 0.2 hp, along with integral planetary geartrains, governors, clutches, brakes and filters.

STOCK DELIVERY

Large stocks of standard catalog units are ready for 24-hour delivery from our distributors for prototype use. In addition, Globe maintains a Small Order Department to expedite production and delivery of small quantities down to a single prototype. Globe facilities are also geared to handle the largest production order.

PERMANENT MAGNET MOTORS

In d.c. motors of 0.1 hp or less, a permanent magnet field is the best; in power motors PM motors run cooler than wound field types because no power is expended to maintain a magnetic field.

Permanent magnet fields last indefinitely in operation and on the shelf.

P.M. MOTOR PERFORMANCE

The relationship of the armature winding and magnetic field establishes the basic motor performance. Tolerances on armature and other magnetic circuit hardware can be eliminated from the performance variations by adjusting the magnet strength during assembly. For a given number of turns of armature winding, the effective magnetic field on a group of motors will be identical. This is true because the No Load speed at any voltage depends only upon the number of turns in the armature and the magnetic field thru the armature.

Available output torque depends only upon the same magnetic field and the number of ampere-turns in the armature. As a result, any two motors which operate at the same No Load speed at the same voltage will produce the same output torque for each ampere of input current, the only stipulation being that No Load means exactly that. If the actual No Load operating losses are significant, this must be considered.

TRW/Globe motors have negligible No Load losses for almost all performance calculations. As a result, you may assume that No Load speed is exactly proportional to voltage over a range of ⅕ to 5 times catalog voltages.

FORMULAS-HP AND TORQUE

Miniature motor torques are generally expressed in ounce-inches. A simple conversion which can be employed with very little error is to assume:

$$HP = \frac{RPM \times oz.\ in.}{1 \times 10^6} \quad \text{or Torque (oz. in.)} = \frac{1 \times 10^6 \times HP}{RPM}$$

If you prefer to work with whole numbers instead of small fractions, use watts instead of H.P. 746 watts=1 HP.

$$Watts = \frac{RPM \times oz.\ in. \times 7.4}{10^4}$$

Fig. 1. PM motor curve

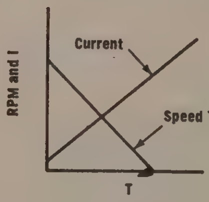


Fig. 2. Speed tolerance characteristics

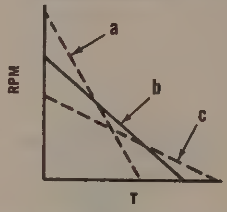
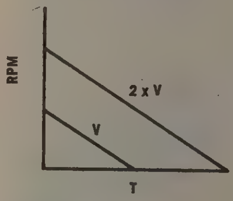


Fig. 3. Speed changed by voltage change



PERMANENT MAGNET MOTOR CURVES

Fig. 1. illustrates a speed-torque, current-torque curve. Each curve is a straight line since the PM field and armature winding are constant in a given motor, and current varies in proportion to torque.

It is expensive to magnetize the PM field to exact values, and a production tolerance of about 10% for the no load speed is standard. Effects of this tolerance are illustrated in Fig. 2 where curve (a) is the lowest value, (b) is the nominal, and (c) is the maximum value of field strength. No-load speed varies inversely with field strength, and stall torque varies directly with field strength. Catalog data will allow you to draw Speed-Torque-Current curve for any motor at any voltage.

Fig. 3 shows the result of changing the applied voltage. No load speed changes proportionally to voltage, resulting in a family of parallel speed-torque curves.

HOW TO SELECT AND APPLY A.C. MOTORS

TRW/Globe manufactures AC motors up to .15 hp in both induction and hysteresis synchronous designs which can be built incorporating integral planetary geartrains, clutches and brakes. AC motors are designed for use on 60 cycle AC as well as 400 cycle for both single and 3 phase power. Globe has been a leader in development of synchronous motors and is able to supply these devices in a wide variety of styles and features.

HYSTERESIS SYNCHRONOUS MOTORS:

Synchronous motors operate at a constant speed determined by the number of poles and frequency. With the hysteresis synchronous motor, the output is velvet smooth and is as constant as the power supply frequency.

TRW GLOBE MOTOR DIVISION

INDUCTION MOTORS:

Globe induction motors are manufactured using a squirrel cage rotor utilizing either aluminum or copper bars. Speed and torque can be tailored to individual requirements by changing the conductivity of rotor bars.

APPLICATION FACTORS:

AC motor selection is based upon the required speed and torque together with life and environmental conditions. Since motor life is a function of both ambient temperature and generated temperature, heat sinks can often be utilized effectively to reduce motor temperature.

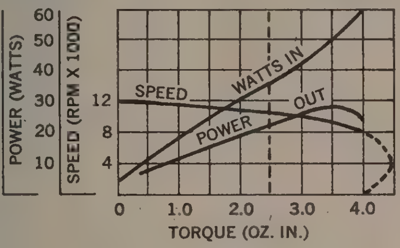
Note that starting or stall torque can be greater or less than rated torque for either Induction or Hyst. Sync. Motors. It may be necessary to use starting torque as a selection criteria instead of the normal load torque required.

Winding temp rise:

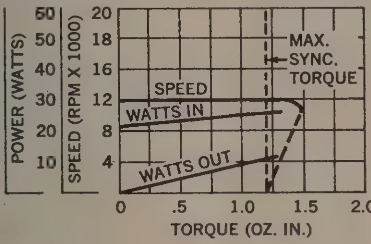
$$^\circ\text{C rise} = 254 \times \frac{\text{Hot Resistance} - \text{Cold Resistance}}{\text{Cold Resistance}}$$

Typical Curves

INDUCTION MOTOR
PART NO. 75A 1006-1 VOLTAGE: 115 v.a.c. 400 Hz 3-phase



HYSTERESIS SYNCHRONOUS
PART NO. 75A 1006-2 VOLTAGE: 115 v.a.c. 400 Hz 3-phase



GEARMOTORS

TRW/Globe's gearboxes contain planetary gears made of high-density powder steel, a superior method for making gears. They provide efficiency of well over 80% per reduction stage (up to 95% in larger sizes), and are more compact than spur gears.

1. You will notice that each motor in this catalog has a companion gearmotor. Normally, you can see from this data which speed reduction ratio will provide the speed and output torque you need. If not, simply multiply the maximum synchronous torque of the motor by the torque multiplier. This will give the maximum synchronous torque of the gearmotor at the minimum gear efficiency.

2. Continuous torque may be limited by the geartrain capacity.

3. To determine output speed of the gearmotor, divide the speed of the basic motor by the reduction ratio.

PART NUMBERS

Each motor and gearmotor lists its basic part number in its table. For DC gearmotors, to complete the part number, add the appropriate armature dash number from the basic motor table. For AC gearmotors, add the ratio to the basic part number.

EXAMPLES:

136A207-17 is a Type SD motor, open type with a -17 armature winding, 6 volts, 14,500-17,500 rpm, 0.20 oz. in. torque, etc.

168A226-2 is a 55.66:1 SD gearmotor with a -2 armature winding, 27 volts, 14,500 rpm nominal, 0.22 oz. in. torque at the motor; which produces 260 rpm no load and is rated at 6.2 oz. in.

When off-the-shelf won't do

If you don't see a motor in this catalog that will meet your requirements or you need help choosing a motor, please call our Application Engineering department.

There's an excellent chance that they can solve your problem.

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Motor type	Dia. Inch	(mm)	Max. HP	Page
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SS DC motors and gearmotors	⅞″	(22)	.004	433
MM DC motors	1¼″	(32)	.010	434
LL DC motors	1¼″	(32)	.016	434
JM DC motors	1¼″	(32)	.016	434
MM DC gearmotors	1¼″	(32)		435
LL DC gearmotors	1¼″	(32)		435
JM DC gearmotors	1¼″	(32)		435
BD DC motors	1½″	(38)	.022	436
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CMM and CLL DC gearmotors	1¼″	(32)		439
EM-13 DC motors	1¼″	(32)	.01	440
EM-15 DC motors	1½″	(38)	.02	440
EM-13 DC gearmotors	1¼″	(32)		441
EM-15 DC gearmotors	1½″	(38)		441
MC AC motors	1¼″	(32)	.008	442
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MC AC gearmotors	1¼″	(32)		443
FC AC gearmotors	1¹¹⁄₁₆″	(42)		444
SC AC motors and gearmotors	1″	(25)	.003	445
CFC AC motors and gearmotors	1²³⁄₃₂″	(43)	.0045	446
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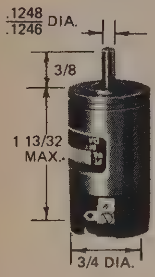
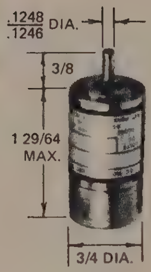
All rated torques tabulated in this catalog are for continuous operation. Intermittent duty applications can operate at higher torques in most cases.

TRW GLOBE MOTORS

D.C. 3/4" DIA. PERMANENT MAGNET MOTORS AND PLANETARY GEARMOTORS

TYPE SD — BASIC MOTOR



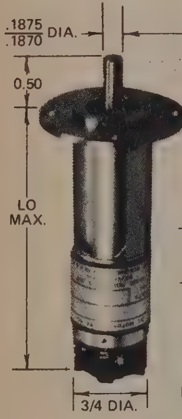


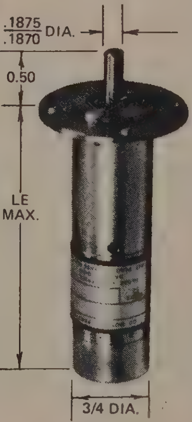
Type SD d.c. motors are designed to meet the requirements of MIL-M-8609; however, designs exceeding this specification to meet customer controlled applications are common. A variety of standard windings are available to provide a wide range of speed and torque characteristics.

STANDARD PART NUMBERS AND DATA

Voltage (v.d.c.)	Speed no load (rpm)	Torque max. rated (oz. in.)	Torque nominal stall (oz. in.)	Current max. no load (amps)	Current max. rated load (amps)	Current nominal stall (amps)	Part Number open 136A207 Armature Dash Number	Part Number enclosed 136A208 Armature Dash Number
6	14,500-17,500	0.20	1.50	.360	0.78	3.6	-17	-17
6	12,000-14,000	0.28	1.20	.290	0.78	2.2	-16	-16
6	9,000-10,500	0.32	0.90	.210	0.60	1.4	-15	-15
12	13,000-15,500	0.22	1.60	.170	.38	1.50	-14	-14
12	9,500-11,000	0.37	0.80	.120	.37	0.93	-13	-13
12	8,500-10,000	0.25	0.60	.105	.26	0.70	-12	-12
27	15,500-18,500	0.17	1.80	.085	.17	1.15	-1	-1
27	13,000-16,000	0.22	1.50	.075	.17	0.85	-2	-2
27	10,000-12,500	0.31	1.20	.060	.17	0.48	-3	-3
27	9,000-10,500	0.31	0.90	.050	.14	0.30	-4	-4
27	7,000- 8,500	0.24	0.80	.045	.08	0.21	-5	-5
50	13,000-15,500	0.26	0.90	.040	.10	0.22	-7	-7
50	11,500-13,500	0.31	1.10	.035	.10	0.26	-6	-6
50	11,000-13,000	0.26	0.75	.032	.08	0.18	-8	-8
50	8,000- 9,500	0.18	0.50	.025	.05	0.08	-9	-9
50	7,000- 8,300	0.15	0.45	.022	.04	0.07	-10	-10
50	5,500- 6,500	0.11	0.35	.018	.03	0.05	-11	-11

TYPE SD PLANETARY GEARMOTORS





This small size, lightweight gearmotor is comprised of a ¾" Type SD motor coupled with a precision planetary geartrain. The combination provides smooth, dependable performance and maximum output torque in the smallest possible space. It is designed to provide a military quality gearmotor of exceptionally compact size.

STANDARD PART NUMBERS AND DATA

Speed Reduction Ratio	Maximum Continuous Torque (oz. in.)	Torque Multiplier Ratio	L Max.	LO Max.	LE Max.	Standard Part Numbers Prefix* open type	Standard Part Numbers Prefix* enclosed type
3.82:1	1.0	3.1	2 5/16"	2 3/8"	2 13/32"	168A247	168A249
5.77:1	1.5	4.6				168A248	168A250
14.58:1	3.0	9.3	2 35/64"	2 39/64"	2 41/64"	168A204	168A223
22.03:1	4.5	14				168A205	168A224
33.28:1	7.0	21				168A206	168A225
55,66:1	10	28	2 23/32"	2 25/32"	2 13/16"	168A207	168A226
84.11:1	14	43				168A208	168A227
127.1:1	21	65				168A209	168A228
192:1	30	93				168A210	168A229
321:1	45	130	2 57/64"	2 61/64"	2 63/64"	168A211	168A230
485:1	70	200				168A212	168A231
733:1	100	300				168A213	168A232
1108:1	150	450				168A214	168A233
1853:1	200	600	3 1/16"	3 1/8"	3 5/32"	168A215	168A234
2799:1	300	900				168A216	168A235
4230:1	300	1400				168A217	168A236
6391:1	300	2100				168A218	168A237
10689:1	300	2800	3 7/32"	3 19/64"	3 21/64"	168A219	168A238
16150:1	300	4200				168A220	168A239
24403:1	300	6400				168A221	168A240
36873:1	300	9700				168A222	168A241

Max. Cont. Torque: The values in this column are based upon geartrain strength and capability for 1000 hrs. minimum life. Max. rated torque of motor selected x torque multiplier ratio must not exceed these values.
Max. Intermittent Torque = 2 x Max. Cont. Torque.
Momentary Stall Torque = 5 x Max. Cont. Torque.
Minimum Efficiency = Torque Multiplier Ratio divided by Speed Reduction Ratio x 100.

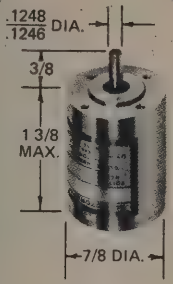
***HOW TO ORDER:**

The complete motor part number consists of the standard part number prefix, shown on the standard part number and data tables, plus the armature dash number. For gearmotors, each of the basic motor windings (dash no.), in the same type basic motor part number table, must be used, with the selected speed reduction ratio.

TRW GLOBE MOTORS

D.C. 7/8" DIA. PERMANENT MAGNET MOTORS AND PLANETARY GEARMOTORS

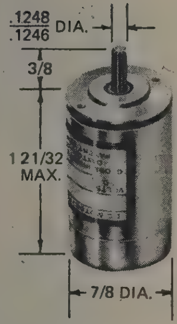
TYPE SS—BASIC MOTOR



The Globe Types SS d.c. motor are specifically designed as a component for precision airborne accessory equipment, but may be applied to a variety of other applications where size and weight are important considerations. Type SS motors can be made with different windings to produce a variety of characteristics. Weight 2 oz.

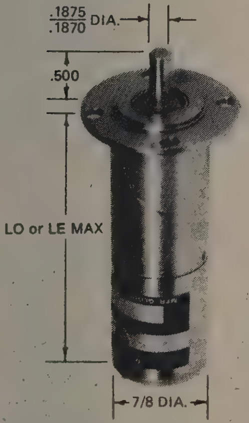
STANDARD PART NUMBERS AND DATA

	Part Number Prefix*	
Open Housing	**Tapped Hole Mount**	**Servo Mount**
Plain Shaft	41A100	41A499
Pinion Shaft	41A552	41A677
Enclosed Housing		
Plain Shaft	41A119	41A678
Pinion Shaft	41A676	41A679



		Torque		Current			
Voltage (v.d.c.)	Speed no load (rpm)	max. rated (oz. in.)	nominal stall (oz. in.)	max. no load (amps)	max. rated load (amps)	nominal stall (amps)	Armature Dash No.*
6	11,000-13,500	0.28	1.6	.46	1.00	4.1	-17
6	8,000-11,000	0.38	1.3	.37	1.00	2.7	-16
12	13,500-17,000	0.22	2.0	.27	.54	3.2	-15
12	10,000-13,000	0.33	1.7	.21	.54	1.9	-14
27	17,000-20,000	0.17	2.9	.15	.26	2.4	-13
27	15,000-18,000	0.20	2.5	.14	.25	1.7	-12
27	12,000-15,000	0.25	2.0	.11	.24	1.15	-1
27	10,000-13,000	0.31	1.6	.095	.23	0.76	-2
27	8,000-10,500	0.45	1.3	.08	.23	0.48	-3
27	6,500- 9,000	0.45	1.0	.07	.20	0.32	-4
27	5,500- 7,500	0.36	0.82	.055	.15	0.21	-5
50	10,200-12,500	0.32	0.97	.05	.13	0.23	-7
50	8,600-11,000	0.42	1.20	.055	.13	0.26	-6
50	6,100- 7,500	0.38	0.54	.03	.09	0.12	-9

TYPE SS PLANETARY GEARMOTORS



STANDARD PART NUMBERS AND DATA

Speed Reduction Ratio	Max. Continuous Torque (oz. in.)	Torque Multiplier Ratio	Standard Part Number Prefix*			
			enclosed type		open type	
			dimension LE	part no. prefix	dimension LO	part no. prefix
3.82:1	1.0	3.1	2 35/64″	43A197	2 17/64″	43A196
5.77:1	1.5	4.6		43A200		43A199
14.58:1	3.0	9.3	2 25/32″	43A140	2 1/2″	43A100
22.03:1	4.5	14		43A141		43A101
33.28:1	7.0	21		43A142		43A102
55.66:1	10	28	2 61/64″	43A143	2 43/64″	43A103
84.11:1	14	43		43A144		43A104
127.1:1	21	65		43A145		43A105
192:1	30	93		43A146		43A106
321:1	45	130	3 1/8″	43A147	2 27/32″	43A107
485:1	70	200		43A148		43A108
733:1	100	300		43A149		43A109
1108:1	150	450		43A150		43A110
1853:1	200	600	3 9/32″	43A151	3″	43A111
2799:1	300	900		43A152		43A112
4230:1	300	1400		43A153		43A113
6391:1	300	2100		43A154		43A114
10689:1	300	2800	3 29/64″	43A155	3 11/64″	43A115
16150:1	300	4200		43A156		43A116
24403:1	300	6400		43A157		43A117
36873:1	300	9700		43A158		43A118

Max. Cont. Torque: The values in this column are based upon geartrain strength and capability for 1000 hrs. minimum life. Max. rated torque of motor selected x torque multiplier ratio must not exceed these values.

Max. Intermittent Torque = 2 x Max. Cont. Torque.

Momentary Stall Torque = 5 x Max. Cont. Torque.

Minimum Efficiency = Torque Multiplier Ratio divided by Speed Reduction Ratio x 100.

***HOW TO ORDER:**

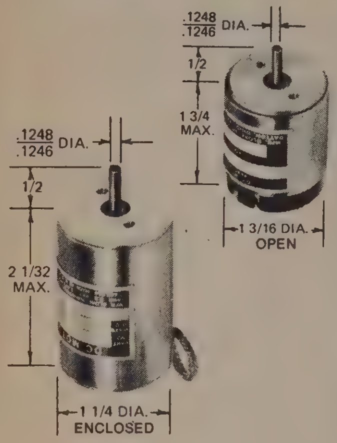
The complete motor part number consists of the standard part number prefix, shown on the standard part number and data tables, plus the armature dash number. For gearmotors, each of the basic motor windings (dash no.), in the same type basic motor part number table, must be used, with the selected speed reduction ratio.

TRW GLOBE MOTORS

D.C. 1-1/4" DIA. PERMANENT MAGNET MOTORS

TYPE MM — BASIC MOTOR

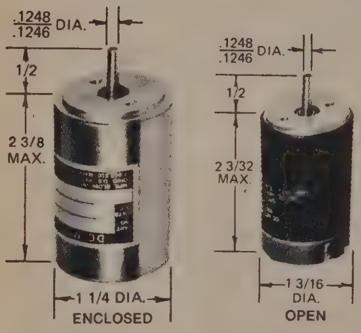
These Globe d.c. motors are specifically designed for use in airborne equipment, missiles, and commercial applications where a combination of small size, reliability, and high torque is desired.



STANDARD PART NUMBERS AND DATA

Voltage (v.d.c.)	Speed no load (rpm)	Torque max. rated (oz. in.)	Torque nom. stall (oz. in.)	Current max. no load (amps)	Current max. rated load (amps)	Current nom. stall (amps)	Standard Part Numbers* open type plain shaft	Standard Part Numbers* open type pinion	Standard Part Numbers* enclosed type plain shaft	Standard Part Numbers* enclosed type pinion
4	16,000-19,000	.25	4.9	1.5	2.4	21.	3A998-23	3A1524-23	3A1002-23	3A1525-23
6	18,900-22,500	.5	7.4	1.2	2.3	24.9	3A998-14	3A1524-14	3A1002-14	3A1525-14
6	15,600-18,600	.85	5.8	1.0	2.3	16.3	3A998-6	3A1524-6	3A1002-6	3A1525-6
6	12,000-14,000	.75	4.6	.80	2.0	9.9	3A998-5	3A1524-5	3A1002-5	3A1525-5
12	18,000-21,400	.5	7.4	.56	1.2	11.8	3A998-24	3A1524-24	3A1002-24	3A1525-24
12	14,500-17,000	.7	5.9	.50	1.2	7.5	3A998-3	3A1524-3	3A1002-3	3A1525-3
12	12,400-14,700	.75	4.6	.40	1.2	5.1	3A998-21	3A1524-21	3A1002-21	3A1525-21
12	11,000-13,000	1.0	4.6	.35	1.2	4.6	3A998-4	3A1524-4	3A1002-4	3A1525-4
24	19,200-22,800	.35	7.4	.30	.60	6.3	3A998-7	3A1524-7	3A1002-7	3A1525-7
24	16,000-19,000	.6	5.8	.25	.60	3.8	3A998-1	3A1524-1	3A1002-1	3A1525-1
24	11,500-14,000	1.0	4.6	.18	.60	2.1	3A998-2	3A1524-2	3A1002-2	3A1525-2
24	10,700-12,700	1.0	3.6	.17	.60	1.6	3A998-8	3A1524-8	3A1002-8	3A1525-8
24	9,600-11,400	1.0	2.9	.15	.50	1.1	3A998-22	3A1524-22	3A1002-22	3A1525-22
24	8,000-10,000	1.0	2.9	.13	.45	0.93	3A998-10	3A1524-10	3A1002-10	3A1525-10
24	6,000- 7,000	.8	2.3	.08	.30	0.55	3A998-11	3A1524-11	3A1002-11	3A1525-11
50	14,300-17,000	.7	4.8	.11	.30	1.3	3A998-25	3A1524-25	3A1002-25	3A1525-25
50	9,500-11,500	1.0	3.8	.07	.30	0.71	3A998-16	3A1524-16	3A1002-16	3A1525-16
50	8,000-10,000	1.0	3.0	.07	.20	0.50	3A998-12	3A1524-12	3A1002-12	3A1525-12
50	6,700- 8,000	.8	2.4	.05	.16	0.30	3A998-15	3A1524-15	3A1002-15	3A1525-15
50	4,600- 5,500	.8	1.9	.04	.12	0.20	3A998-13	3A1524-13	3A1002-13	3A1525-13

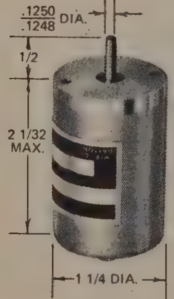
TYPE LL — BASIC MOTOR



STANDARD PART NUMBERS AND DATA

Voltage (v.d.c.)	Speed no load (rpm)	Torque max. rated (oz. in.)	Torque nom. stall (oz. in.)	Current max. no load (amps)	Current max. rated load (amps)	Current nom. stall (amps)	Part Number* open type	Part Number* enclosed type
6	15,600-18,500	1.0	8.7	1.4	2.7	22.4	3A999-23	3A1003-23
6	12,500-14,500	1.3	8.7	1.1	2.4	17.7	3A999-14	3A1003-14
6	10,000-12,200	1.6	6.9	.95	2.6	11.6	3A999-6	3A1003-6
6	7,600- 9,400	1.6	5.5	.70	2.0	7.0	3A999-5	3A1003-5
12	11,500-14,000	1.1	8.7	.52	1.7	8.4	3A999-24	3A1003-24
12	9,000-11,000	1.7	6.9	.42	1.2	5.3	3A999-3	3A1003-3
24	16,000-19,000	.75	11.0	.36	1.0	7.3	3A999-21	3A1003-21
24	14,400-17,000	.85	11.0	.32	.85	6.5	3A999-4	3A1003-4
24	12,000-14,500	1.0	8.7	.28	.80	4.5	3A999-7	3A1003-7
24	10,400-12,300	1.1	6.9	.23	.75	3.0	3A999-1	3A1003-1
24	7,400- 8,900	1.6	5.5	.17	.70	1.7	3A999-2	3A1003-2
24	6,900- 8,200	1.8	4.3	.16	.65	1.2	3A999-8	3A1003-8
24	6,200- 7,400	1.8	3.4	.14	.60	0.89	3A999-22	3A1003-22
24	5,200- 6,200	1.2	3.4	.12	.45	0.74	3A999-10	3A1003-10
50	7,600- 9,400	1.5	5.7	.09	.25	0.92	3A999-11	3A1003-11
75	14,000-17,000	1.0	8.6	.10	.29	1.6	3A999-25	3A1003-25
75	9,000-11,000	1.7	6.8	.07	.29	0.85	3A999-16	3A1003-16
75	8,000-10,000	1.8	5.4	.06	.26	0.60	3A999-12	3A1003-12
75	6,500- 8,000	1.2	4.3	.05	.20	0.37	3A999-15	3A1003-15
75	4,500- 5,300	1.0	3.4	.04	.10	0.23	3A999-13	3A1003-13

TYPE JM — BASIC MOTOR



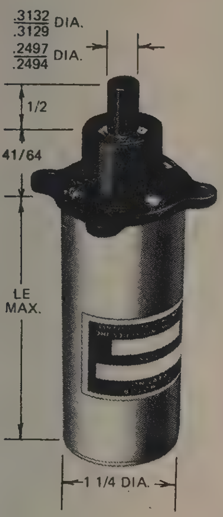
STANDARD PART NUMBERS AND DATA

6	11,200-13,700	1.20	8.2	.70	3.50	15.4	178A100-1
6	9,100-11,100	1.50	6.5	.55	2.80	9.9	178A100-2
6	7,500- 9,200	1.80	5.2	.44	2.40	6.3	178A100-3
12	11,200-13,700	1.20	8.2	.35	1.45	8.0	178A100-4
12	9,500-11,600	1.40	6.5	.28	1.40	5.1	178A100-5
12	7,500- 9,200	1.60	5.2	.23	1.15	3.2	178A100-6
27	13,700-16,700	1.10	9.9	.18	0.80	4.5	178A100-7
27	10,500-13,000	1.60	7.9	.14	0.75	2.8	178A100-8
27	8,700-10,600	1.70	6.2	.12	0.70	1.8	178A100-9
27	7,000- 8,600	1.80	5.0	.09	0.55	1.2	178A100-10
50	10,500-13,000	1.80	7.1	.08	0.40	1.4	178A100-11
50	8,200-10,000	1.90	5.6	.06	0.35	.88	178A100-12
50	6,500- 8,000	1.80	4.5	.05	0.26	.56	178A100-13
50	5,200- 6,300	2.10	3.5	.04	0.25	.36	178A100-14
115	9,500-11,600	1.90	6.7	.03	0.18	.52	178A100-15
115	7,500- 9,200	1.90	5.3	.03	0.14	.33	178A100-16
115	6,000- 7,500	1.90	4.2	.02	0.11	.21	178A100-17
115	4,800- 5,800	1.20	3.4	.02	0.09	.14	178A100-18

***HOW TO ORDER:**
The complete motor part number consists of the standard part number prefix, shown on the standard part number and data tables, plus the armature dash number. For gearmotors, each of the basic motor windings (dash no.), in the same type basic motor part number table, must be used, with the selected speed reduction ratio.

D.C. 1-1/4" DIA. PLANETARY GEARMOTORS

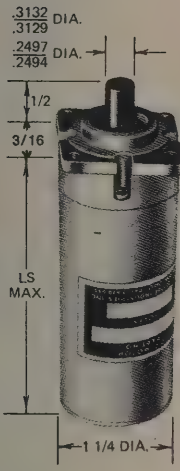
TYPE MM, LL, JM PLANETARY GEARMOTORS



These Globe planetary gearmotors provide torques to 1,250 oz. in. and are designed for use in airborne equipment, missiles and other applications where reliability and miniature size are governing factors.

TYPE MM — STANDARD PART NUMBERS AND DATA

Speed Reduction Ratio	Maximum Continuous Torque (oz. in.)	Torque Multiplier Ratio	Part Number Prefix*				Dim. LE	Dim. LS
			Eared Flange		Square Flange			
			5/16" shaft	1/4" shaft	5/16" shaft	1/4" shaft		
18.78	20	12	5A537	5A2292	5A538	5A2312	2.437	2.891
27.94	29	17	5A539	5A2293	5A540	5A2313		
81.37	70	41	5A541	5A2294	5A542	5A2314	2.562	3.016
121.10	105	62	5A543	5A2295	5A544	5A2315		
147.70	128	75	5A545	5A2296	5A546	5A2316		
352.60	247	145	5A547	5A2297	5A548	5A2317	2.828	3.281
524.60	366	215	5A549	5A2298	5A550	5A2318		
639.90	445	262	5A551	5A2299	5A552	5A2319		
780.60	544	320	5A553	5A2300	5A554	5A2320		
1528.00	850**	500	5A555	5A2301	5A556	5A2321	3.203	3.656
2273.00	1250**	740	5A557	5A2302	5A558	5A2322		
3382.00	1250**	1100	5A559	5A2303	5A560	5A2323		
4126.00	1250**	1350	5A561	5A2304	5A562	5A2324		
6621.00	1250**	1730	5A563	5A2305	5A564	5A2325	3.344	3.797
9851.00	1250**	2580	5A565	5A2306	5A566	5A2326		
12016.00	1250**	3150	5A567	5A2307	5A568	5A2327		
17879.00	1250**	4700	5A569	5A2308	5A570	5A2328		
21808.00	1250**	5700	5A571	5A2309	5A572	5A2329		



TYPE LL — STANDARD PART NUMBERS AND DATA

18.78	20	12	5A501	5A2332	5A502	5A2352	2.781	3.234
27.94	29	17	5A503	5A2333	5A504	5A2353		
81.37	70	41	5A505	5A2334	5A506	5A2354	2.928	3.375
121.10	105	62	5A507	5A2335	5A508	5A2355		
147.70	128	75	5A509	5A2336	5A510	5A2356		
352.60	247	145	5A511	5A2337	5A512	5A2357	3.187	3.641
524.60	366	215	5A513	5A2338	5A514	5A2358		
639.90	445	262	5A515	5A2339	5A516	5A2359		
780.60	544	320	5A517	5A2340	5A518	5A2360		
1528.00	850**	500	5A519	5A2341	5A520	5A2361	3.562	4.016
2273.00	1250**	740	5A521	5A2342	5A522	5A2362		
3382.00	1250**	1100	5A523	5A2343	5A524	5A2363		
4126.00	1250**	1350	5A525	5A2344	5A526	5A2364		
6621.00	1250**	1730	5A527	5A2345	5A528	5A2365	3.687	4.141
9851.00	1250**	2580	5A529	5A2346	5A530	5A2366		
12016.00	1250**	3150	5A531	5A2347	5A532	5A2367		
17879.00	1250**	4700	5A533	5A2348	5A534	5A2368		
21808.00	1250**	5700	5A535	5A2349	5A536	5A2369		

**1/4" dia. shaft units limited to 600 oz. in. maximum continuous duty torque. Use 5/16" dia. shaft if torque requirements exceed this value.

TYPE JM — STANDARD PART NUMBERS AND DATA

18.78	20	12	311A201	311A237	311A202	311A238	2.437	2.891
27.94	29	17	311A203	311A239	311A204	311A240		
81.37	70	41	311A205	311A241	311A206	311A242	2.562	3.016
121.10	105	62	311A207	311A243	311A208	311A244		
147.70	128	75	311A209	311A245	311A210	311A246		
352.60	247	145	311A211	311A247	311A212	311A248	2.828	3.281
524.60	366	215	311A213	311A249	311A214	311A250		
639.90	445	262	311A215	311A251	311A216	311A252		
780.60	544	320	311A217	311A253	311A218	311A254		
1528.00	850**	500	311A219	311A255	311A220	311A256	3.203	3.656
2273.00	1250**	740	311A221	311A257	311A222	311A258		
3382.00	1250**	1100	311A223	311A259	311A224	311A260		
4126.00	1250**	1350	311A225	311A261	311A226	311A262		
6621.00	1250**	1730	311A227	311A263	311A228	311A264	3.344	3.797
9851.00	1250**	2580	311A229	311A265	311A230	311A266		
12016.00	1250**	3150	311A231	311A267	311A232	311A268		
17879.00	1250**	4700	311A233	311A269	311A234	311A270		
21808.00	1250**	5700	311A235	311A271	311A236	311A272		

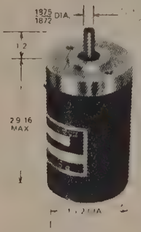
Max. Cont. Torque: The values in this column are based upon geartrain strength and capability for 1000 hrs. minimum life. Max. rated torque of motor selected x torque multiplier ratio must not exceed these values.
Max. Intermittent Torque = 2 x Max. Cont. Torque.
Momentary Stall Torque = 5 x Max. Cont. Torque.
Minimum Efficiency = Torque Multiplier Ratio divided by Speed Reduction Ratio x 100.

***HOW TO ORDER:**
The complete motor part number consists of the standard part number prefix, shown on the standard part number and data tables, plus the armature dash number. For gearmotors, each of the basic motor windings (dash no.), in the same type basic motor part number table, must be used, with the selected speed reduction ratio.

TRW GLOBE MOTORS

D.C. 1-1/2" DIA. PERMANENT MAGNET MOTORS

TYPE BD — BASIC MOTOR

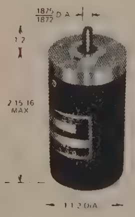


Globe Type BD d.c. motors are designed to missile and aircraft standards. Twenty-one standard armature windings provide a large number of speed and torque characteristics in a comprehensive range of voltages. Units for operation at other voltages can be made available.

STANDARD PART NUMBERS AND DATA

Voltage (v.d.c.)	Speed no load (rpm)	Torque		Current			Standard Part No.*
		max. rated (oz. in.)	nom. stall (oz. in.)	max. no load (amps)	max. rated load (amps)	nom. stall (amps)	
6	13,000-15,500	1.7	24	1.60	4.5	55.0	100A104-2
6	10,000-12,000	2.3	19	1.30	4.6	35.0	100A104-3
6	8,000- 9,500	3.2	15	.97	4.6	22.0	100A104-4
12	12,500-14,500	1.8	24	.76	2.3	27.0	100A104-5
12	10,000-12,000	2.4	19	.60	2.3	17.0	100A104-6
12	8,000- 9,500	3.2	15	.49	2.3	11.0	100A104-7
27	14,000-16,500	1.6	27	.39	1.0	15.0	100A104-8
27	11,000-13,000	2.0	22	.30	1.0	9.8	100A104-9
27	9,000-10,500	2.8	17	.24	1.0	6.4	100A104-10
27	7,000- 8,500	3.6	14	.20	1.0	3.9	100A104-11
50	10,500-12,500	2.1	20	.16	.5	4.6	100A104-12
50	8,000- 9,500	2.8	16	.13	.5	2.9	100A104-13
50	6,500- 8,000	3.7	13	.10	.5	1.8	100A104-14
50	5,000- 6,000	3.5	10	.08	.4	1.2	100A104-15
115	13,000-15,500	1.6	18	.09	.3	2.3	100A104-16
115	11,000-13,000	2.2	14	.07	.3	1.5	100A104-17
115	9,000-10,500	2.8	11	.06	.3	0.95	100A104-18
115	7,000- 8,500	3.6	9	.05	.3	0.61	100A104-19
115	6,000- 7,000	2.9	7	.04	.2	0.40	100A104-20
115	4,500- 5,500	2.7	6.5	.04	.2	0.26	100A104-21

TYPE BL — BASIC MOTOR



Globe Type BL d.c. motors are designed to aircraft and missile quality standards. Twenty-one standard armature windings provide a large number of speed-torque characteristics at various voltages. Units for operation at other voltages can be made available.

STANDARD PART NUMBERS AND DATA

Voltage (v.d.c.)	Speed no load (rpm)	Torque		Current			Standard Part No.*
		max. rated (oz. in.)	nom. stall (oz. in.)	max. no load (amps)	max. rated load (amps)	nom. stall (amps)	
6	10,000-12,500	3.3	37	1.50	5.2	62.0	100A108-1
6	8,500-10,500	4.0	29	1.20	5.2	45.0	100A108-2
6	6,500- 8,000	5.0	23	.93	5.1	28.0	100A108-3
12	10,000-12,500	3.3	37	.71	2.6	36.0	100A108-4
12	8,500-10,500	4.4	29	.56	2.7	22.0	100A108-5
12	6,500- 8,000	5.0	23	.44	2.8	14.0	100A108-6
27	11,500-14,000	2.9	42	.36	1.4	20.0	100A108-7
27	8,500-10,500	3.7	33	.28	1.4	12.0	100A108-8
27	7,000- 9,000	5.0	27	.22	1.4	8.0	100A108-9
27	5,500- 7,000	6.0	21	.18	1.4	5.2	100A108-10
50	8,500-10,500	3.8	31	.15	.72	5.9	100A108-11
50	6,500- 8,000	5.0	25	.16	.74	3.7	100A108-12
50	5,500- 7,000	6.5	20	.09	.73	2.4	100A108-13
50	4,500- 5,500	7.5	16	.075	.66	1.5	100A108-14
50	3,500- 4,500	6.0	12.5	.055	.43	0.94	100A108-15
115	8,500-10,500	4.2	22	.065	.34	1.9	100A108-16
115	7,000- 9,000	5.0	17	.055	.40	1.2	100A108-17
115	5,500- 7,000	5.0	14	.045	.28	0.77	100A108-18
115	4,500- 5,500	4.2	11	.035	.19	0.50	100A108-19
115	4,000- 5,000	3.5	8.8	.030	.14	0.33	100A108-20
115	3,000- 4,000	2.9	8.1	.025	.10	0.21	100A108-21

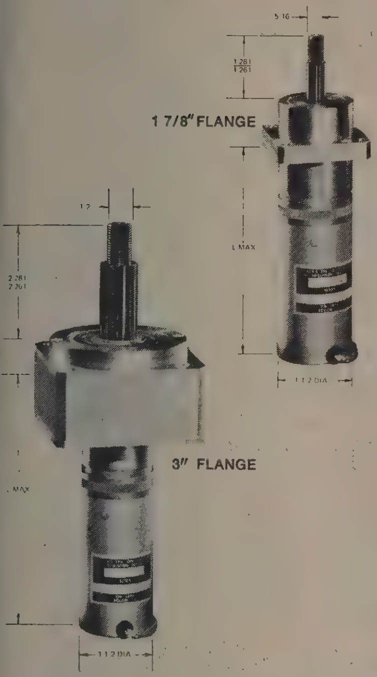
***HOW TO ORDER:**

The complete motor part number consists of the standard part number prefix, shown on the standard part number and data tables, plus the armature dash number. For gearmotors, each of the basic motor windings (dash no.), in the same type basic motor part number table, must be used, with the selected speed reduction ratio.

TRW GLOBE MOTORS

D.C. 1-7/8" & 3" FLANGE PLANETARY GEARMOTORS
D.C. 2-1/4" DIA. PERMANENT MAGNET MOTORS

TYPE BD, BL — PLANETARY GEARMOTORS



TRW/Globe's 1⅞" and 3" diameter planetary geartrains provide high torque outputs in a small package. Coupled to the Type BD or BL motor, they are ideal for business machinery, machine tools, aircraft, and missile applications.

1-7/8" FLANGE — STANDARD PART NUMBERS AND DATA

Speed Reduction Ratio	Torque Multiplier	Max. Cont. Rating (lb. in.)	Type BD		Type BL	
			"L" max.	Part No. Prefix	"L" max.	Part No. Prefix*
3.81:1	3.5	1.1	3.34	102A152	3.72	102A170
5.54:1	5.1	1.6		102A153		102A171
14.5 :1	13	4.1	3.53	102A156	3.91	102A174
21.1 :1	19	6.0		102A157		102A175
30.7 :1	27	8.6		102A158		102A176
55.3 :1	47	14.6	4.09	102A160	4.47	102A178
80.4 :1	68	21.0		102A161		102A179
117.0 :1	99	31.0		102A162		102A180
170.0 :1	144	45.0		102A163		102A181
211.0 :1	171	53.0	4.28	102A189	4.66	102A199
306.0 :1	248	77.0		102A190		102A200
445.0 :1	360	100.0		102A191		102A201
647.0 :1	524	100.0		102A192		102A202
941.0 :1	762	100.0		102A193		102A203

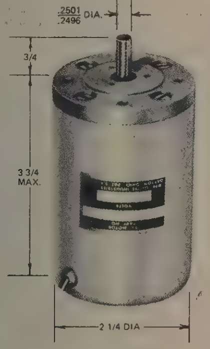
3" FLANGE — STANDARD PART NUMBERS AND DATA

Speed Reduction Ratio	Torque Multiplier	Max. Cont. Rating (lb. in.)	Type BD "L" max.	Type BD Part No. Prefix	Type BL "L" max.	Type BL Part No. Prefix*
306:1	248	77	5.17	102A165	5.55	102A183
445:1	360	112		102A166		102A184
647:1	524	164		102A167		102A185
941:1	762	238		102A168		102A186
1166:1	896	280	5.34	102A194	5.72	102A204
1696:1	1305	407		102A195		102A205
2466:1	1900	550		102A196		102A206
3584:1	2760	550		102A197		102A207
5211:1	4000	550		102A198		102A208

NOTE: Shaft spline details available from factory. For prototype use, TRW/Globe will broach holes in customer's parts.

Max. Cont. Torque: The values in this column are based upon geartrain strength and capability for 1000 hrs. minimum life. Max. rated torque of motor selected x torque multiplier ratio must not exceed these values.
Max. Intermittent Torque = 2 x Max. Cont. Torque.
Momentary Stall Torque = 5 x Max. Cont. Torque.
Minimum Efficiency = Torque Multiplier Ratio divided by Speed Reduction Ratio x 100.

TYPE GRP — BASIC MOTOR



Type GRP precision permanent magnet d.c. motors provide extremely high output and efficiency for their frame size. This unit is designed to meet the requirements of MIL-M-8609; however, designs exceeding this specification to meet customer controlled applications are common. Various standard armature windings make it possible to furnish a wide range of speed and torque characteristics.

STANDARD PART NUMBERS AND DATA

Voltage (v.d.c.)	Speed no load (rpm)	Torque		Current			Standard Part No.*
		max. rated (oz. in.)	nom. stall (oz. in.)	max. no load (amps)	max. rated load (amps)	nominal stall (amps)	
6	4,700-5,300	8.0	40	2.00	7.0	45.0	166A100-4
12	6,300-7,000	8.0	54	1.34	6.0	47.0	166A100-5
12	4,700-5,300	12.0	50	1.00	5.8	28.0	166A100-6
27	8,500-9,500	10.0	99	0.80	3.4	40.0	166A100-7
27	6,500-7,300	13.0	96	0.62	3.4	25.0	166A100-8
27	5,300-5,900	16.0	89	0.50	3.3	16.0	166A100-9
27	4,200-4,800	16.0	72	0.40	2.7	10.0	166A100-10
50	6,300-7,100	14.0	107	0.32	1.9	11.8	166A100-11
50	4,900-5,500	14.5	83	0.25	1.5	7.5	166A100-12
50	3,900-4,400	15.0	66	0.20	1.2	4.7	166A100-13
115	7,300-8,100	12.0	123	0.16	0.90	6.8	166A100-14
115	5,900-6,500	15.5	99	0.14	0.85	4.4	166A100-15
115	4,700-5,300	16.0	80	0.12	0.70	2.8	166A100-16
115	3,700-4,100	15.0	62	0.09	0.50	1.8	166A100-17
115	3,000-3,400	14.5	51	0.07	0.45	1.2	166A100-18
115	2,400-2,700	14.0	41	0.06	0.35	0.8	166A100-19

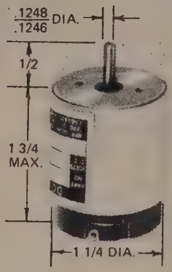
***HOW TO ORDER:**
The complete motor part number consists of the standard part number prefix, shown on the standard part number and data tables, plus the armature dash number. For gearmotors, each of the basic motor windings (dash no.), in the same type basic motor part number table, must be used, with the selected speed reduction ratio.

TRW GLOBE MOTORS

D.C. 1-1/4" DIA. PERMANENT MAGNET MOTORS

TYPE CMM — BASIC MOTOR

Globe Type CMM motors are designed for applications which require small size, reliability and high torque. Planetary geartrains are available in a wide range of speed reductions. Type CMM motors are commercial versions of Globe military motors and have the same performance characteristics.

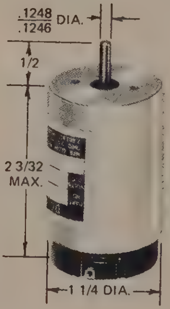


STANDARD PART NUMBERS AND DATA

Voltage (v.d.c.)	Speed no load (rpm)	Torque		Current			Standard Part Numbers*	
		max. rated (oz. in.)	nom. stall (oz. in.)	max. no load (amps)	max. rated load (amps)	nom. stall (amps)	front face mount	flange mount
4	16,000-19,000	.25	4.9	1.5	2.4	21	235A106-23	235A150-23
6	18,900-22,500	.5	7.4	1.2	2.3	24.9	235A106-14	235A150-14
6	15,600-18,600	.85	5.8	1.0	2.3	16.3	235A106-6	235A150-6
6	12,000-14,000	.75	4.6	.80	2.0	9.9	235A106-5	235A150-5
12	18,000-21,400	.50	7.4	.56	1.2	11.8	235A106-24	235A150-24
12	14,500-17,000	.70	5.9	.50	1.2	7.5	235A106-3	235A150-3
12	12,400-14,700	.75	4.6	.40	1.2	5.1	235A106-21	235A150-21
12	11,000-13,000	1.0	4.6	.35	1.2	4.6	235A106-4	235A150-4
24	19,200-22,800	.35	7.4	.30	.60	6.3	235A106-7	235A150-7
24	16,000-19,000	.60	5.8	.25	.60	3.8	235A106-1	235A150-1
24	11,500-14,000	1.0	4.6	.18	.60	2.1	235A106-2	235A150-2
24	10,700-12,700	1.0	3.6	.17	.60	1.6	235A106-8	235A150-8
24	9,600-11,400	1.0	2.9	.15	.50	1.1	235A106-22	235A150-22
24	8,000-10,000	1.0	2.9	.13	.45	0.93	235A106-10	235A150-10
24	6,000- 7,000	.8	2.3	.08	.30	0.55	235A106-11	235A150-11
50	14,300-17,000	.7	4.8	.11	.30	1.3	235A106-25	235A150-25
50	9,500-11,500	1.0	3.8	.07	.30	0.71	235A106-16	235A150-16
50	8,000-10,000	1.0	3.0	.07	.20	0.50	235A106-12	235A150-12
50	6,700- 8,000	.8	2.4	.05	.16	0.30	235A106-15	235A150-15
50	4,600- 5,500	.8	1.9	.04	.12	0.20	235A106-13	235A150-13

TYPE CLL — BASIC MOTOR

Globe Type CLL motors are designed for applications which require small size, reliability and high torque. Planetary geartrains are available in a wide range of speed reductions. Type CLL motors are commercial versions of Globe military motors and have the same performance characteristics.



STANDARD PART NUMBERS AND DATA

Voltage (v.d.c.)	Speed no load (rpm)	Torque		Current			Standard Part No.*
		max. rated (oz. in.)	nom. stall (oz. in.)	max. no load (amps)	max. rated load (amps)	nominal stall (amps)	
6	15,600-18,500	1.0	8.7	1.4	2.7	22.4	313A102-23
6	12,500-14,500	1.3	8.7	1.1	2.4	17.7	313A102-14
6	10,000-12,200	1.6	6.9	.95	2.6	11.6	313A102-6
6	7,600- 9,400	1.6	5.5	.70	2.0	7.0	313A102-5
12	11,500-14,000	1.1	8.7	.52	1.7	8.4	313A102-24
12	9,000-11,000	1.7	6.9	.42	1.2	5.3	313A102-3
24	16,000-19,000	.75	11.0	.36	1.0	7.3	313A102-21
24	14,400-17,000	.85	11.0	.32	.85	6.5	313A102-4
24	12,000-14,500	1.0	8.7	.28	.80	4.5	313A102-7
24	10,400-12,300	1.1	6.9	.23	.75	3.0	313A102-1
24	7,400- 8,900	1.6	5.5	.17	.70	1.7	313A102-2
24	6,900- 8,200	1.8	4.3	.16	.65	1.2	313A102-8
24	6,200- 7,400	1.8	3.4	.14	.60	0.89	313A102-22
24	5,200- 6,200	1.2	3.4	.12	.45	0.74	313A102-10
50	7,600- 9,400	1.5	5.7	.09	.25	0.92	313A102-11
75	14,000-17,000	1.0	8.6	.10	.29	1.6	313A102-25
75	9,000-11,000	1.7	6.8	.07	.29	0.85	313A102-16
75	8,000-10,000	1.8	5.4	.06	.26	0.60	313A102-12
75	6,500- 8,000	1.2	4.3	.05	.20	0.37	313A102-15
75	4,500- 5,300	1.0	3.4	.04	.10	0.23	313A102-13

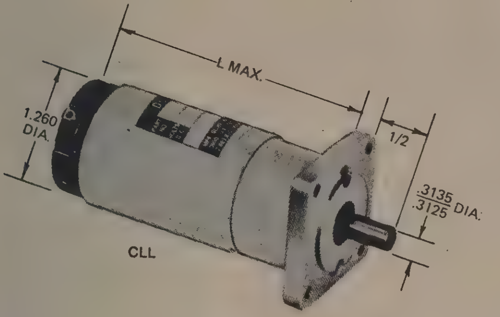
***HOW TO ORDER:**

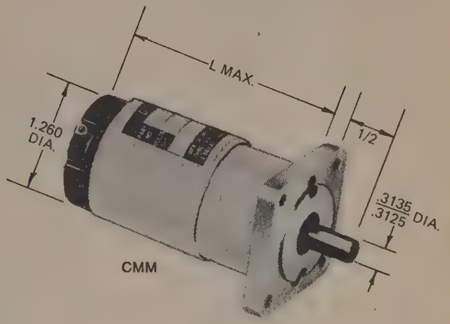
The complete motor part number consists of the standard part number prefix, shown on the standard part number and data tables, plus the armature dash number. For gearmotors, each of the basic motor windings (dash no.), in the same type basic motor part number table, must be used, with the selected speed reduction ratio.

TRW GLOBE MOTORS

D.C. 1-1/4" DIA. PERMANENT MAGNET PLANETARY GEARMOTORS

TYPE CMM, CLL—PLANETARY GEARMOTORS





Type CLL and CMM gearmotors are of the same high quality construction as Globe MM and LL gearmotors and provide the same outstanding performance characteristics although NOT designed to meet MIL-specs for environmental protection. These gearmotors are specifically designed for application where small size, reliability and high torque are desired.

Globe Type CMM and CLL gearmotors are rugged, high-quality units combining Type CMM and CLL commercial motors with a proven planetary geartrain offering 83 standard speed reduction ratios from 4:1 to 46,656:1 with maximum continuous torque from 3.0 to 1250 oz. in. Since the geartrain is of modular design, literally thousands of special ratios can be furnished.

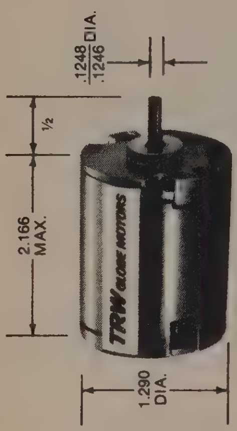
STANDARD PART NUMBERS AND DATA

Speed Reduction Ratio	Torque Multi-plier	Max. Cont. Torque (oz. in.)	Type CMM Gearmotor		Type CLL Gearmotor		Speed Reduction Ratio	Torque Multi-plier	Max. Cont. Torque (oz. in.)	Type CMM Gearmotor		Type CMM Gearmotor	
			dim. "L"	Part No.*	dim. "L"	Part No.*				dim. "L"	Part No.*	dim. "L"	Part No.*
4:1	3.0	5.1	2.86	317A102	3.22	319A100	2,500:1	815	1250	3.81	317A144	4.16	319A142
5:1	3.8	6.5	2.86	317A103	3.22	319A101	2,880:1	940	1250	3.81	317A145	4.16	319A143
6:1	4.5	7.7	2.86	317A104	3.22	319A102	3,000:1	980	1250	3.81	317A146	4.16	319A144
16:1	10	17	3.11	317A105	3.45	319A103	3,125:1	1020	1250	3.81	317A147	4.16	319A145
20:1	13	22	3.11	317A106	3.45	319A104	3,456:1	1130	1250	3.81	317A148	4.16	319A146
24:1	15	26	3.11	317A107	3.45	319A105	3,600:1	1170	1250	3.81	317A149	4.16	319A147
25:1	16	27	3.11	317A108	3.45	319A106	3,750:1	1220	1250	3.81	317A150	4.16	319A148
30:1	19	32	3.11	317A109	3.45	319A107	4,096:1	1070	1250	4.03	317A151	4.39	319A149
36:1	23	39	3.11	317A110	3.45	319A108	4,320:1	1410	1250	3.81	317A152	4.16	319A150
64:1	33	56	3.34	317A111	3.69	319A109	4,500:1	1470	1250	3.81	317A153	4.16	319A151
80:1	41	70	3.34	317A112	3.69	319A110	5,120:1	1340	1250	4.03	317A154	4.39	319A152
96:1	49	83	3.34	317A113	3.69	319A111	5,184:1	1690	1250	3.81	317A155	4.16	319A153
100:1	51	87	3.34	317A114	3.69	319A112	5,400:1	1760	1250	3.81	317A156	4.16	319A154
120:1	61	104	3.34	317A115	3.69	319A113	6,144:1	1610	1250	4.03	317A157	4.39	319A155
125:1	64	109	3.34	317A116	3.69	319A114	6,400:1	1680	1250	4.03	317A158	4.39	319A156
144:1	74	126	3.34	317A117	3.69	319A115	6,480:1	2110	1250	3.81	317A159	4.16	319A157
150:1	77	131	3.34	317A118	3.69	319A116	7,680:1	2010	1250	4.03	317A160	4.39	319A158
180:1	92	156	3.34	317A119	3.69	319A117	7,776:1	2530	1250	3.81	317A161	4.16	319A159
216:1	110	187	3.34	317A120	3.69	319A118	8,000:1	2100	1250	4.03	317A162	4.39	319A160
256:1	105	179	3.58	317A121	3.92	319A119	9,216:1	2390	1250	4.03	317A163	4.39	319A161
320:1	130	221	3.58	317A122	3.92	319A120	9,600:1	2520	1250	4.03	317A164	4.39	319A162
384:1	157	167	3.58	317A123	3.92	319A121	10,000:1	2620	1250	4.03	317A165	4.39	319A163
400:1	164	279	3.58	317A124	3.92	319A122	11,520:1	3010	1250	4.03	317A166	4.39	319A164
480:1	197	335	3.58	317A125	3.92	319A123	12,000:1	3140	1250	4.03	317A167	4.39	319A165
500:1	205	349	3.58	317A126	3.92	319A124	12,500:1	3280	1250	4.03	317A168	4.39	319A166
576:1	235	401	3.58	317A127	3.92	319A125	13,824:1	3620	1250	4.03	317A169	4.39	319A167
600:1	246	418	3.58	317A128	3.92	319A126	14,400:1	3780	1250	4.03	317A170	4.39	319A168
625:1	256	435	3.58	317A129	3.92	319A127	15,000:1	3940	1250	4.03	317A171	4.39	319A169
720:1	295	502	3.58	317A130	3.92	319A128	15,625:1	4100	1250	4.03	317A172	4.39	319A170
750:1	306	520	3.58	317A131	3.92	319A129	17,280:1	4520	1250	4.03	317A173	4.39	319A171
864:1	352	598	3.58	317A132	3.92	319A130	18,000:1	4710	1250	4.03	317A174	4.39	319A172
900:1	370	629	3.58	317A133	3.92	319A131	18,750:1	4910	1250	4.03	317A175	4.39	319A173
1,024:1	334	568	3.81	317A134	4.16	319A132	20,736:1	5430	1250	4.03	317A176	4.39	319A174
1,080:1	442	757	3.58	317A135	3.92	319A133	21,600:1	5660	1250	4.03	317A177	4.39	319A175
1,280:1	416	707	3.81	317A136	4.16	319A134	22,500:1	4900	1250	4.03	317A178	4.39	319A176
1,296:1	530	901	3.58	317A137	3.92	319A135	25,920:1	6790	1250	4.03	317A179	4.39	319A177
1,536:1	500	850	3.81	317A138	4.16	319A136	27,000:1	7070	1250	4.03	317A180	4.39	319A178
1,600:1	522	887	3.81	317A139	4.16	319A137	31,104:1	8150	1250	4.03	317A181	4.39	319A179
1,920:1	625	1063	3.81	317A140	4.16	319A138	32,400:1	8500	1250	4.03	317A182	4.39	319A180
2,000:1	652	1108	3.81	317A141	4.16	319A139	38,880:1	10200	1250	4.03	317A183	4.39	319A181
2,304:1	750	1250	3.81	317A142	4.16	319A140	46,656:1	12200	1250	4.03	317A184	4.39	319A182
2,400:1	780	1250	3.81	317A143	4.16	319A141							

***HOW TO ORDER:**
The complete motor part number consists of the standard part number prefix, shown on the standard part number and data tables, plus the armature dash number. For gearmotors, each of the basic motor windings (dash no.), in the same type basic motor part number table, must be used, with the selected speed reduction ratio.

TRW GLOBE MOTORS

D.C. ECONO-MITE PERMANENT MAGNET MOTORS
TYPE EM-13 — BASIC 1¼″ DIA. MOTOR

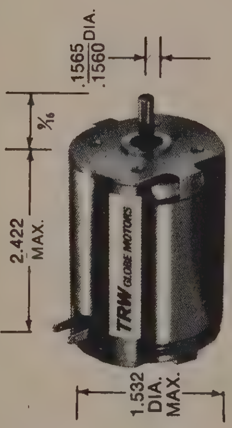


The EM-13 and EM-15 motors are the first of a new line designed for high-volume, low-cost production. Typical applications include tape decks, business machines, computer peripherals, audio-visual, automotive, medical, recreational, and other industrial equipment.

STANDARD PART NUMBERS AND DATA

Voltage (VDC)	Speed ± 800 No Load (RPM)	Current No Load (Max Amps)	Rated Torque (Oz. In.)	Current At Rated Torque (Max Amps)	Iinertia X 10-4 (Oz. In. Sec.^{2})	Temp.* Rise (°C/Watt)	Torque Constant (Oz. In./Amp)	Resistance ± 15% (Ohms)	Part Number**
6	4200	0.3	0.5	0.6	1.5	15	1.3	5.4	405A100-3
12	4800	0.15	0.5	0.3	1.5	15	2.6	15.3	405A100-1
24	4800	0.08	0.5	0.2	1.5	15	5.2	51.9	405A100-2
6	4500	0.3	1.0	1.4	1.5	15	1.3	2.4	405A119-3
12	5400	0.15	1.50	0.7	1.5	15	2.6	6.7	405A119-1
24	5600	0.08	1.7	0.45	1.5	15	5.2	28.0	405A119-2
6	5300	0.3	2.1	2.4	2.2	11	1.2	1.2	405A219-3
12	5400	0.15	2.5	1.1	2.2	11	2.8	4.8	405A219-1
24	5600	0.08	3.0	0.7	2.2	11	5.7	16.8	405A219-2

TYPE EM-15 — BASIC 1½″ DIA. MOTOR



Designed for economy in commercial and industrial applications, the EM-15 motor is available with the following special order options: geartrain, EMI filters, integral tachometer generators, stud mounting, and rear terminals.

STANDARD PART NUMBERS AND DATA

Sleeve Bearings

Voltage (VDC)	Speed ± 800 No Load (RPM)	Current No Load (Max Amps)	Rated Torque (Oz. In.)	Current At Rated Torque (Max Amps)	Inertia X 10-4 (Oz. In. Sec.^{2})	Temp.* Rise (°C/Watt)	Torque Constant (Oz. In./Amp)	Resistance ± 15% (Ohms)	Part Number**
6	4800	0.5	3.0	3.0	4.75	8.5	1.4	0.7	403A114-1
12	5200	0.25	3.5	1.6	4.75	8.5	2.7	2.3	403A114-2
24	5400	0.125	4.0	1.0	4.75	8.5	5.5	8.3	403A114-3
6	5500	0.6	4.0	4.0	6.0	7.0	1.3	0.45	403A116-1
12	5500	0.3	4.5	2.2	6.0	7.0	2.7	1.7	403A116-2
24	5500	0.15	5.0	1.2	6.0	7.0	5.5	6.2	403A116-3

Ball Bearings

Voltage (VDC)	Speed ± 800 No Load (RPM)	Current No Load (Max Amps)	Rated Torque (Oz. In.)	Current At Rated Torque (Max Amps)	Inertia X 10-4 (Oz. In. Sec.^{2})	Temp.* Rise (°C/Watt)	Torque Constant (Oz. In./Amp)	Resistance ± 15% (Ohms)	Part Number**
6	5000	0.25	3.5	3.2	4.75	8.5	1.4	0.7	403A115-1
12	5300	0.125	4.0	1.8	4.75	8.5	2.7	2.3	403A115-2
24	5500	0.06	4.5	1.0	4.75	8.5	5.5	8.3	403A115-3
6	5600	0.4	4.5	4.0	6.0	7.0	1.3	0.45	403A117-1
12	5600	0.2	5.0	2.3	6.0	7.0	2.7	1.7	403A117-2
24	5600	0.1	5.5	1.3	6.0	7.0	5.5	6.2	403A117-3

*Winding temp rise measured when mounted to 8″ x 8″ x ¼″ Alum plate. Multiply by 1.4 when mounted to a heat insulator.

****HOW TO ORDER:**

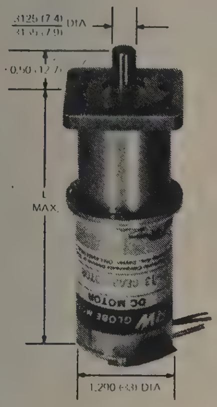
Units shown above are standard and may be ordered by part number. Consult TRW Globe for variations in mechanical or electrical performance to suit specific applications.

Ask for Bulletin E-2109 and E-2404 for complete details.

TRW GLOBE MOTORS

D.C. ECONO-MITE PERMANENT MAGNET

TYPE EM-13—(1¼" DIA.) PLANETARY GEARMOTORS



Type EM-13 gearmotors are of the same high quality construction as Globe military gearmotors and provide the same outstanding performance characteristics although not designed to meet MIL-Specs for environmental protection. These gearmotors are specifically designed for application where small size reliability and high torque are desired.

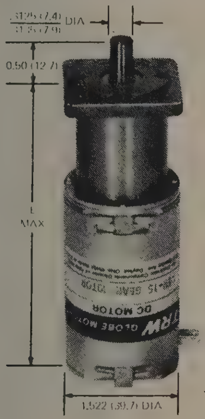
Globe EM-13 gearmotors are rugged, high-quality units combining EM-13 commercial motors (see Bulletin E-2109) with a proven planetary geartrain offering 30 standard speed reduction ratios from 4:1 to 46,656:1 with maximum continuous torque from 1.5 to 1250 oz. in. Since the geartrain is of modular design, literally thousands of special ratios can be furnished. Send complete application information to receive a prompt recommendation from Globe. Ask for Bulletin E-2129 for complete details.

STANDARD PART NUMBERS AND DATA

		405A100 Type (Basic Motor)			405A119 Type		405A219 Type		
Speed Reduction	Torque Multiplier	Max Cont. Torque (Oz. In.)	Part No.*	"L" Max (Applies to both)	Max Cont. Torque	Part No.*	Max Cont. Torque	Part No.*	"L" Max
4:1	3	1.5	407A100	3.158	5.1	407A184	9	407A267	3.476
5:1	3.8	1.9	407A101	3.158	6.5	407A185	11.5	407A268	3.476
16:1	10	5	407A103	3.347	17	407A187	30	407A270	3.715
20:1	13	7	407A104	3.347	22	407A188	40	4C7A271	3.715
25:1	16	8	407A106	3.347	27	407A190	48	407A273	3.715
36:1	23	12	407A108	3.347	39	407A192	69	407A275	3.715
64:1	33	14	407A109	3.630	56	407A193	100	407A276	3.948
80:1	41	21	407A110	3.630	70	407A194	125	407A277	3.948
100:1	51	26	407A112	3.630	87	407A196	155	407A279	3.948
125:1	64	32	407A114	3.630	109	407A198	195	407A281	3.948
180:1	92	46	407A117	3.630	156	407A201	275	407A284	3.948
256:1	105	53	407A119	3.863	179	407A203	315	407A286	4.181
320:1	130	65	407A120	3.863	221	407A204	390	407A287	4.181
400:1	164	85	407A122	3.863	279	407A206	495	407A289	4.181
500:1	205	105	407A124	3.863	349	407A208	620	407A291	4.181
625:1	256	130	407A127	3.863	435	407A211	770	407A294	4.181
750:1	306	155	407A129	3.863	520	407A213	920	407A296	4.181
1024:1	334	170	407A132	4.096	568	407A216	1000	407A299	4.414
1280:1	416	210	407A134	4.096	707	407A218	1250	407A301	4.414
1600:1	522	260	407A137	4.096	887	407A221	1250	407A304	4.414
2000:1	652	330	407A139	4.096	1108	407A223	1250	407A306	4.414
2500:1	815	410	407A142	4.096	1250	407A226	1250	407A309	4.414
3125:1	1020	500	407A145	4.096	1250	407A229	1250	407A312	4.414
4096:1	1070	540	407A149	4.329	1250	407A233	1250	407A316	4.747
5120:1	1340	670	407A152	4.329	1250	407A236			
6400:1	1680	840	407A156	4.329	1250	407A240			
8000:1	2100	1050	407A160	4.329	1250	407A244			
10000:1	2620	1250	407A163	4.329					
12500:1	3280	1250	407A166	4.329					
15625:1	4100	1250	407A170	4.329					

*Add dash number to part number for voltage: —1 = 12V —2 = 24V —3 = 6V

TYPE EM-15—(1½" DIA.) PLANETARY GEARMOTORS



Type EM-15 d.c. gearmotors are designed for high-volume, low-cost production. Typical applications include business machines, computer peripherals, audio-visual, automotive, medical, recreational, and other industrial equipment where high torque at lower speeds are needed. Request Bulletin E-2429 for complete details.

STANDARD PART NUMBERS AND DATA

Ratio	Torque Multiplier	Part No.*	—1 Max Cont. Torque (Oz. In.)	—2 Max Cont. Torque	—3 Max Cont. Torque	"L" Max Inches	Part No.*	—1 Max Cont. Torque	—2 Max Cont. Torque	—3 Max Cont. Torque	"L" Max Inches
4	3	409A100	9	10.5	12	3.697	409A266	12	14	15	3.976
5	3.8	409A101	11.5	13.5	15	3.697	409A267	15	17	19	3.976
16	10	409A103	30	35	40	3.936	409A269	40	45	50	4.215
20	13	409A104	40	46	52	3.936	409A270	52	60	65	4.215
25	16	409A106	48	56	64	3.936	409A272	64	72	80	4.215
36	23	409A108	69	81	92	3.936	409A274	92	105	115	4.215
64	33	409A109	100	116	132	4.169	409A275	132	150	165	4.448
80	41	409A110	125	144	164	4.169	409A276	164	185	205	4.448
100	51	409A112	155	180	204	4.169	409A278	204	230	255	4.448
125	64	409A114	195	225	256	4.169	409A280	256	290	320	4.448
180	92	409A117	275	325	368	4.169	409A283	368	415	460	4.448
256	105	409A119	315	370	420	4.402	409A285	420	475	525	4.681
320	130	409A120	390	455	520	4.402	409A286	520	585	650	4.681
400	164	409A122	495	575	650	4.402	409A288	650	740	820	4.681
500	205	409A124	620	720	820	4.402	409A290	820	925	1025	4.681
625	256	409A127	770	900	1020	4.402	409A293	1020	1150	1250	4.681
750	306	409A129	920	1070	1250	4.402	409A295	1250	1250	1250	4.681
1024	334	409A132	1000	1170	1250	4.635	409A298	1250	1250	1250	4.914
1280	416	409A134	1250	1250	1250	4.635	409A300	1250	1250	1250	4.914
1600	522	409A137	1250	1250	1250	4.635	409A303				4.914
2000	652	409A139	1250	1250	1250	4.635	409A305	EM13 Recommended below double lines			4.914
2500	815	409A142	1250	1250	1250	4.635	409A308				4.914
3125	1020	409A145				4.635	409A311				4.914
4096	1070	409A149	EM13 Recommended below double lines			4.868	409A315				5.147
5120	1340	409A152				4.868	409A318				5.147
6400	1680	409A156				4.868	409A322				5.147
8000	2100	409A160				4.868	409A326				5.147
10000	2620	409A163				4.868	409A329				5.147
12500	3280	409A166				4.868	409A332				5.147
15625	4100	409A170				4.868	409A336				5.147

*Add dash number to part number for voltage: —1 = 6V —2 = 12V —3 = 24V

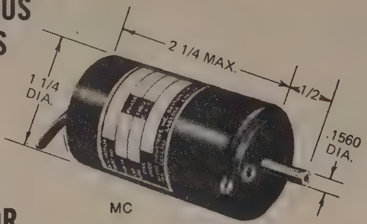
Special order options:

- — Integral tachometer generators.
- — Stud mounting.
- — Rear terminals.
- — Other ratios.
- — Ball bearing motors.

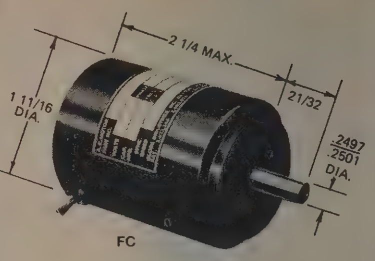
TRW GLOBE MOTORS

A.C. 1-1/4" & 1-11/16" DIA.

HYSTERESIS SYNCHRONOUS AND INDUCTION MOTORS



MC



FC

TYPE MC — BASIC MOTOR

Type MC motors are designed to meet the requirements of MIL-M-7969.

HYSTERESIS SYNCHRONOUS — STANDARD PART NUMBERS AND DATA

Voltage	Frequency (Hz)	Poles	Phase	Schematic*	Variable Lead Color	Phasing Capacitor		Sync Speed (rpm)	Max. Rated Load @ Sync Speed (oz. in.)	Min. Pull Up Torque (oz. in.)	Max. Power (watts)		Part No. Tapped Hole Mount
						(mfd)	(w.v.a.c.)				No Load	Normal Rated Load	
115	60	2	1	E	White	1.00	200	3,600	.70	.50	12	12	18A108
115	60	4	1	E	Black	1.00	200	1,800	.65	.50	12	12	18A107
115	60	6	1	F	Yellow	1.00	200	1,200	.50	.40	12	12	18A437
115	400	2	1	A	Black	0.18	350	24,000	.80	.55	23	33	18A1003-2
115	400	2	3	B	Black	Not Required		24,000	.80	.80	20	30	18A1004-2
115	400	4	1	A	Green	0.082	500	12,000	.65	.45	17	20	18A1005-2
115	400	4	3	B	Green	Not Required		12,000	.85	.85	16	21	18A1006-2
115	400	6	1	F	Gray	0.15	400	8,000	.45	.25	16	18	18A250
200	400	2	3	B	Black	Not Required		24,000	.80	.80	20	30	18A1008-2
200	400	4	3	B	Green	Not Required		12,000	.75	.75	14	18	18A1009-2

INDUCTION — STANDARD PART NUMBERS AND DATA

Voltage	Frequency (Hz)	Poles	Phase	Schematic*	Variable Lead Color	Phasing Capacitor		Min. Speed @ Rated Load (rpm)	Rated Load (oz. in.)	Min. Pull Up Torque (oz. in.)	Max. Power (watts)		Part No. Tapped Hole Mount
						(mfd)	(w.v.a.c.)				No Load	Rated Load	
115	400	2	1	A	Black	0.18	350	21,000	1.0	.8	16	32	18A1003-1
115	400	2	3	B	Black	Not Required		22,000	1.5	1.5	16	40	18A1004-1
115	400	4	1	A	Green	0.082	500	10,000	1.0	1.0	17	28	18A1005-1
115	400	4	3	B	Green	Not Required		10,500	1.5	1.5	14	28	18A1006-1
200	400	2	3	B	Black	Not Required		22,000	1.5	1.5	16	40	18A1008-1
200	400	4	3	B	Green	Not Required		10,500	1.5	1.5	14	28	18A1009-1

TYPE FC — BASIC MOTOR

Type FC motors are available with a wide variety of performance characteristics and are designed to meet the characteristics of MIL-M-7969.

HYSTERESIS SYNCHRONOUS — STANDARD PART NUMBERS AND DATA

Voltage	Frequency (Hz)	Poles	Phase	Schematic*	Variable Lead Color		Phasing Capacitor		Sync Speed (rpm)	Max. Rated Load @ Sync Speed (oz. in.)	Min. Pull Up Torque (oz. in.)	Max. Power (watts)		Part No. Tapped Hole Mount
					B	C	(mfd)	(w.v.a.c.)				No Load	Rated Load	
115	60	2	1	G	White	Yellow	3.0	200	3,600	1.0	1.0	20	20	75A121-2
115	60	4	1	G	White	Green	2.0	200	1,800	1.0	1.0	11	12	75A120-2
115	60	6	1	H	White	Gray	1.5	200	1,200	0.8	0.8	20	20	75A119-2
115	400	2	1	A		Black	0.22	400	24,000	1.0	1.0	28	40	75A1003-2
115	400	2	3	B		Black	Not Required		24,000	1.0	1.0	23	37	75A1004-2
115	400	4	1	A		Green	0.12	500	12,000	1.0	1.0	19	24	75A1005-2
115	400	4	3	B		Green	Not Required		12,000	1.2	1.2	21	26	75A1006-2
115	400	6	1	H	Black	Gray	1.3	200	8,000	0.8	0.8	35	45	75A107-2
200	400	2	3	B		Black	Not Required		24,000	1.0	1.0	24	38	75A1008-2
200	400	4	3	B		Green	Not Required		12,000	1.2	1.2	21	28	75A1009-2

INDUCTION — STANDARD PART NUMBERS AND DATA

Voltage	Frequency (Hz)	Poles	Phase	Schematic*	Variable Lead Color		Phasing Capacitor		Min. Speed @ Rated Load (rpm)	Rated Load (oz. in.)	Min. Pull Up Torque (oz. in.)	Max. Power (watts)		Part No. Tapped Hole Mount
					B	C	(mfd)	(w.v.a.c.)				No Load	Rated Load	
115	60	2	1	G	White	Yellow	3.0	200	3,000	1.4	1.4	18	20	75A121-1
115	60	4	1	G	White	Green	2.0	200	1,300	1.0	1.0	11	12	75A120-1
115	60	6	1	H	White	Gray	1.5	200	600	1.0	1.0	15	17	75A119-1
115	400	2	1	A		Black	0.22	400	21,500	1.5	0.8	19	50	75A1003-1
115	400	2	3	B		Black	Not Required		22,500	2.5	2.5	10	65	75A1004-1
115	400	4	1	A		Green	0.12	500	10,000	1.5	1.5	15	31	75A1005-1
115	400	4	3	B		Green	Not Required		11,000	2.5	2.5	12	40	75A1006-1
200	400	2	3	B		Black	Not Required		22,500	2.5	2.5	10	65	75A1008-1
200	400	4	3	B		Green	Not Required		11,000	2.5	2.5	12	40	75A1009-1

*See page 3125 for Schematic drawings.

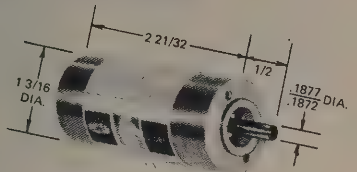
***HOW TO ORDER:**

The complete motor part number consists of the standard part number prefix, shown on the standard part number and data tables, plus the armature dash number. For gearmotors, each of the basic motor windings (dash no.), in the same type basic motor part number table, must be used, with the selected speed reduction ratio.

TRW GLOBE MOTORS

A.C. 1-3/16″ & 1-1/4″ DIA. HYSTERESIS SYNCHRONOUS AND INDUCTION PLANETARY GEARMOTORS

TYPE CMC — BASIC MOTOR



Globe Type CMC motors are designed to meet requirements for extremely compact high-performance synchronous motors in high-quality industrial/commercial products. They are ideally suited to such applications as dictating machines, recorders, business machines, industrial timers, tools, and controls.

Thermosetting plastic encapsulation provides protection against shock and vibration and is impermeable to dirt and moisture.

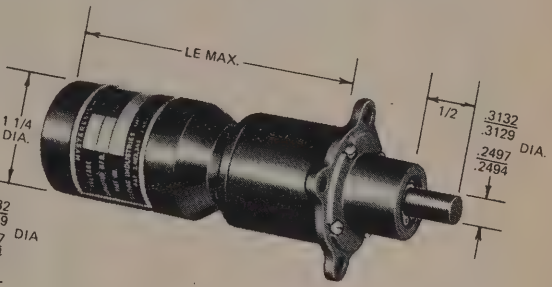
Induction versions and units for operation at other voltages and frequencies can be provided. Single phase operation requires a phasing capacitor (not furnished by Globe). See page 3125 for schematic drawing J.

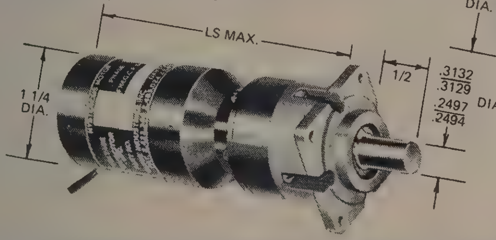
STANDARD PART NUMBERS AND DATA

Voltage (v.a.c.)	Frequency (Hz)	Phase	Speed (rpm)	Torque		Current max. (amps)	Power Input max. (watts)	Capacitor		Standard* Part No.
				max. start (oz. in.)	max. sync. (oz. in.)			(mfd)	(w.v.d.c.)	
115	60	1	3,600	.70	.70	.12	11	1.2	400	144A110-2
115	60	1	1,800	.75	.75	.12	10	1.2	400	144A110-4

TYPE MC — PLANETARY GEARMOTORS

These small, lightweight gearmotors consist of Globe Type MC hysteresis synchronous or induction motors and a precision planetary geartrain. Type MC planetary gearmotors are designed to meet all applicable MIL-specs including high and low temperature and complete environmental protection requirements.





HYSTERESIS SYNCHRONOUS — STANDARD PART NUMBERS AND DATA

Voltage	Frequency (Hz)	Poles	Phase	Schematic†	Variable Lead Color	Phasing Capacitor (mfd)(wvac)	Motor Sync. Speed (rpm)	Normal Rated Load @ Sync. Speed (oz. in.)	Motor Min. Pull Up Torque (oz. in.)	Max. Power (watts)		Standard Part Number Prefix*					
												Even Ratio		Odd Ratio			
										No Load	Normal Rated Load	eared flange	square flange	square flange		square flange	
												¼″ shaft	¼″ shaft	¼″ shaft	5/16″ shaft	¼″ shaft	5/16″ shaft
115	60	2	1	E	White	1.00 200	3,600	.70	.50	12	12	33A603	33A613	33A648	33A513	33A643	33A638
115	60	4	1	E	Black	1.00 200	1,800	.65	.50	12	12	33A604	33A614	33A649	33A514	33A644	33A639
115	60	6	1	F	Yellow	1.00 200	1,200	.65	.40	12	12	33A1214	33A1215	33A1217	33A1216	33A1219	33A1218
115	400	6	1	F	Gray	0.15 400	8,000	.45	.25	16	18	33A1208	33A1209	33A1211	33A1210	33A1213	33A1212

												All Ratios			
												eared flange		square flange	
												¼″ shaft	5/16″ shaft	¼″ shaft	5/16″ shaft
115	400	2	1	A	Black	.18 350	24,000	.80	.55	23	33	33A2008	33A2108	33A2208	33A2308
115	400	2	3	B	Black	Not Req'd	24,000	.80	.80	20	30	33A2010	33A2110	33A2210	33A2310
115	400	4	1	A	Green	0.082 500	12,000	.65	.45	17	20	33A2012	33A2112	33A2212	33A2312
115	400	4	3	B	Green	Not Req'd	12,000	.85	.85	16	21	33A2014	33A2114	33A2214	33A2314
200	400	2	3	B	Black	Not Req'd	24,000	.80	.80	20	30	33A2018	33A2118	33A2218	33A2318
200	400	4	3	B	Green	Not Req'd	12,000	.75	.75	14	18	33A2020	33A2120	33A2220	33A2320

INDUCTION — STANDARD PART NUMBERS AND DATA

Voltage	Frequency (Hz)	Poles	Phase	Schematic†	Variable Lead Color	Phasing Capacitor (mfd)(wvac)	Motor Min. Speed @ Rated Load (rpm)	Normal Rated Load (oz. in.)	Motor Min. Pull Up Torque (oz. in.)	Max. Power (watts)		Standard Part Number Prefix*			
												All Ratios			
										No Load	Normal Rated Load	eared flange		square flange	
												¼″ shaft	5/16″ shaft	¼″ shaft	5/16″ shaft
115	400	2	1	A	Black	.18 350	21,000	1.0	0.8	16	32	33A2007	33A2107	33A2207	33A2307
115	400	2	3	B	Black	Not Req'd	22,000	1.5	1.5	16	40	33A2009	33A2109	33A2209	33A2309
115	400	4	1	A	Green	0.082 500	10,000	1.0	1.0	17	28	33A2011	33A2111	33A2211	33A2311
115	400	4	3	B	Green	Not Req'd	10,500	1.5	1.5	14	28	33A2013	33A2113	33A2213	33A2313
200	400	2	3	B	Black	Not Req'd	22,000	1.5	1.5	16	40	33A2017	33A2117	33A2217	33A2317
200	400	4	3	B	Green	Not Req'd	10,500	1.5	1.5	14	28	33A2019	33A2119	33A2219	33A2319

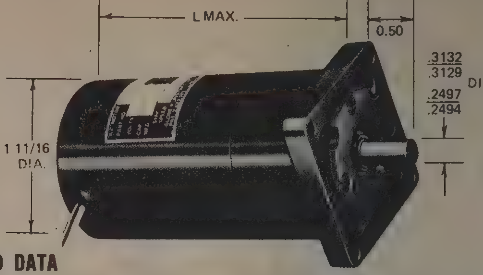
†See page 3125 for Schematic drawings.

***HOW TO ORDER:**

To specify gearmotors, select the standard part number prefix from the standard part number and data table, plus the even speed reduction ratio desired from page 3117 or the odd speed reduction ratio from page 3123.

TRW GLOBE MOTORS

A.C. 1-11/16″ DIA. HYSTERESIS SYNCHRONOUS AND INDUCTION PLANETARY GEARMOTORS TYPE FC



Globe Type FC planetary gearmotors offer 83 even (see shaded area page 11) and 18 odd ratios ranging from 4:1 to 46,656:1. Special geartrains are available with ratios up to 17,000,000:1.

HYSTERESIS SYNCHRONOUS — STANDARD PART NUMBERS AND DATA

Voltage	Frequency (Hz)	Poles	Phase	† Schematic	Lead Color		Phasing Capacitor		Motor Sync. Speed (rpm)	Normal Rated Load Sync. Speed (oz. in.)	Motor Min. Pull Up Torque (oz. in.)	Max. Power (watts)		Standard Part No. Prefix*		
														Odd Ratio		Even Ratio
					B	C	(mfd)	(wvac)				No Load	Normal Rated Load	¼″ shaft	5/16″ shaft	¼″ shaft
115	60	2	1	G	White	Yellow	3.0	200	3,600	1.0	1.0	20	20	83A510	83A116	83A138
115	60	4	1	G	White	Green	2.0	200	1,800	1.0	1.0	11	12	83A509	83A115	83A137
115	60	6	1	H	White	Gray	1.5	200	1,200	.8	.8	20	20	83A508	83A114	83A136
115	400	6	1	H	Black	Gray	1.3	200	8,000	.8	.8	35	45	83A113	83A108	83A122
														All Ratios		
														¼″ shaft	5/16″ shaft	
115	400	2	1	A	Black		0.22	400	24,000	1.0	1.0	28	40	83A1008	83A1108	
115	400	2	3	B	Black		Not Required		24,000	1.0	1.0	23	37	83A1010	83A1110	
115	400	4	1	A	Green		0.12	500	12,000	1.0	1.0	19	24	83A1012	83A1112	
115	400	4	3	B	Green		Not Required		12,000	1.2	1.2	21	26	83A1014	83A1114	
200	400	2	3	B	Black		Not Required		24,000	1.0	1.0	24	38	83A1018	83A1118	
200	400	4	3	B	Green		Not Required		12,000	1.2	1.2	21	28	83A1020	83A1120	

INDUCTION — STANDARD PART NUMBERS AND DATA

Voltage	Frequency (Hz)	Poles	Phase	† Schematic	Lead Color			Phasing Capacitor		Motor Min. Speed @ Rated Load (rpm)	Rated Load (oz. in.)	Min. Pull Up Torque (oz. in.)	Max. Power (watts)		Standard Part No. Prefix*	
															All Ratios	
					B	C	D	(mfd)	(wvac)				No Load	Normal Rated Load	¼″ shaft	5/16″ shaft
115	400	2	1	A		Black		0.22	400	21,500	1.5	.8	19	50	83A1007	83A1107
115	400	2	3	B		Black		Not Required		22,500	2.5	2.5	10	65	83A1009	83A1109
115	400	4	1	A		Green		0.12	500	10,000	1.5	1.5	15	31	83A1011	83A1111
115	400	4	3	B		Green		Not Required		11,000	2.5	2.5	12	40	83A1013	83A1113
200	400	2	3	B		Black		Not Required		22,500	2.5	2.5	10	65	83A1017	83A1117
200	400	4	3	B		Green		Not Required		11,000	2.5	2.5	12	40	83A1019	83A1119

†See page 3125 for Schematic drawings.

DIMENSIONS — EVEN RATIOS

Speed Reduction Ratio	Dimension LE	Dimension LS	Dim. "L"	Speed Reduction Ratio	Dimension LE	Dimension LS	Dim. "L"
4:1	2.87	3.28	3.190	720:1	3.28	3.68	3.594
5:1	2.87	3.28	3.190	750:1	3.28	3.68	3.594
6:1	2.87	3.28	3.190	864:1	3.28	3.68	3.594
16:1	2.87	3.28	3.190	900:1	3.28	3.68	3.594
20:1	2.87	3.28	3.190	1,024:1	3.65	4.06	3.964
24:1	2.87	3.28	3.190	1,080:1	3.28	3.68	3.594
25:1	2.87	3.28	3.190	1,280:1	3.65	4.06	3.964
30:1	2.87	3.28	3.190	1,296:1	3.28	3.68	3.594
36:1	2.87	3.28	3.190	1,536:1	3.65	4.06	3.964
64:1	3.02	3.42	3.325	1,600:1	3.65	4.06	3.964
80:1	3.02	3.42	3.325	1,920:1	3.65	4.06	3.964
96:1	3.02	3.42	3.325	2,000:1	3.65	4.06	3.964
100:1	3.02	3.42	3.325	2,304:1	3.65	4.06	3.964
120:1	3.02	3.42	3.325	2,400:1	3.65	4.06	3.964
125:1	3.02	3.42	3.325	2,500:1	3.65	4.06	3.964
144:1	3.02	3.42	3.325	2,880:1	3.65	4.06	3.964
150:1	3.02	3.42	3.325	3,000:1	3.65	4.06	3.964
180:1	3.02	3.42	3.325	3,125:1	3.65	4.06	3.964
216:1	3.02	3.42	3.325	3,456:1	3.65	4.06	3.964
256:1	3.28	3.68	3.594	3,600:1	3.65	4.06	3.964
320:1	3.28	3.68	3.594	3,750:1	3.65	4.06	3.964
384:1	3.28	3.68	3.594	4,096:1	3.78	4.18	4.099
400:1	3.28	3.68	3.594	4,320:1	3.65	4.06	3.964
480:1	3.28	3.68	3.594	4,500:1	3.65	4.06	3.964
500:1	3.28	3.68	3.594	5,120:1	3.78	4.18	4.090
576:1	3.28	3.68	3.594	5,184:1	3.65	4.06	3.964
600:1	3.28	3.68	3.594	5,400:1	3.65	4.06	3.964
625:1	3.28	3.68	3.594	6,144:1	3.78	4.18	4.099

***HOW TO ORDER:**

To specify gearmotors, select the standard part number prefix from the standard part number and data table, plus the even or odd speed reduction ratio desired. See page 3117 for Torque Multiplier and Max. Continuous Torque. For higher ratios consult factory.

DIMENSIONS — ODD RATIOS

Speed Reduction Ratio	Torque Multiplier	Gear Train Max. Cont. Rating (oz. in.)	Dimension LE	Dimension LS	Dim. "L"
4.33:1	3.2	5.4	2.87	3.28	3.190
5.28:1	4	6.8	2.87	3.28	3.190
18.78:1	12	20	2.87	3.28	3.190
27.94:1	17	29	2.87	3.28	3.190
81.37:1	41	70	3.02	3.42	3.325
121.1:1	62	105	3.02	3.42	3.325
147.7:1	75	128	3.02	3.42	3.325
352.6:1	145	247	3.28	3.68	3.594
524.6:1	215	366	3.28	3.68	3.594
639.9:1	262	445	3.28	3.68	3.594
780:6:1	320	544	3.28	3.68	3.594
1,528:1	500	850‡	3.66	4.06	3.964
2,273:1	740	1250‡	3.66	4.06	3.964
3,382:1	1100	1250‡	3.66	4.06	3.964
4,126:1	1350	1250‡	3.66	4.06	3.964
6,621:1	1730	1250‡	3.78	4.18	4.099
9,851:1	2580	1250‡	3.78	4.18	4.099
12,016:1	3150	1250‡	3.78	4.18	4.099
17,879:1	4700	1250‡	3.78	4.18	4.099
21,808:1	5700	1250‡	3.78	4.18	4.099

‡¼ O.D. shafts are limited to 600 oz. in.

Max. Cont. Torque: The values in this column are based upon geartrain strength and capability for 1000 hrs. minimum life. Max. rated torque of motor selected x torque multiplier ratio must not exceed these values.

Max. Intermittent Torque = 2 x Max. Cont. Torque.

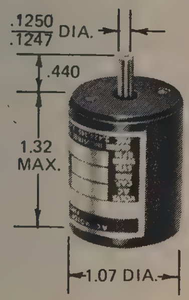
Momentary Stall Torque = 5 x Max. Cont. Torque.

Minimum Efficiency = Torque Multiplier Ratio divided by Speed Reduction Ratio x 100.

TRW GLOBE MOTORS

A.C. 1" DIA. HYSTERESIS SYNCHRONOUS AND INDUCTION PLANETARY GEARMOTORS

TYPE SC — BASIC MOTOR



Globe Type SC a.c. motors are available in many variations. Motors are wound a) three-phase, two or four pole or b) single-phase, two, four, or six pole. Type SC motors are designed to meet the requirements of MIL-M-7969.

HYSTERESIS SYNCHRONOUS — STANDARD PART NUMBERS AND DATA

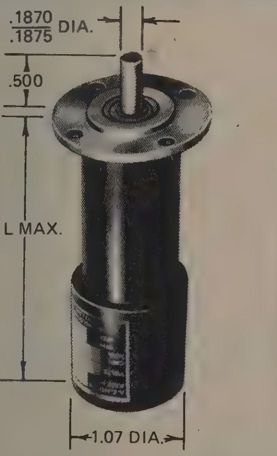
Voltage (vac)	Freq. (Hz)	Poles	Phase	† Schematic Wiring	Variable Lead Color		Phasing Capacitor (mfd)(wvac)	Sync. Speed (rpm)	Max. Rated Load @ Sync. Speed (oz. in.)	Min. Pull Up Torque (oz. in.)	Max. Power (watts)		Part No.
					B	C					No Load	Rated Load	
27	400	2	1	A		Black	1.50 100	24,000	.16	.16	11	11	53A1000-2
27	400	2	3	B		Black	Not Req'd	24,000	.13	.13	11	11	53A1001-2
27	400	4	1	A		Green	1.50 100	12,000	.16	.16	12	12	53A1002-2
27	400	4	3	B		Green	Not Req'd	12,000	.20	.20	11	11	53A1003-2
27	400	6	1	C	White	Gray	1.50 100	8,000	.10	.10	12	12	53A111-2
115	400	2	1	A		Black	0.068 300	24,000	.16	.16	11	11	53A1005-2
115	400	2	3	B		Black	Not Req'd	24,000	.13	.13	11	11	53A1006-2
115	400	4	1	A		Green	0.068 300	12,000	.16	.16	12	12	53A1007-2
115	400	4	3	B		Green	Not Req'd	12,000	.20	.20	11	11	53A1008-2
115	400	6	1	C	Black	Gray	0.22 300	8,000	.10	.10	15	15	53A107-2
115	60	2	1	D	White		2.00 200	3,600	.07	.07	8	8	53A118-2
115	60	4	1	D	Red		2.00 200	1,800	.07	.07	12	12	53A338-2
115	60	6	1	D	Black		2.50 200	1,200	.05	.04	9	9	53A117-2
200	400	2	3	B		Black	Not Req'd	24,000	.13	.13	11	11	53A1010-2
200	400	4	3	B		Green	Not Req'd	12,000	.20	.20	11	11	53A1011-2

INDUCTION — STANDARD PART NUMBERS AND DATA

Voltage (vac)	Freq. (Hz)	Poles	Phase	† Schematic Wiring	Variable Lead Color		Phasing Capacitor (mfd)(wvac)	Min. Speed @ Rated Load (rpm)	Rated Load (oz. in.)	Min. Pull Up Torque (oz. in.)	Max. Power (watts)		Part No.
					B	C					No Load	Rated Load	
27	400	2	1	A		Black	1.25 100	21,000	.20	.20	9	12	53A1000-1
27	400	2	3	B		Black	Not Req'd	21,000	.30	.30	7	13	53A1001-1
27	400	4	1	A		Green	1.50 100	10,000	.25	.25	13	13	53A1002-1
27	400	4	3	B		Green	Not Req'd	10,000	.30	.30	11	13	53A1003-1
27	400	6	1	C	White	Gray	1.50 100	6,000	.20	.20	10	12	53A111-1
115	400	2	1	A		Black	0.100 300	21,000	.20	.20	9	12	53A1005-1
115	400	2	3	B		Black	Not Req'd	21,000	.30	.30	7	13	53A1006-1
115	400	4	1	A		Green	0.068 300	10,000	.25	.25	13	13	53A1007-1
115	400	4	3	B		Green	Not Req'd	10,000	.30	.30	11	13	53A1008-1
115	400	6	1	C	Black	Gray	0.22 300	6,000	.12	.12	14	14	53A107-1
115	60	2	1	D	White		2.00 200	2,500	.10	.10	8	8	53A118-1
115	60	4	1	D	Red		2.00 200	1,000	.05	.05	12	12	53A338-1
115	60	6	1	D	Black		2.50 200	500	.05	.05	11	11	53A117-1
200	400	2	3	B		Black	Not Req'd	21,000	.30	.30	7	13	53A1010-1
200	400	4	3	B		Green	Not Req'd	10,000	.30	.30	11	13	53A1011-1

†See page 3125 for Schematic drawings.

TYPE SC — PLANETARY GEARMOTORS



This extremely small size and lightweight gearmotor consists of a Globe Type SC a.c. motor and a precision planetary geartrain. The combination provides smooth, dependable performance and maximum output torque in the smallest possible space.

Type SC gearmotors are designed to meet MIL-M-7969.

***HOW TO ORDER:**

To specify gearmotors, select the standard part number prefix from the standard part number and data table, plus the speed reduction ratios from page 3110, Type SD — Planetary Gearmotor chart.

HYSTERESIS SYNCHRONOUS — STANDARD PART NUMBERS AND DATA

Voltage (vac)	Freq. (Hz)	Poles	Phase	† Schematic Wiring	Lead Color			Phasing Capacitor (mfd)(wvac)	Sync. Speed (rpm)	Normal Rated Load @ Sync. Speed (oz. in.)	Min. Pull Up Torque (oz. in.)	Max. Power (watts)		Part No.*
					B	C	Var.					No Load	Rated Load	
27	400	2	1	A			Blk	1.25 100	24,000	.16	.16	11	11	59A1002
27	400	2	3	B			Blk	Not Req'd	24,000	.13	.13	11	11	59A1004
27	400	4	1	A			Grn	1.5 100	12,000	.16	.16	12	12	59A1006
27	400	4	3	B			Grn	Not Req'd	12,000	.20	.20	11	11	59A1008
115	400	2	1	A			Blk	0.068 300	24,000	.16	.16	11	11	59A1012
115	400	2	3	B			Blk	Not Req'd	24,000	.13	.13	11	11	59A1014
115	400	4	1	A			Grn	0.068 300	12,000	.16	.16	12	12	59A1016
115	400	4	3	B			Grn	Not Req'd	12,000	.20	.20	11	11	59A1018
115	400	6	1	C	Blk	Gry		0.22 300	8,000	.10	.10	15	15	59A109
200	400	2	3	B			Blk	Not Req'd	24,000	.13	.13	11	11	59A1022
200	400	4	3	B			Grn	Not Req'd	12,000	.20	.20	11	11	59A1024
115	60	2	1	D		White		2.00 200	3,600	.07	.07	8	8	59A113
115	60	6	1	D		Blk		2.50 200	1,200	.05	.05	9	9	59A112

INDUCTION — STANDARD PART NUMBERS AND DATA

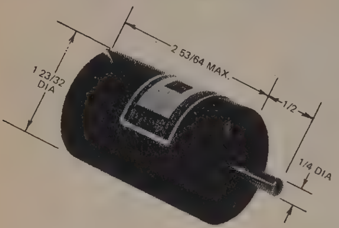
Voltage (vac)	Freq. (Hz)	Poles	Phase	† Schematic Wiring	Lead Color			Phasing Capacitor (mfd)(wvac)	Min. Speed @ Rated Load (rpm)	Rated Load (oz. in.)	Min. Pull Up Torque (oz. in.)	Max. Power (watts)		Part No.*
					B	C	Var.					No Load	Rated Load	
27	400	2	1	A			Blk	1.50 100	21,000	.20	.20	9	12	59A1001
27	400	2	3	B			Blk	Not Req'd	21,000	.30	.30	7	13	59A1003
27	400	4	1	A			Grn	1.5 100	10,000	.25	.25	13	13	59A1005
27	400	4	3	B			Grn	Not Req'd	10,000	.30	.30	11	13	59A1007
115	400	2	1	A			Blk	0.10 300	21,000	.20	.20	9	12	59A1011
115	400	2	3	B			Blk	Not Req'd	21,000	.30	.30	7	13	59A1013
115	400	4	1	A			Grn	0.068 300	10,000	.25	.25	13	13	59A1015
115	400	4	3	B			Grn	Not Req'd	10,000	.30	.30	11	13	59A1017
115	400	6	1	C	Blk	Gry		0.22 300	6,000	.12	.12	14	14	59A110
200	400	2	3	B			Blk	Not Req'd	21,000	.30	.30	7	13	59A1021
200	400	4	3	B			Grn	Not Req'd	10,000	.30	.30	11	13	59A1023

†See page 3125 for Schematic drawings.

TRW GLOBE MOTORS

A.C. 1-23/32" DIA. HYSTERESIS SYNCHRONOUS AND INDUCTION MOTORS

TYPE CFC — BASIC MOTOR



Type CFC motors are totally enclosed for dirt and moisture resistance, and have life-lubricated bearings. Induction versions, units for operation at other voltages and frequencies, and integral planetary geartrains are available. Single phase operation requires a phasing capacitor (not furnished by Globe).

HYSTERESIS SYNCHRONOUS — STANDARD PART NUMBERS AND DATA

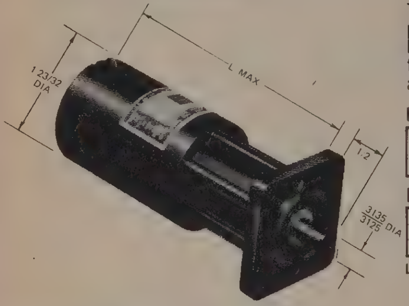
Voltage (v.a.c.)	Freq. (Hz)	Ph.	Capacitor (mfd)	(v.a.c.)	Speed no (rpm) load	rated (rpm) load	Torque rated load (oz. in.)	stall (oz. in.)	Power no load (watts)	rated load (watts)	Schematic	Standard Part No.
115	60	1	1.0	200	3600		1.40	1.80	14	15	K	138A201-2
115	60	1	1.0	200	1800		2.00	2.25	16	17	L	138A201-4
115	60	1	1.5	200	1200		1.20	1.50	15	16	M	138A201-6

INDUCTION — STANDARD PART NUMBERS AND DATA

Voltage (v.a.c.)	Freq. (Hz)	Ph.	Capacitor (mfd)	(v.a.c.)	Speed no (rpm) load	rated (rpm) load	Torque rated load (oz. in.)	stall (oz. in.)	Power no load (watts)	rated load (watts)	Schematic	Standard Part No.
115	60	1	1.0	200	3500	3000	1.5	2.5	14	15	K	138A202-2
115	60	1	3.5	200	1700	1550	.75	3.8	16	17	L	138A202-4
115	60	1	1.5	200	1000	800	.5	2.0	15	16	M	138A202-6

TYPE CFC — PLANETARY GEARMOTORS

COMMERCIAL MOTORS



Type CFC planetary gearmotors are lightweight a.c. commercial/industrial units designed to provide performance and size advantages of military gearmotors in lower cost package. Both hysteresis synchronous and induction versions can be provided with any of 83 standard planetary geartrains with speed reduction ratios (see shaded areas page 11) from 4:1 to 46,656:1, and torques to 1000 oz. in.

HYSTERESIS SYNCHRONOUS — STANDARD PART NUMBERS AND DATA

115	60	1	1.0	200	3600	1.40	1.80	14	15	K	230A395
115	60	1	3.5	200	1800	2.00	2.25	16	16	L	230A396
115	60	1	1.5	200	1200	1.20	1.50	15	16	M	230A397

INDUCTION — STANDARD PART NUMBERS AND DATA

115	60	1	1.0	200	**	1.5	2.5	14	16	K	230A398
115	60	1	3.5	200	**	.75	3.8	16	17	L	230A399
115	60	1	1.5	200	**	.5	2.0	15	16	M	230A400

Low slip-high torque units available on special request.

PERFORMANCE CHARACTERISTICS

Speed Reduction Ratio	Dim. "L"	Gearmotor Output Speeds** 3,600 rpm input	1,800 rpm input	1,200 rpm input
4:1	4.01	900.0	450.0	300.0
5:1	4.01	720.0	460.0	240.0
6:1	4.01	600.0	300.0	200.0
16:1	4.25	225.0	112.5	75.0
20:1	4.25	180.0	90.0	60.0
24:1	4.25	150.0	75.0	50.0
25:1	4.25	144.0	72.0	48.0
30:1	4.25	120.0	60.0	40.0
36:1	4.25	100.0	50.0	33.33
64:1	4.48	56.25	28.12	18.75
80:1	4.48	45.00	22.50	15.00
96:1	4.48	37.50	18.75	12.50
100:1	4.48	36.00	18.00	12.00
120:1	4.48	30.00	15.00	10.00
125:1	4.48	28.80	14.40	9.60
144:1	4.48	25.00	12.50	8.333
150:1	4.48	24.00	12.00	8.000
180:1	4.48	20.00	10.00	6.666
216:1	4.48	16.66	8.333	5.555
256:1	4.68	14.06	7.031	4.687
320:1	4.68	11.25	5.625	3.750
384:1	4.68	9.375	4.687	3.125
400:1	4.68	9.000	4.500	3.000
480:1	4.68	7.500	3.750	2.500
500:1	4.68	7.200	3.600	2.400
576:1	4.68	6.250	3.125	2.083
600:1	4.68	6.000	3.000	2.000
625:1	4.68	5.760	2.880	1.920

Speed Reduction Ratio	Dim. "L"	Gearmotor Output Speeds** 3,600 rpm input	1,800 rpm input	1,200 rpm input
720:1	4.68	5.000	2.500	1.666
750:1	4.68	4.800	2.400	1.600
864:1	4.68	4.166	2.083	1.388
900:1	4.68	4.000	2.000	1.333
1,024:1	4.95	3.515	1.757	1.172
1,080:1	4.68	3.333	1.666	1.111
1,280:1	4.95	2.812	1.406	0.938
1,296:1	4.68	2.777	1.388	0.926
1,536:1	4.95	2.343	1.171	0.781
1,600:1	4.95	2.250	1.125	0.750
1,920:1	4.95	1.875	0.937	0.625
2,000:1	4.95	1.800	0.900	0.600
2,304:1	4.95	1.562	0.781	0.521
2,400:1	4.95	1.500	0.750	0.500
2,500:1	4.95	1.440	0.720	0.480
2,880:1	4.95	1.250	0.625	0.417
3,000:1	4.95	1.200	0.600	0.400
3,125:1	4.95	1.152	0.576	0.384
3,456:1	4.95	1.041	0.520	0.347
3,600:1	4.95	1.000	0.500	0.333
3,750:1	4.95	0.960	0.480	0.320
4,096:1	5.18	0.879	0.439	0.293
4,320:1	4.95	0.833	0.417	0.278
4,500:1	4.95	0.800	0.400	0.267
5,120:1	5.18	0.703	0.352	0.234
5,184:1	4.95	0.694	0.347	0.231
5,400:1	4.95	0.667	0.333	0.222
6,144:1	5.18	0.586	0.293	0.195

Speed Reduction Ratio	Dim. "L"	Gearmotor Output Speeds** 3,600 rpm input	1,800 rpm input	1,200 rpm input
6,400:1	5.18	0.563	0.281	0.188
6,480:1	4.95	0.556	0.278	0.185
7,680:1	5.18	0.469	0.234	0.156
7,776:1	4.95	0.463	0.231	0.154
8,000:1	5.18	0.450	0.225	0.150
9,216:1	5.18	0.391	0.195	0.130
9,600:1	5.18	0.375	0.182	0.125
10,000:1	5.18	0.360	0.180	0.120
11,520:1	5.18	0.313	0.156	0.104
12,000:1	5.18	0.300	0.150	0.100
12,500:1	5.18	0.288	0.144	0.096
13,824:1	5.18	0.260	0.130	0.087
14,400:1	5.18	0.250	0.125	0.083
15,000:1	5.18	0.240	0.120	0.080
15,625:1	5.18	0.230	0.115	0.077
17,280:1	5.18	0.208	0.104	0.069
18,000:1	5.18	0.200	0.100	0.067
18,750:1	5.18	0.192	0.096	0.064
20,736:1	5.18	0.183	0.087	0.058
21,600:1	5.18	0.167	0.083	0.056
22,500:1	5.18	0.160	0.080	0.053
25,920:1	5.18	0.139	0.069	0.047
27,000:1	5.18	0.133	0.067	0.044
31,104:1	5.18	0.116	0.058	0.039
32,400:1	5.18	0.111	0.056	0.037
38,880:1	5.18	0.093	0.046	0.031
46,656:1	5.18	0.077	0.039	0.026

**Synchronous Motor. Output Torque = Torque Multiplier x Motor Torque.
Torque Multiplier = Reduction Ratio x Efficiency. Torque Max. Cont. Rating Refers to Max. Cont. Duty Rating of Geartrain.

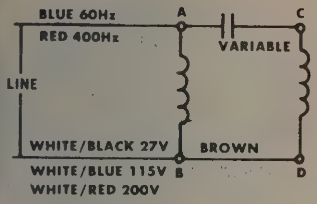
***HOW TO ORDER:**

To specify gearmotors, select the standard part number prefix from the standard part number prefix from the standard part number and data table, plus speed reduction ratio desired. See page 3117 for Torque Multiplier and Max. Continuous Torque.

TRW GLOBE MOTORS

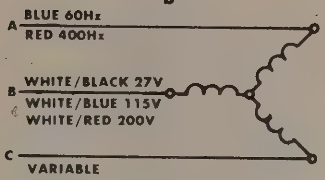
SCHEMATIC WIRING

A


BLUE 60Hz
RED 400Hz
A
C
VARIABLE
LINE
WHITE/BLACK 27V
BROWN
WHITE/BLUE 115V
B
D
WHITE/RED 200V

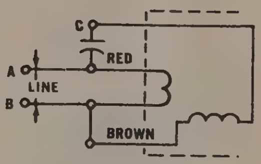
CW rotation (viewing shaft end). For CCW rotation reverse C and D.

B


A
BLUE 60Hz
RED 400Hz
B
WHITE/BLACK 27V
WHITE/BLUE 115V
WHITE/RED 200V
C
VARIABLE

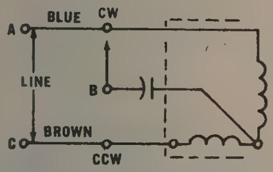
ABC phase sequence for CW rotation (viewing shaft end). For CCW rotation reverse any two leads.

C


C
RED
A
LINE
B
BROWN

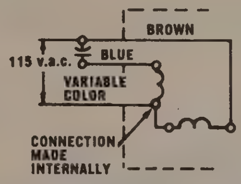
CW rotation (viewed from shaft end). For CCW rotation reverse A and B.

D


A
BLUE
CW
LINE
B
BROWN
C
CCW

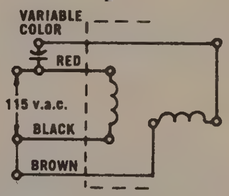
Single phase only. Capacitor A and B for CW rotation (viewed from shaft end). B to C for CCW rotation.

E


BROWN
115 v.a.c.
BLUE
VARIABLE COLOR
CONNECTION MADE INTERNALLY

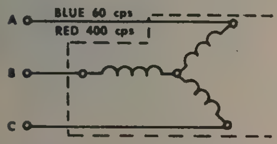
CW rotation (viewed from shaft end). For CCW rotation connect line to blue instead of brown.

F


VARIABLE COLOR
RED
115 v.a.c.
BLACK
BROWN

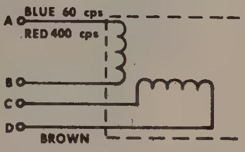
CW rotation (viewed from shaft end). For CCW rotation reverse red and black.

G


A
BLUE 60 cps
RED 400 cps
B
C

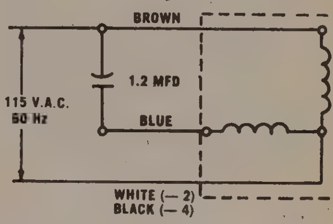
To run single-phase, connect line to A and C; for clockwise rotation, connect capacitor B to C; for counterclockwise rotation, connect capacitor B to A.

H


A
BLUE 60 cps
RED 400 cps
B
C
D
BROWN

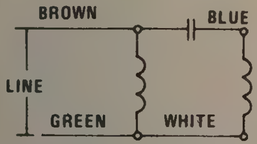
To run single-phase, connect line to A and B; for clockwise rotation, connect B to D and condenser to A and C; for counterclockwise rotation, reverse C and D.

J


BROWN
1.2 MFD
115 V.A.C. 60 Hz
BLUE
WHITE (— 2)
BLACK (— 4)

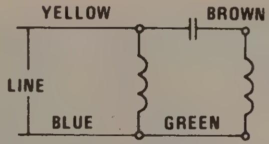
CW rotation (viewed from shaft end). For CCW rotation, connect line to blue and white (—2) or to blue and black (-4).

K


BROWN
BLUE
LINE
GREEN
WHITE

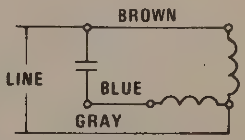
CW rotation (viewing shaft end). For CCW rotation, connect line to blue and white.

L


YELLOW
BROWN
LINE
BLUE
GREEN

CW rotation (viewing shaft end). For CCW rotation, reverse brown and green.

M


BROWN
LINE
BLUE
GRAY

CW rotation (viewing shaft end). For CCW rotation, connect line to blue and gray.

TRW GLOBE FEATURES

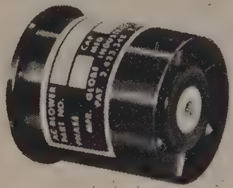
All motors have double-shielded, life-lubed ball bearings (−55°C to 85°C) and precision ground stainless steel shafts. Gearmotor shafts may be either stainless or carbon steel. Shaft variations available include length, smaller diameter, flats, pinions, gears, holes, threaded ends, and tapers.

D.C. motors have a life of 1,000 hours continuous duty for 27 v.d.c. models. A.C. motors have a life of 200 to 5,000 hours continuous duty depending on voltage, frequency, number of poles, and gear ratio.

TRW GLOBE MOTORS

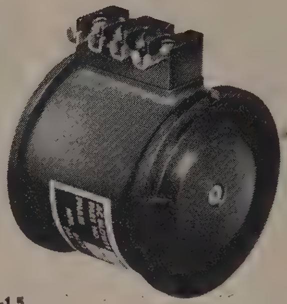
FANS AND BLOWERS

TRW Globe offers a wide range of a.c. and d.c. fans and blowers for every cooling need. Many standard models are stocked for 48 hour delivery. And because Globe is the largest precision motor source, we can move fast to provide engineered specials in prototype or production quantities. Check your needs below. Hundreds of other units are available.



VAX-1

1⅛″ VANEAXIAL A.C. or D.C. VAX-1-AC delivers 10 cfm @ .6″ H_2O. 26 v.a.c., single phase, 400 Hz. 1.5 oz. VAX-1-DC delivers 8.5 cfm @ .5″ H_2O. 26 v.d.c. 1.4 oz.



VAX-1.5

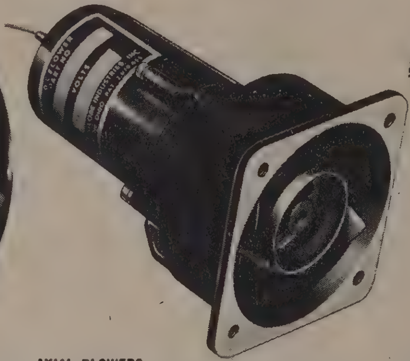
1¾″ VANEAXIAL A.C. or D.C. VAX-1.5-AC delivers 12.0 cfm @ 1.9″ H_2O. 115 v.a.c., single phase, 400 Hz. 4.0 oz. VAX-1.5-DC delivers 15 cfm @ 1.3″ H_2O. 27 or 50 v.d.c. 5.0 oz.

VAX-3

3″ VANEAXIAL. Four types A.C. and D.C. deliver 85 to 165 cfm at 0″ H_2O. 115 and 200 v.a.c.; 12 and 28 v.d.c. 14 to 17 oz.

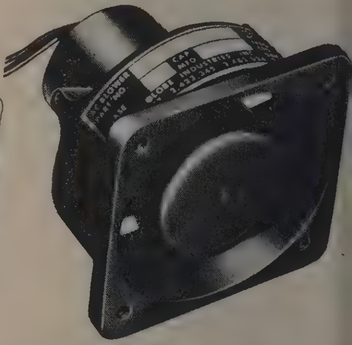
VAX-4-FC

4″ HIGH ALTITUDE VANEAXIAL A.C. delivers 170 cfm @ 0″ H_2O, 140 cfm @ 2.1″ H_2O at 25,000 ft. or 95 cfm @ 2.5″ H_2O at sea level. 200 v.a.c., 3-phase, 400 Hz. 2 lbs.



AXIAL BLOWERS

Axial blowers deliver up to 62 cfm free air, available in a.c. or d.c. 27 to 200 v.a.c. 1, 2 or 3-phase, 60 and 400 Hz. 4 to 70 v.d.c. 5 to 9½ oz.



VARIABLE FREQUENCY FANS & BLOWERS

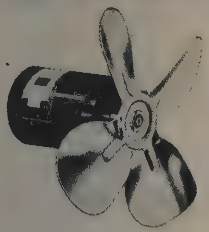
Consist of Type MC or SC variable frequency motors powering a wide range of axial or centrifugal blowers and fans. Max. output 85 cfm @ 0″ H_2O. 27 to 200 v.a.c., 1, 2 and 3-phase, 320 to 1,200 Hz. 2.7 to 10 oz.

VAX-4.5-GR

4½″ VANEAXIAL A.C./D.C. delivers 315 cfm @ 0″ H_2O or 220 cfm @ 1.75″ H_2O. UNIVERSAL 115 v.a.c., single phase, 60 Hz. or 115 v.d.c. 4½ lbs.

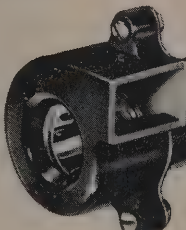
TRW GLOBE MOTORS

FANS AND BLOWERS



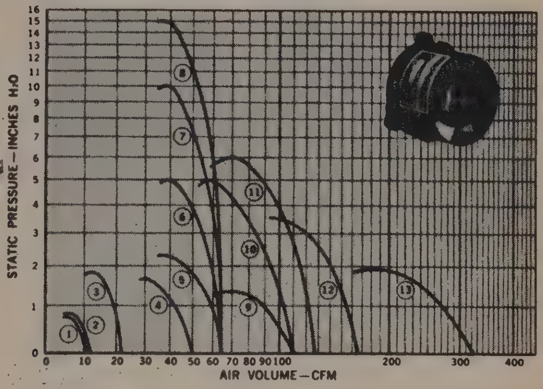
OPEN FANS
Fans deliver up to 195 cfm @ 0″ H_2O, a.c., d.c. or a.c./d.c. 4 to 120 v.d.c. 200 v.a.c., 1, 2 or 3-phase, 60 and 400 Hz. 2.3 oz. min.

CENTRIFUGAL BLOWERS
1″ to 2½″ RH or LH scroll models, a.c. or d.c., round or rectangular outlet, produce up to 50 cfm free air. 115 to 200 v.a.c., 60 and 400 Hz. D.C. versions 27 v.d.c. 4 to 18 oz.



PAX-3
3¼″ PROPAXIAL A.C. delivers 120 cfm @ 0″ H_2O with Type MCS 2 pole motor, and 62 cfm @ 0″ H_2O with Type MCS 4 pole motor. 200 v.a.c., 3-phase, 400 Hz. D.C. versions available.

A.C. AND D.C. VANEAXIAL BLOWERS

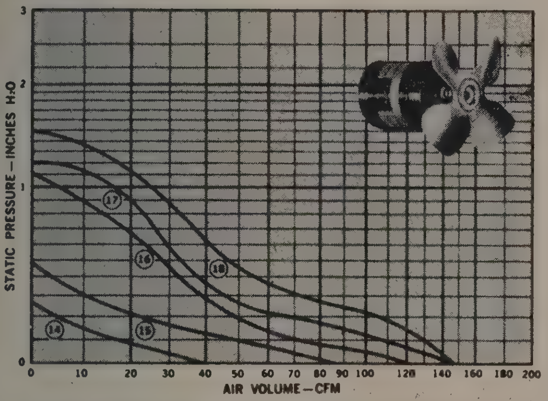


A.C. AND D.C. VANEAXIAL BLOWERS

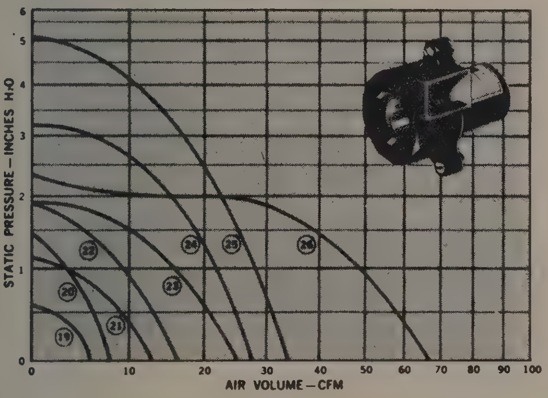
Curve No.	Type	Dia.	Weight	Power Source	Phase	Part No.
1	VAX-1-DC	1⅛″	1.4 oz.	26 v.d.c.		19A1040
2	VAX-1-AC	1⅛″	1.5 oz.	26 v.a.c., 400 Hz	1	19A1173
3	VAX-1.5-AC	1¾″	4.2 oz.	115 v.a.c., 400 Hz	1	19A1233
4	VAX-2-MM*	2″	5 oz.	26 v.d.c.		19A907
5	VAX-2-MC*	2″	5 oz.	200 v.a.c., 400 Hz	3	19A774
6	STAX-3-FC	3″, 1 stage	48 oz.	200 v.a.c., 400 Hz	3	19A920
7	STAX-3-FC	3″, 2 stage	28.6 oz.	200 v.a.c., 400 Hz	3	19A921
8	STAX-3-FC	3″, 3 stage	29 oz.	200 v.a.c., 400 Hz	3	19A922
9	VAX-3-BD	3″	16 oz.	28 v.d.c.		19A827
	VAX-3-GN	3″	16 oz.	115 v.d.c., or 115 v.a.c., 60 Hz	1	19A908
10	VAX-4-FC	4″	2 lbs.	200 v.a.c., 400 Hz	3	19A1348
11	VAX-4.5-LC	4¹¹⁄₁₆″	5½ lbs.	200 v.a.c., 400 Hz	3	19A1350
12	VAX-3-FC	3″	14 oz.	115 v.a.c., 400 Hz	3	19A798
13	VAX-4.5-GR	4¾″	4½ lbs.	115 v.d.c., or 115 v.a.c., 60 Hz	1	19A832

*Pictured in above chart.

A.C. AND D.C. FANS



A.C. AND D.C. CENTRIFUGAL BLOWERS



A.C., D.C. FANS AND CENTRIFUGAL BLOWERS

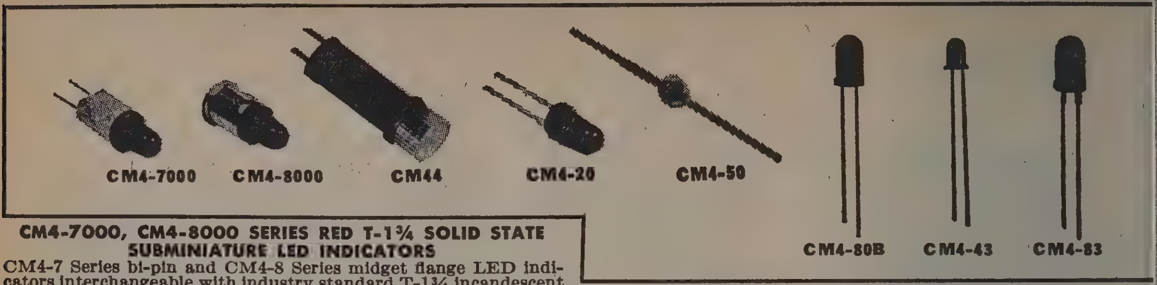
Curve No.	Type	Dia.	Power Source	Phase	Part No.
14	FC	3″ fan	115 v.a.c., 60 Hz	1	19A643
15	MC	4″ fan	115 v.a.c., 60 Hz	1	19A552
15	FC	4″ fan	115 v.a.c., 60 Hz	1	19A644
16	FC	4½″ fan	115 v.a.c., 60 Hz	1	19A645
17	FC	5½″ fan	115 v.a.c., 60 Hz	1	19A647
18	FC	5″ fan	115 v.a.c., 60 Hz	1	19A646
19	SS	1″ blower	27 v.d.c.		19A566
20	SC	1″ blower	115 v.a.c., 400 Hz	1	19A565
21	MM	1½″ blower	27 v.d.c.		19A1860
22	MC	2″ blower	115 v.a.c., 400 Hz	1	19A518
23	LL	2″ blower	27 v.d.c.		19A1852
24	MC	2½″ blower	115 v.a.c., 400 Hz	1	19A532
25	FC	2″ blower	115 v.a.c., 400 Hz	3	19A725
26	YC	1½″ blower	115 v.a.c., 60 Hz	1	19A1185

Air volume varies with direction of air flow and type of enclosure.

CHICAGO MINIATURE/DRAKE

SUBSIDIARIES OF
GENERAL INSTRUMENT CORPORATION

LED Indicators



CM4-7000, CM4-8000 SERIES RED T-1¾ SOLID STATE SUBMINIATURE LED INDICATORS

CM4-7 Series bi-pin and CM4-8 Series midget flange LED indicators interchangeable with industry standard T-1¾ incandescent lamps. Available with clear or red, transparent or translucent (diffused) epoxy lens. Bi-pin base has nylon shell, gold-plated nickel pins. Midget flange base has nickel-plated brass shell, phenolic insulator and solder contact. **Luminous Intensity:** 2.0 mcd at 20 mA. **Wavelength:** 660 nM at peak. **Size, CM4-7000 Bi-pin:** .230″ dia. max. x .625″ long, plus two .25″, .020″ dia. gold plated leads. **CM4-8000 Midget Flange:** .245″ dia. lens, .285″ dia. flange, .625″ long.

CM4-7000 SERIES BI-PIN BASE

Operating Range Volts, DC	mA @ Max. Volts	Transparent		Translucent	
		Red CM4-	Clear CM4-	Red CM4-	Clear CM4-
1.4– 1.7	50	7025*	7027*	7026*	7028*
1.7– 3.0	50	7001	7013	7007	7019
3.0– 5.0	50	7002	7014	7008	7020
5.0–10.0	30	7003	7015	7009	7021
10.0–14.0	20	7004	7016	7010	7022
14.0–18.0	15	7005	7017	7011	7023
18.0–28.0	10	7006	7018	7012	7024

CM4-8000 SERIES MIDGET-FLANGE BASE

1.4– 1.7	50	8025*	8027*	8026*	8028*
1.7– 3.0	50	8001	8013	8007	8019
3.0– 5.0	50	8002	8014	8008	8020
5.0–10.0	30	8003	8015	8009	8021
10.0–14.0	20	8004	8016	8010	8022
14.0–18.0	15	8005	8017	8011	8023
18.0–28.0	10	8006	8018	8012	8024

*Requires external current limiting resistor.

QUANTITY NET PRICES FOR ABOVE

	Net Each, Lots of				
	1-9	10-24	25-99	100-249	250-499
CM4-7000, 1.4–1.7 V	$1.06	$0.92	$0.84	$0.72	$0.65
CM4-7000, 1.7–28 V	1.29	1.12	1.01	.86	.78
CM4-8000, 1.4–1.7 V	1.44	1.25	1.12	.96	.88
CM4-8000, 1.7–28 V	1.63	1.42	1.29	1.10	1.00

CM44 SERIES SOLID-STATE LED CARTRIDGE INDICATORS

RED-AMBER-GREEN

LED cartridge indicators in red, amber and green have two transparent cap styles (short cylindrical or round cap†) utilizing an internal fresnel ring pattern for optimum visibility. Red GaAsP LED provides typical peak wavelength of 660 nM, Yellow GaP LED—600 nM, Green GaP—560 nM. CM44 available in variety of brightness, color and cap styles; rated voltages available in 10 and 20 mA, although only 20 mA is listed in table. Black anodized aluminum housing, black nylon insulator, stainless steel pins. Further information available on request. Size: .330″ dia. x 1.140″ long, max.

RED LED CARTRIDGE INDICATORS

CML No. CM44-	Rated		Net Each, Lots of						
	Volts	mA	1-9	10-24	25-99	100-249	250-399	500-999	1000-2499
110261	1.6	20*	$1.70	$1.63	$1.47	$1.36	$1.25	$1.15	$1.07
110311	3.6	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110021	5.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110041	10.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110061	14.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110081	18.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110101	28.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07

AMBER LED CARTRIDGE INDICATORS

110273	2.2	20*	$1.70	$1.63	$1.47	$1.36	$1.25	$1.15	$1.07
110333	3.6	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110123	5.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110143	10.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110163	14.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110183	18.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110203	28.0	20	1.70	1.63	1.47	1.37	1.25	1.15	1.07

GREEN LED CARTRIDGE INDICATORS

110282	2.2	20*	$1.70	$1.63	$1.47	$1.36	$1.25	$1.15	$1.07
110352	3.6	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110212	5.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110222	10.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110232	14.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110242	18.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07
110252	28.0	20	1.70	1.63	1.47	1.36	1.25	1.15	1.07

†CML Nos. listed are for short cylindrical cap style. To order round cap, change first digit after 44 from 1 to 2 (e.g., **CM44-210011: Round cap, red transparent**). *Requires external current limiting resistor.

CM4-20, CM4-21, CM4-22, CM4-23 RED

Each unit supplied with snap-in mounting clip for panel mounting Rigid terminals allow device to be connected in a variety of ways soldered, welded or wire-wrapped, as well as being pluggable Tin-plated leads. Choice of clear and red lenses, transparent o translucent. **Power Dissipation:** 180 mW (derate 2.0 mW/° above 25° C). **Forward Voltage:** 1.6 volts typical at 20 mA, 2. volts max. **Reverse Voltage:** 3 volts. **Storage and Operating Temperature:** −55° C to +100° C. **Wavelength** 660 nM at peak. **Tur On and Turn Off Time:** 50 ns. **Soldering Time at 260° C:** seconds. **Size:** .190″ dia. x .340″ length, plus two .55″ leads. **Hol for mounting clip:** ¼″ dia. **Max. Panel Thk.:** ⅛″.

CML No.	Lens		Luminous Int. @ I_f = 20 mA Typical	Viewing Angle Typical
	Tint	Diffusion		
CM4-20	Clear	Transparent	2.0 mcd	90°
CM4-21	Clear	Diffused	1.6 mcd	90°
CM4-22	Red	Transparent	1.6 mcd	90°
CM4-23	Red	Diffused	0.4 mcd	180°

Models CM4-20, 21 and 22—Net Each, Lots of: 1–99 . . . **$0.52**
100–199 . . . . **$0.41**; 1000 Up . . . . **.3**
Model CM4-23—Net Each, Lots of: 1–99 . . . . **$0.45**
100–199 . . . . **$0.35**; 1000 Up . . . . **.32**

CM4-43B RED

The red diffused lens and T-1 size make the CM4-43B the perfec choice for high-density array and indicator applications. **Luminous Intensity:** 1.0 mcd at 20 mA. **Peak Wavelength:** 660 nM **Power Dissipation:** 100 mW (derate 1.3 mW/°C above 25° C) **Forward Voltage:** 1.6 volts typical at 20 mA., 2.0 volts max. **Reverse Voltage:** 5.0 volts. **Turn On and Turn Off Time:** 50nS **Size:** 0 120″ dia. max. x 0.2″ length, plus two 1.00″ min. leads

No. CM4-43B—Net Each, Lots of: 1-99 . . . . **$0.3**
100–999 . . . . **$0.28**; 1000-Up . . . . **.24**

CM4-50 SERIES RED

Small size, gallium arsenide phosphide light-emitting diode packaged in a planer configuration for use on circuit boards or wher size and low cost are major considerations. Clear epoxy lens fo uniform brightness. Tin-plated leads can be bent at a right angl and inserted through the holes of a PC board for dip or wav soldering. **Power Dissipation:** 80 mW (derate 1.0 mW/°C fo CM4-50; 1.6 mW/°C for CM4-53). **Forward Voltage:** 1.6 volt typical at 20 mA, 2.0 volts max. **Reverse Voltage:** 3 volts. **Storage, Operating Temperature:** −55° C to +100° C. **Wavelength:** 66 nM at peak. **Turn On/Turn Off Time:** 50 ns. **Soldering Tim at 260° C:** 5 sec. **Size:** .100″ dia. x .100″ h. Length, including leads .6″ min.

CML No.	Lens		Luminous Int. at I_f = 20 mA Typical	Net Each, Lots of		
	Tint	Diffusion		1-99	100-999	1000-Up
CM4-50	Clear	Transparent	1.4 mcd	$0.29	$0.22	$0.19
CM4-53	Red	Diffused	1.0 mcd	.25	.17	.16

CM4-80B SERIES RED

Red gallium arsenide phosphide light-emitting diodes. Variety o lens styles and luminance intensities widens design choice. **Powe Dissipation:** 180 mW (derate 2.0 mW/°C. above 25°C). **Forwar Voltage:** 1.7 volts typical at 20 mA, 2.2 volts max. **Reverse Voltage:** 5.0 volts. **Wavelength:** 660 mM at peak. **Turn On and Turn Off Time:** 50nS. **Size:** 0.2″ dia. x 0.340″ length plus two 0.75 leads.

CML No.	Lens		Luminous Int. @ I_r = 20mA. Typical	Viewing Angle Typical
	Tint	Diffusion		
CM4-80B	Clear	Transparent	2.0 mcd	50°
CM4-81B	Clear	Diffused	1.6 mcd	72°
CM4-82B	Red	Transparent	2.0 mcd	50°
CM4-84B	Red	Diffused	1.6 mcd	80°
CM4-85B	Red	Diffused	0.8 mcd	110°
CM4-86B	Red	Diffused	0.8 mcd	150°

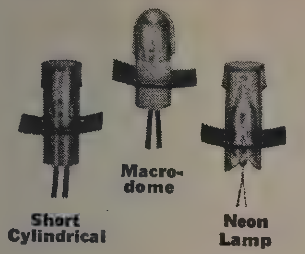
Models CM4-80B, -81B, -82B and -85B—
Net Each, Lots of: 1–99 . . . . **$0.52**
100–199 . . . . **$0.41**; 1000 Up . . . . **.36**
Models CM4-84B and -86B—Net Each, Lots of: 1–99 . . . **$0.45**
100–199 . . . . **$0.35**; 1000 Up . . . . **.32**

CM4-83 RED

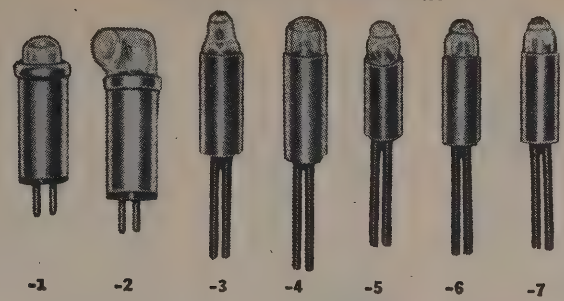
The red diffused lens and T-1¾ size are ideally suited for pane and back-lighting applications. **Luminous Intensity:** 2.0 mcd at 10 mA. **Wavelength:** 660nM. **Power Dissipation:** 180 mW (derate 2.0 mW/°C above 25° C). **Forward Voltage:** 1.6 volts typica at 20 mA, 2.2 volts max. **Reverse Voltage:** 3.0 volts. **Turn On and Turn Off Time:** 50nS. **Size:** 0.2″ dia x 0.34″ length, plus tw 0.85″ leads.

No. CM4-83—Net Each, Lots of 1–99 . . . . **$0.34**
100–999 . . . . **$0.23**; 1000–Up . . . . **.2**

CM22 SERIES PEANUT-LITES



CM20 SERIES LENS END-LITES



CM20

BEAM EMITTERS

CM22 SERIES PEANUT-LITES

Versatile, low-cost indicator assemblies with incandescent or neon lamps. Ideal for stereo amplifiers, mobile equipment, instrumentation, computer and display panels, etc. Incandescent types have high-temperature polycarbonate shells with T-1¾ lamps and 6" wire leads, permanently potted in place for strain relief. Available in two cap styles, macrodome (Type CM22-1) or short cylindrical (Type CM22-2). Type CM22-1000 Peanut-Lites include T-2 neon lamps which snap into place in butyrate shells. All types include speed clips for mounting.

HOW TO ORDER: Insert two digits in CML number, replacing **XX**, to indicate cap color: **01**, clear transparent; **02**, red transparent; **03**, amber transparent; **04**, green transparent (incandescent types only); or **05**, white translucent. CM22-1000-01-A1A (NE-2) has clear transparent short cylindrical cap with NE-2 neon lamp.

WITH T-1¾ INCANDESCENT LAMP

Size: .340" dia. x .800" long; #24 AWG wire leads, 6" long. Type B lead insulation per MIL-W-16878. Semi-resilient thermosetting resin encapsulant. Numbers shown are for macrodome cap; for short cylindrical cap, change **1** in CML number to **2**; e.g., CM22-2-XX-15; prices are the same.

CML Number* CM22-	Volts	Amps	M.S. C.P.	Aver. Life, Hours	Net Each, Lots of*			
					1-9	10-24	25-99	100-249
01-XX-15	1.35	.06	.01	500	$1.66	$1.39	$1.30	$0.99
01-XX-17	2.5	.20	.22	500	1.66	1.39	1.30	.99
01-XX-18	2.7	.06	.04	6,000	1.66	1.39	1.30	.99
01-XX-43	3.0	.015	.004	10,000	2.79	2.34	2.19	1.66
01-XX-50	3.0	.03	.02	1,800	2.20	1.84	1.72	1.31
01-XX-41	5.0	.06	.05	100,000	1.66	1.39	1.30	.99
01-XX-12	6.0	.04	.03	10,000	1.60	1.34	1.26	.96
01-XX-06	6.0	.20	.63†	1,000	1.66	1.39	1.30	.99
01-XX-52	6.3	.20	.55	3,000	1.51	1.27	1.19	.90
01-XX-27	6.3	.04	.02	50,000	1.84	1.54	1.44	1.10
01-XX-19	6.3	.075	.22	500	1.66	1.39	1.30	.99
01-XX-13	6.3	.20	.40	50,000	2.14	1.79	1.68	1.27
01-XX-20	6.3	.20	.55	3,000	1.66	1.39	1.30	.99
01-XX-07	10.0	.014	.002	10,000	1.51	1.27	1.19	.90
01-XX-08	10.0	.04	.08	5,000	1.60	1.34	1.26	.96
01-XX-28	14.0	.08	.30	50,000	1.84	1.54	1.44	1.10
01-XX-09	14.0	.08	.50	750	1.51	1.27	1.19	.90
01-XX-10	18.0	.04	.15	10,000	2.05	1.72	1.61	1.22
01-XX-40	28.0	.04	.30	25,000	1.72	1.44	1.35	1.03
01-XX-29	28.0	.04	.30	25,000	1.84	1.54	1.44	1.10
01-XX-11	28.0	.04	.34	7,000	1.72	1.44	1.35	1.03
01-XX-45	28.0	.06	.34	25,000	1.72	1.44	1.35	1.03

WITH T-2 NEON LAMP

Short cylindrical cap. Size: .370" dia. x .850" long; Dumet wire leads. For 105–125 VAC. **Series Resistance Required:** A1A, 200K ohms; A9A, 62K ohms; C2A, 22K ohms.

CML Number*	Nominal		Aver. Life, Hours	Net Each, Lots of*			
	mA	Watts		1-9	10-24	25-99	100-249
6140-100-603	1.0	1/10	5000	$0.52	$0.45	$0.37	$0.26
6141-100-603	2.0	1/4	5000	.52	.45	.37	.26

*See How To Order information above and insert two digits in CML no. as indicated. †At 5 volts.

CM20 SERIES SUBMINIATURE LENS END-LITES

Subminiature end-lites produce axially centered spots for minimal adjustment problems and easy lamp replacement. Ideal for close proximity use with photo sensors, where an intense spot of luminous and infrared energy is required. Typical applications include encoders, tape sensors, card readers and optical scanners. Types CM20-1, -2, -17 and -19 have clear anodized aluminum cartridge body; stainless steel terminals (CM20-19 #24 AWG stranded wire leads); nylon insulation. Types CM20-3 thru -7 and -20 have gold anodized aluminum shell; #24 AWG stranded wire leads; Type B insulation per MIL-W-16878; semi-resilient thermosetting resin encapsulation. Types CM20-5 thru CM20-7 are small enough to be mounted on .250" centers for card reader applications. **Spot Specifications:** CM20-1, -19: When projected ⅜" from end of bulb, spot covers ⅛" dia. target, concentric with long axis at minimum intensity of 750 ft.-candles. CM20-2: When projected 1" from end of bulb, spot covers 1" dia. target with minimum of 350 ft.-candles. CM20-3: When projected ⅜" from end of bulb, spot covers 1/16" dia. target concentric with sleeve; intensity ⅜" from bulb is minimum of 750 ft.-candles; spot is narrow elliptical. CM20-4: Same as CM20-3 except covers ⅛" dia. target; spot is "round" elliptical. CM20-5 thru -7, -20 have no spot specifications, but have axially aligned lamp; CM20-17 spot is axially aligned with housing.

CML No.	Lamp Type	V	Amps (±10%)	Aver. Life, Hours	Net Each, Lots of*		
					10-99	100-499	500-Up
CM20-1	TL-1¾	2.5	.350	10,000	$3.184	$2.786	$2.388
CM20-2	SL-2	2.5	.325	10,000	5.986	5.238	4.49
CM20-3	TL-1¾	2.5	.350	10,000	3.272	2.863	2.454
CM20-4	TL-1¾	2.5	.350	10,000	3.974	3.477	2.981
CM20-5	TL-1¼	2.5	.200	1,000	3.186	2.788	2.39
		2.1	.180	10,000			
CM20-6	TL-1¼	6.0	.200	1,000	2.678	2.343	2.009
		5.1	.180	10,000			
CM20-7	TL-1¼	28.0	.040	1,000	3.06	2.678	2.295
		24.0	.036	10,000			
CM20-17	TL-1¾	5.0	.180	10,000	5.408	4.732	4.056
CM20-19	CM20-1 with 6" leads				3.974	3.477	2.981
CM20-20	TL-1¾	5.0	.180	10,000	6.004	5.254	4.503

CM20 SERIES BEAM EMITTERS

Compact assemblies designed to project narrow cones of infrared and luminous energies over distances of 3" to 20". Spots produced are round, varying from ⅜" to 1¼". Infrared outputs are approximately 75% of input power, ideal for integration with silicon type sensors. Low power consumption (782 mW), axially aligned spots, easy mounting and long life. **Volts:** 2.3. **Current:** .340 amps, ±10%. **Average Life:** 10,000 hours. **Construction:** Anodized aluminum housing, #24 AWG wire leads, semi-resilient thermosetting resin encapsulation. **Size:** .475" dia.; CM20-8-01, 1.33" long; CM20-9-01, 2.08" long.

CML Number	Focal Distance	Projected Spot Dia.	Net Each, Lots of*		
			10-99	100-499	500-Up
CM20-8-01	7"–9"	1¼"–1¾"	$15.662	$13.704	$11.747
CM20-9-01	14"–16"	1"–1⅛"	18.784	16.436	14.088

CM39 SERIES LAMP FILTERS (Not Illus.)

Slip-on filters are translucent, precision molded silicone rubber caps; for subminiature and miniature lamps. They assume basic lamp contours, are impervious to color shift. Replaceable and reusable. Temperature range, −62° to +225° C. **TO ORDER:** Add suffix to CML Number to indicate color: **-1**, red; **-2**, blue/white; **-3**, clear; **-4**, amber; **-5**, green; **-6**, blue; **-7**, yellow.

CML Number	Lamp Size	Size, In. Dia. x L.	Net Each, Lots of*		
			10-99	100-499	500-Up
CM39-02	T-¾	.090 x .230	$0.344	$0.301	$0.258
CM39-03	T-1	.096 x .3125	.344	.301	.258
CM39-04	T-1	.096 x .219	.344	.301	.258
CM39-05	T-1¼	.175 x .265	.404	.354	.303
CM39-06	T-1¾	.214 x .375	.344	.301	.258
CM39-07	T-1¾	.218 x .3125	.344	.301	.258
CM39-08	T-1¾	.325 x .279	.344	.301	.258
CM39-09	T-2	.250 x .522	.516	.452	.387
CM39-10	T-2	.250 x .272	.404	.354	.303
CM39-11	T-3¼	.370 x .672	.732	.641	.549
CM39-12	S-6	.584 x 1.120	.732	.641	.549

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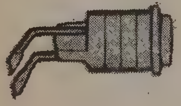
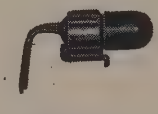
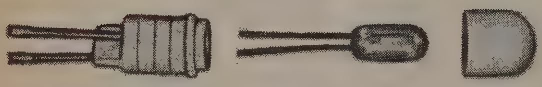
CM7 SERIES BI-PIN LAMPS

CM25 SERIES T-1 INDICATOR


PC Mount


CM26 SERIES
T-1 PEANUT-LITES

Exploded View



CM21 SERIES SOCKETS FOR BI-PIN LAMPS

Pushfit Teflon® sockets accept all CM7 Bi-Pin lamps listed above. Snap directly into panels, brackets or PC boards. Type CM21-1 has beryllium copper contacts with .050″ pin centers, for T-1 lamps. CM21-2 has phosphor bronze contacts with gold over silver plating, with .125″ pin centers for T-1¼ and T-1¾.

®Registered DuPont trademark.

CML No.	For Bi-Pin Lamp	Mtg. Hole	Net Each, Lots of* 1-9	10-24	25-99	100-249	250-499
CM21-1	T-1	.122″	$1.43	$1.14	$0.95	$0.79	$0.68
CM21-2	T-1¼, T-1¾	.221″	1.74	1.38	1.15	.95	.82

CM26 SERIES T-1 PEANUT-LITES

Low cost commercial substitutes for MS25446 and MS90308 indicators. Each T-1 Peanut-Lite contains a subminiature lamp sealed in a high-temperature polycarbonate housing. Lamps range from 3 to 28 volts. Can be mounted with spring mounting clips (CM26-1012) which are provided with T-1 Peanut-Lites. Type 10384 clip for circuit board mounting is also available. Three types of terminal material are available—CM26-1 has .750″ tinned wire leads; CM26-2 has .312″ long .020″ nickel pins; CM26-3 has #26 AWG stranded wire, 6″ long. White, red, amber, green, and blue caps are standard; other colors available. Also available are special length and type pins and leads. Write for information. **HOW TO ORDER:** For cap color, substitute for **XX** in CML number: **05**, white; **07**, red; **09**, amber; **10**, green; **11**, blue. Example: CM26-1-07-19 is the wire lead version with red cap and 5V, .06A lamp.

CML Number* CM26-	Volts	Amps	M.S. C.P.	Aver. Life, Hrs.	Net Each, Lots of* 1-9	10-24	25-99	100-249
1-XX-02	3.0	.0125	.001	16,000	$3.37	$2.68	$2.23	$1.85
1-XX-05	5.0	.03	.03	75,000	2.92	2.32	1.93	1.60
1-XX-19	5.0	.06	.05	50,000	1.66	1.32	1.10	.91
1-XX-20	5.0	.11	.05	25,000	1.66	1.32	1.10	.91
1-XX-14	10.0	.027	.10	10,000	2.59	2.05	1.71	1.42
1-XX-15	12.0	.06	.15	16,000	2.59	2.05	1.71	1.42
1-XX-17	18.0	.026	.15	16,000	3.06	2.43	2.03	1.68
1-XX-18	28.0	.024	.15	16,000	3.09	2.45	2.05	1.69
2-XX-02	3.0	.0125	.001	16,000	3.65	2.90	2.42	2.00
2-XX-05	5.0	.03	.03	75,000	3.26	2.59	2.16	1.79
2-XX-19	5.0	.06	.05	50,000	1.97	1.56	1.30	1.08
2-XX-20	5.0	.11	.05	25,000	1.97	1.56	1.30	1.08
2-XX-14	10.0	.027	.10	10,000	2.87	2.27	1.90	1.57
2-XX-15	12.0	.06	.15	16,000	2.87	2.27	1.90	1.57
2-XX-17	18.0	.026	.15	16,000	3.37	2.68	2.23	1.85
2-XX-18	28.0	.024	.15	16,000	3.40	2.70	2.25	1.86
3-XX-02	3.0	.0125	.001	16,000	3.71	2.94	2.46	2.03
3-XX-05	5.0	.03	.03	75,000	3.34	2.65	2.21	1.83
3-XX-19	5.0	.06	.05	50,000	2.05	1.63	1.36	1.12
3-XX-20	5.0	.11	.05	25,000	2.05	1.63	1.36	1.12
3-XX-14	10.0	.027	.10	10,000	2.98	2.36	1.97	1.63
3-XX-15	12.0	.06	.15	16,000	2.98	2.36	1.97	1.63
3-XX-17	18.0	.026	.15	16,000	3.43	2.72	2.27	1.88
3-XX-18	28.0	.024	.15	16,000	3.48	2.77	2.31	1.91

*See How To Order information above and insert two digits in CML no. as indicated.

CM25 SERIES T-1 INDICATORS

Subminiature T-1 indicators which meet MS-90308. Unbased T-1 lamp is inserted into housing and cap is snapped on to hold lamp and provide color identification. Features include dimpled terminals (patent pending) for positive electrical contact and internally flared lead guides for easy wire-terminal lamp insertion. Hot-stamped legends can be provided with new cylindrical cap style. Units are small enough to mount on .250″ centers and still allow adequate wiring room and space to replace lamp. Base and cap are polycarbonate. **HOW TO ORDER:** For **base style**, substitute for first **X** in CML number: **5**, panel mount; **6**, PC mount. For **cap style**, substitute for second **X** in CML number: **7**, round; **8**, lens; **9**, square. For **cap color**, substitute for final **XX** in CML number; **01**, clear transparent; **02**, red transparent; **03**, yellow transparent; **04**, green transparent; **05**, white translucent; **06**, blue transparent; **07**, red translucent; **08**, yellow translucent; **09**, green translucent; **10**, blue translucent; **11**, amber translucent. Final number is lamp number; to order less lamp, omit lamp number. **Example:** CM25-5-706-715 is panel mounted with a round, blue transparent cap and a 5 V, .115 A lamp. CM25-5-706 is the same thing without the lamp. Also available as MS90308-X (**2**, red; **4**, yellow; **5**, green; **6**, blue; **9**, clear) -XXX (lamp number 680, 683, or 715). Requires .190″/.186″ dia. round mounting hole.

CML No. CM25-X-XX-	Volts	Amps	M.S. C.P.	Aver. Life, Hrs.	Net Each, Lots of* 1-9	10-24	25-99
7201	1.5	.015*	.01†	5,000	$3.79	$3.01	$2.51
8846	3.0	.008*	.001†	16,000	3.79	3.01	2.51
2128	3.0	.0125*	.001†	16,000	3.79	3.01	2.51
7207	3.0	.060	.03	100,000	3.79	3.01	2.51
7210	5.0	.030	.03	75,000	3.79	3.01	2.51
6150	5.0	.060	.15	5,000	3.09	2.45	2.05
680	5.0	.060	.03	100,000	3.09	2.45	2.05
683	5.0	.060	.05	100,000	3.09	2.45	2.05
713	5.0	.075	.09	25,000	3.09	2.45	2.05
715	5.0	.115	.15	40,000	3.09	2.45	2.05
7218	10.0	.027	.10	10,000	3.82	3.03	2.53
7219	12.0	.060	.15	16,000	3.82	3.03	2.53
7220	18.0	.026	.15	16,000	3.82	3.03	2.53
6838	28.0	.024	.15	16,000	4.22	3.35	2.79

*±20%. †Nominal.

Base Only

CML Number	Net Each, Lots of* 1-9	10-24	25-99	100-249	250-499
CM25-1005	$1.15	$0.91	$0.76	$0.63	$0.55
CM25-1006	1.15	.91	.76	.63	.55

Cap Only

CML Number	1-9	10-24	25-99	100-249	250-499
CM25-1007-XX*	$0.39	$0.31	$0.26	$0.22	$0.19
CM25-1008-XX*	.39	.31	.26	.22	.19
CM25-1009-XX*	.39	.31	.26	.22	.19

*Replace **XX** with color indicators; see How to Order, above.

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ASK ABOUT NEW OR UNLISTED ITEMS.

CHICAGO MINIATURE/DRAKE

SUBSIDIARIES OF
GENERAL INSTRUMENT CORPORATION

Panel Indicators

CML SERIES CARTRIDGE INDICATORS

Cartridge housings with incandescent or neon lamps; cool operating temperatures for long life. Mount in cartridge holder, or panel mounting with speed clip (not included). Clear anodized aluminum housings, nylon insulation, transparent or translucent polycarbonate or butyrate (color matched to industrial standards) caps. Meet requirements of MIL-L-3661. Stainless steel pins are located off-center for polarization. Stainless steel pin terminals, or #24 AWG wire leads. Available with hot stamped legends; write for prices. **Body Size:** .284" dia. x .634" long.

HOW TO ORDER: Insert two interfixes in CML number, replacing **XX** shown in tables below. First interfix indicates cap style and terminal configuration: **1**, flush cap with wire leads; **2**, short cylindrical cap with wire leads; **3**, long cylindrical cap with wire leads; **4**, macrodome cap with wire leads; **5**, flush cap with pin terminals; **6**, short cylindrical cap with pin terminals; **7**, macrodome cap with pin terminals; **8**, long cylindrical cap with pin terminals. Second interfix indicates cap type: **1**, butyrate, transparent; **2**, butyrate, translucent; **3**, polycarbonate, transparent; or **4**, polycarbonate, translucent.

Also replace final **X** in CML no., to indicate cap color: **1**, red; **2**, green; **3**, amber; **4**, blue; **5**, white; **6**, yellow; or **7**, clear. Examples: CML-530077 has clear transparent flush cap, pin terminals, and 10 V, 14 mA lamp. CML-140431 has red translucent flush cap, wire lead terminals, and 3.0 V, 15 mA lamp. CML-830012 has green transparent long cylindrical cap, pin terminals and 0.3 mA, 1/25 watt neon lamp.

WITH T-1¾ INCANDESCENT LAMPS

CML Number* CML-	Volts	Amps	M.S. C.P., Approx.	Aver. Life, Hours	Net Each, Lots of* 1-9	10-24	25-99	100-249
XX017X	2.5	.20	.22	500	Use CMLXX018X			
XX018X	2.7	.06	.04	6,000	$2.95	$2.34	$1.95	$1.62
XX043X	3.0	.015	.004	10,000	Use CMLXX050X			
XX050X	.....	......	....	....	2.95	2.34	1.95	1.62
XX012X	6.0	.04	.03	10,000	Use CMLXX027X			
XX006X	6.0	.20	.63	1,000	Use CMLXX013X			
XX027X	6.3	.04	.02	50,000	2.59	2.05	1.71	1.42
XX019X	6.3	.075	.22	500	Use CMLXX027X			
XX013X	6.3	.20	.40	50,000	2.95	2.34	1.95	1.62
XX020X	6.3	.20	.55	3,000	Use CMLXX013X			
XX007X	10.0	.014	.002	10,000	2.81	2.23	1.86	1.54
XX008X	10.0	.04	.08	5,000	2.95	2.34	1.95	1.62
XX028X	14.0	.08	.30	50,000	2.59	2.05	1.71	1.42
XX009X	14.0	.08	.50	750	Use CMLXX028X			
XX010X	18.0	.04	.15	10,000	3.09	2.45	2.05	1.69
XX040X	28.0	.04	.20	50,000	2.30	1.83	1.53	1.26
XX029X	28.0	.04	.30	25,000	Use CMLXX040X			
XX011X	28.0	.04	.34	7,000	2.16	1.72	1.43	1.19

WITH NEON LAMPS (105-125 VAC)

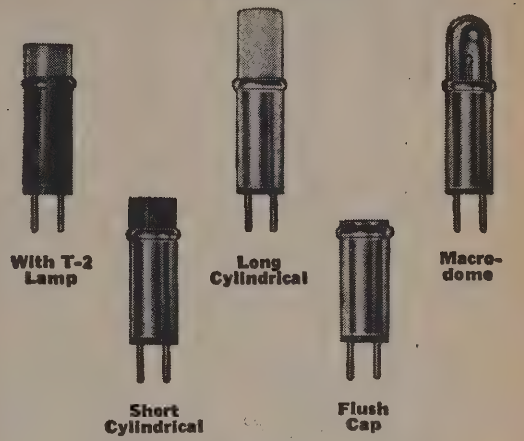
CML Number* CML-	Nominal mA	Nominal Watts	Built-in Resis.	Aver. Life, Hours	Net Each, Lots of* 1-9	10-24	25-99	100-249
XX001X	0.3	1/25	220K†	25,000	$2.95	$2.34	$1.95	$1.62
XX004X	0.8	1/10	68K†	25,000	2.95	2.34	1.95	1.62
	1.2‡	1/9	22K	2,000				
XX014X	1.7§	1/45	33K	5,000	Use CMLXX023X			
XX016X	2.0§	1/4	22K	14,000	4.55	3.61	3.01	2.49
XX022X	1.9§	1/4	30K†	25,000	2.30	1.83	1.53	1.26
XX023X	1.0§	1/10	56K	8,500	4.55	3.61	3.01	2.49
XX024X	0.7§	1/15	100K	25,000	Use CMLXX023X			
XX025X	0.7§	1/15	None	25,000	2.30	1.83	1.53	1.26
XX030X	0.9	1/8	47K	12,000	4.33	3.43	2.86	2.37
XX031X	0.35	1/16	150K	16,000	4.33	3.43	2.86	2.37
XX032X	0.3	1/25	220K	25,000	4.33	3.43	2.86	2.37
XX036X	0.7§	1/15	None	25,000	Use CMLXX025X			
XX042X	1.0§	1/10	56K	100,000#	Use CMLXX016X			

*See How To Order information above, and add two interfixes and suffix, as indicated. †Valve of external resistor required. ‡Not available in flush cap style. §Available only in long cylindrical and macrodome cap styles. #Over 100,000 hours.

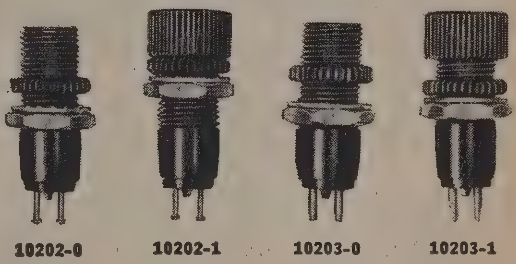
No. CML-10380 Cartridge Indicator Mounting Clip—For mounting CML series indicators directly in panel, in 9⁄32" clearance hole. Spring tempered steel. Net Each, Lots of 1-9 . . . . **14c***

No. CM21-3 Cartridge Indicator Connector—Accepts CML series indicators for low-cost mounting (not in panels). Phenolic body, cadmium plated brass contacts. Net Each, Lots of 1-9. **59c***

CML SERIES CARTRIDGE INDICATORS AND HIDE-A-LITES



CML SERIES CARTRIDGE HOLDERS



CML SERIES CARTRIDGE HOLDERS

Panel mounting holders for T-1¾ or T-2 lamps. Body, collar and facing nut are black anodized aluminum. Molded phenolic insulation. Turret terminals are spring brass, gold over nickel plate; solder cup terminals are spring brass, tintilate plate. Types 10202-1 and 10203-1 have 3⁄32" thick knurled collar nut. Mount in round or "D" hole, .375" dia., in panels to 1⁵⁄32" thick (when not using collar nut). Terminal pins are polarized.

CML Number CML-	Mounting	Terminals	Net Each, Lots of* 1-9	10-24	25-99	100-249	250-499
10202-0	Front/rear	Turret	$2.02	$1.61	$1.34	$1.11	$0.96
10202-1	Front	Turret	2.22	1.76	1.47	1.22	1.05
10203-0	Front/rear	Solder	2.02	1.61	1.34	1.11	.96
10203-1	Front	Solder	2.22	1.76	1.47	1.22	1.05

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CHICAGO MINIATURE/DRAKE

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SPECIALISTS IN DESIGN & MANUFACTURE OF MINIATURE ILLUMINATING, INDICATING AND ENERGY EMITTING DEVICES

This is a partial listing of miniature and subminiature lamps. Miniature lamps are most commonly used in numerous applications for panel indicators, aircraft, flashlight and radio or TV pilot lights. The subminiature lamps were specifically designed for modern, up-to-date special equipment such as computers, miniature switches, medical electronic equipment, aircraft, aerospace, etc. Many other uses are met where the ultimate in precision miniature lamp techniques is demanded. Engineered to military specifications, they are used as standards on many classified government projects and business machines. Lamps listed herein are the most popular types available from Chicago Miniature. If your application requires a special lamp or one not shown, send us your application needs. We will be pleased to submit our recommendations.

MINIATURE LAMPS

Lamp No.	Design		MSCP* Approx.	Base Fig.	Bulb	Net/10-Pack		
	V	A				1-9 Pkgs.	10-49 Pkgs.	50 Up Pkgs.
PR-2	2.38	.50	.80	G§	B-3½	$2.48	$2.17	$1.86
PR-3*	3.57	.50	1.50	G§	B-3½	2.56	2.24	1.92
PR-4	2.33	.27	.40	G§	B-3½	2.56	2.24	1.92
PR-6*	2.47	.30	.45	G§	B-3½	2.56	2.24	1.92
PR-7	3.70	.30	.90	G	B-3½	2.98	2.61	2.24
PR-12	5.95	.50	3.10	G§	B-3½	2.56	2.24	1.92
PR-13	4.75	.50	2.20	G§	B-3½	2.56	2.24	1.92
PR-16	12.5	.25	.27	G	B-3½	3.42	2.99	2.57
12	6.3	.15	.35	Q	G-3½	3.60	3.15	2.70
13*	3.7	.30	.98	H	G-3½	2.04	1.79	1.53
14*	2.47	.30	.50	H	G-3½	2.04	1.79	1.53
27*	4.9	.30	1.4	H	G-4½	3.48	3.05	2.61
40*	6.3	.15	.52	H	T-3¼	2.14	1.87	1.61
43	2.5	.50	.50	J	T-3¼	4.24	3.71	3.18
44*	6.3	.25	.90	J	T-3¼	2.08	1.82	1.56
45*	3.2	.35	.50	J	T-3¼	5.48	4.80	4.11
46*	6.3	.25	.90	H	T-3¼	2.40	2.10	1.80
47*	6.3	.15	.52	J	T-3¼	1.94	1.70	1.46
48	2.0	.06	.04	H	T-3¼	4.10	3.59	3.08
49	2.0	.06	.04	J	T-3¼	3.74	3.27	2.81
50	7.5	.22	1.0	H	G-3½	2.44	2.14	1.83
51*	7.5	.22	1.0	J	G-3½	1.78	1.56	1.34
53*	14.4	.12	1.0	J	G-3½	1.94	1.70	1.46
55*	7.0	.41	2.0	J	G-4½	2.64	2.31	1.98
57	14.0	.24	2.0	J	G-4½	2.38	2.08	1.79
67*	13.5	.59	4.0	K	G-6	2.60	2.28	1.95
68*	13.5	.59	4.0	L	G-6	3.58	3.13	2.69
82*	6.5	1.05	6.0	L	G-6	3.24	2.84	2.43
87*	6.8	1.91	15.0	K	S-8	9.24	8.09	6.93
88*	6.8	1.90	15.0	L	S-8	5.30	4.64	3.98
90*	13.0	.58	6.0	L	G-6	3.50	3.06	2.63
93*	12.8	1.04	15.0	K	S-8	3.76	3.29	2.82
94*	12.8	1.0	15.0	L	S-8	6.14	5.37	4.61
123	1.25	.30	10.0	H	G-3½	2.54	2.22	1.91
131*	1.3	.10	.03	H	G-3½	2.64	2.31	1.98
159	6.3	.15	3.8	R	T-3¼	3.18	2.78	2.39
209	6.5	1.78	15.0	K	B-6	7.36	6.44	5.52
222*	2.25	.25	....	H	GTL-3	3.46	3.03	2.60
224	2.15	.22	....	SP‡	GTL-2¾	6.86	6.00	5.15
233	2.33	.27	.42	H	G-3½	5.22	4.57	3.92
239	6.3	.36	.67	J	T-3¼	8.16	7.14	6.12
240	6.3	.36	.67	J	T-3¼	8.72	7.63	6.54
245	2.46	.50	.90	H	G-3½	3.48	3.05	2.61
252	2.5	.35	....	D	GTL-1¾	28.90	25.29	21.68
253X	2.5	.35	....	D	GTL-1¾	34.88	30.52	26.16
261	2.5	.35	....	B	GTL-1¾	56.24	49.21	42.18
301*	28.0	.17	3.0	K	G-5	8.78	7.68	6.59
304*	28.0	.30	6.0	L	G-6	9.02	7.89	6.77
305*	28.0	.51	15.0	K	S-8	10.14	8.87	7.61
307*	28.0	.66	21.0	K	S-8	8.04	7.04	6.03
309	28.0	.90	32.0	K	S-11	12.68	11.10	9.51
313*	28.0	.17	.35	J	T-3¼	4.46	3.90	3.35
323*	3.0	.19	.250	P	T-1¼	16.02	14.02	12.02
324	3.0	.19	.250	S	T-1¼	6.18	5.41	4.64
325	3.0	.19	.250	T‡	T-1¼	17.20	15.05	12.90
327*	28.0	.04	.340	D	T-1¾	4.56	3.99	3.42
328*	6.0	.20	.60†	D	T-1¾	4.00	3.50	3.00
330	14.0	.08	.500	D	T-1¾	6.62	5.79	4.97
331	1.35	.06	.01	D	T-1¾	9.26	8.10	6.94
334	28.0	.04	.340	B	T-1¾	7.42	6.49	5.57
337	6.0	.20	.60	B	T-1¾	8.24	7.21	6.18
344	10.0	.014	.002	B	T-1¾	9.70	8.48	7.27
346	18.0	.04	.15	B	T-1¾	9.26	8.10	6.95
363	14.0	.20	2.0	J	G-3½	3.20	2.80	2.40
370	18.0	.04	.15	D	T-1¾	10.49	9.18	7.87
375	3.0	.015	.003	D	T-1¾	11.40	9.97	8.55
376	28.0	.06	.340	D	T-1¾	9.94	8.70	7.46
380	6.3	.04	.020	D	T-1¾	7.06	6.18	5.29
381	6.3	.20	.40	D	T-1¾	8.48	7.42	6.36
386	14.0	.08	.30	B	T-1¾	9.66	8.45	7.24
387*	28.0	.04	.30	D	T-1¾	4.32	3.78	3.24
388	28.0	.04	.30	B	T-1¾	8.48	7.42	6.36
425	5.0	.50	2.3	H	G-4½	3.44	3.01	2.58
502	5.1	.15	.60	H	G-4½	2.14	1.87	1.61
503	5.1	.15	.60	J	G-4½	3.72	3.26	2.79
509K	24.0	.18	2.8	E	G-6	$5.80	$5.08	$4.35
958	5.5	2.00	14.0	L	G-16½	86.00	75.25	64.50
	6.0	.82	5.0					
965	9.8	.50	6.0	H	T-4½	13.82	12.09	10.37
1003	12.8	.94	15.0	K	B-6	3.70	3.24	2.78
1004	12.8	.94	15.0	L	B-6	3.70	3.24	2.78
1034	12.8	1.80	32.0	F	S-8	4.14	3.62	3.11
	14.0	.51	4.0					
1073*	12.8	1.80	32.00	K	S-8	4.84	4.24	3.63
1129*	6.4	2.63	21.00	K	S-8	6.44	5.64	4.83
1130*	6.4	2.00	21.00	L	S-8	9.56	8.37	7.17
1133*	6.2	3.91	32.00	K	RP-11	9.22	8.07	6.92
1141*	12.8	1.44	21.00	K	S-8	6.06	5.30	4.55
1142*	12.8	1.44	21.00	L	S-8	6.32	5.53	4.74
1143*	12.5	2.00	32.00	K	RP-11	12.14	10.62	9.11
1154*	6.4	2.63	21.00	F	S-8	7.94	6.95	5.96
	7.0	.75	3.0					
1184*	5.5	6.25	50.00	L	RP-11	16.32	14.28	12.24
1224	34.0	.16	3.8	E	G-6	11.20	9.80	8.40
1251*	28.0	.23	3.0	K	G-6	7.18	6.28	5.39
1252*	28.0	.23	3.0	L	G-6	8.52	7.46	6.39
1385*	28.0	.....	20W	K	R-12	37.46	32.78	28.10
1449	14.0	.20	2.0	H	G-3½	2.08	1.82	1.56
1458	20.0	.25	4.2	H	G-5	10.50	9.19	7.88
1471	12.0	.26	2.3	E	G-6	12.64	11.06	9.48
1477	24.0	.17	3.3	H	T-3	11.46	10.03	8.60
1483	6.0	.04	.10	H	G-4½	5.66	4.95	4.25
1487	14.0	.20	1.4	H	T-3¼	3.22	2.82	2.42
1488	14.0	.15	1.5	J	T-3¼	6.86	6.00	5.15
1489	6.5	2.75	25.0	K	T-5	54.52	47.71	40.89
1490	3.2	.16	.20	J	T-3¼	6.46	5.65	4.85
1493	6.5	2.80	23	L	S-8	16.36	14.32	12.27
1503	5.9	6.53	50	M	RP-11	34.00	29.75	25.50
1630	6.5	2.75	23.0	N	S-8	21.42	18.74	16.07
1705D	14.0	.08	.50	S	T-1¾	6.90	6.04	5.18
1728D	1.35	.06	.01	S	T-1¾	4.54	3.97	3.41
1738D	2.7	.06	.04	S	T-1¾	5.10	4.46	3.83
1764D	28.0	.04	.34	M	T-1¾	5.26	4.60	3.95
1767*	2.5	.20	.22	C	T-1¾	6.90	6.04	5.18
1768*	6.0	.20	.60	C	T-1¾	8.72	7.63	6.54
1783D	2.5	.20	.22	S	T-1¾	5.62	4.92	4.22
1813	14.4	.10	.86	J	T-3¼	3.44	3.01	2.58
1815*	14.0	.20	1.4	J	T-3¼	4.06	3.55	3.05
1816	13.0	.33	3.0	J	T-3¼	2.88	2.52	2.16
1819*	28.0	.04	.34	J	T-3¼	4.88	4.27	3.66
1820	28.0	.10	1.6	J	T-3¼	4.72	4.13	3.54
1821	28.0	.17	3.5	H	T-3¼	14.70	12.86	11.02
1822	36.0	.10	2.5	J	T-3¼	8.04	7.04	6.03
1828	37.5	.05	.65	J	T-3¼	8.60	7.53	6.45
1829*	28.0	.07	1.0	J	T-3¼	4.82	4.22	3.62
1835	55.0	.05	1.1	J	T-3¼	9.72	8.51	7.29
1847	6.3	.15	.38	J	T-3¼	2.30	2.01	1.73
1850	5.0	.09	.25	J	T-3¼	4.88	4.27	3.66
1855	6.3	.80	3.6	J	T-4½	7.38	6.46	5.54
1866	6.3	.25	.65	J	T-3¼	2.88	2.52	2.16
1869D	10.0	.014	.002	S	T-1¾	11.38	9.96	8.54
1891	14.0	.24	2.0	J	T-3¼	2.28	2.00	1.71
1892	14.4	.12	.75	J	T-3¼	3.26	2.85	2.45
1893	14.0	.33	2.0	J	T-3¼	2.36	2.07	1.77
2102D	18.0	.04	.15	S	T-1¾	9.00	7.88	6.75
2107D	10.0	.04	.08	S	T-1¾	6.24	5.46	4.68
2112D	6.3	.20	.55	S	T-1¾	7.68	6.72	5.76
2124D	2.5	.35	....	S	GTL-1¾	21.66	18.95	16.25
2158D	3.0	.015	.003	S	T-1¾	14.34	12.55	10.76
2162D	14.0	.088	.100	S	T-1¾	7.02	6.14	5.27
2180D	6.3	.04	.02	S	T-1¾	5.88	5.15	4.41
2181D	6.3	.20	.40	S	T-1¾	5.88	5.15	4.41
2182D	14.0	.08	.30	S	T-1¾	6.78	5.93	5.09
2185D	28.0	.04	.20	S	T-1¾	6.06	5.30	4.54
2187D	28.0	.04	.30	S	T-1¾	5.14	4.49	3.85

*Mean Spherical Candlepower is the measurement of the total integrated light output of the lamp operated at design voltage. †At 5 volts. ‡Special, not illustrated. ***See following page for MS numbers.** §Single Contact.

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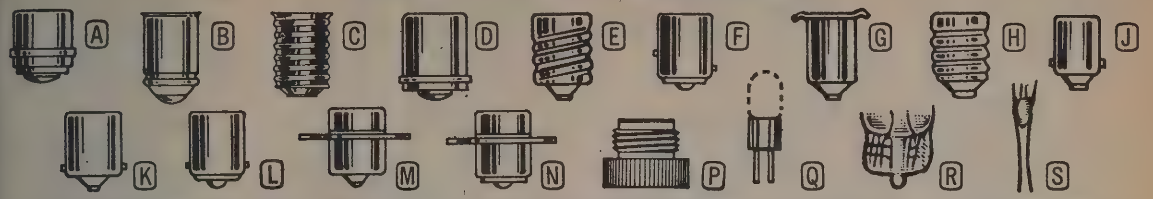
BASE STYLES FOR CHICAGO MINIATURE LAMPS



(A) Sub-Midget Flanged, **(B)** Midget Grooved, **(C)** Midget Screw, **(D)** Midget Flanged, **(E)** Candelabra, **(F)** DC Bayonet Index, **(G)** Miniature Flange, **(H)** Miniature Screw, **(J)** Miniature Bayonet, **(K)** SC Bayonet, **(L)** DC Bayonet, **(M)** SC Prefocus, **(N)** DC Prefocus, **(P)** Threaded Knurled, **(Q)** Bi-Pin, **(R)** Wedge, **(S)** Wire Terminal. (SC for Single Contact; DC for Double Contact.)

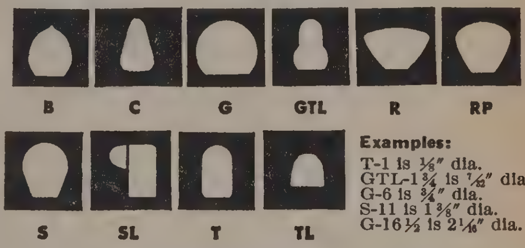
MINIATURE AND SUBMINIATURE LAMPS

Lamp No.	Design V	Design A	MSCP* Approx.	Base Fig.	Bulb	Net/10-Pack 1-9 Pkgs.	Net/10-Pack 10-49 Pkgs.	Net/10-Pack 50 Up Pkgs.
313	28.0	.17	3.5	J	T-3¼	$4.46	$3.90	$3.35
334	28.0	.04	.340	B	T-1¾	7.42	6.49	5.57
335	28.0	.04	.34	C	T-1¾	7.96	6.96	5.97
336	14.0	.08	.50	B	T-1¾	7.84	6.86	5.88
338	2.7	.06	.04	D	T-1¾	7.60	6.65	5.70
345	6.0	.04	.03	D	T-1¾	8.72	7.63	6.54
349	6.3	.20	.55	D	T-1¾	7.31	6.39	5.48
367	10.0	.04	.08	D	T-1¾	11.02	9.65	8.27
CM8-363	28.0	.04	....	S	TL-1½	13.42	11.74	10.07
CM8-373	2.5	.35	....	B	TL-1¾	26.14	22.87	19.61
CM8-374	2.5	.35	....	S	TL-1¾	23.42	20.49	17.57
380	6.3	.04	.020	D	T-1¾	7.06	6.18	5.29
381	6.3	.20	.40	D	T-1¾	8.48	7.42	6.36
382	14.0	.08	.30	D	T-1¾	7.38	6.45	5.53
399	28.0	.04	.30	C	T-1¾	10.46	9.15	7.85
CM8-428	5.0	.18	.35	D	T-1¾	47.90	41.91	35.93
CM8-503	6.3	.35	....	J	TL-2¾	75.32	65.91	56.49
634D	6.0	.20	.63	S	T-1¼	10.94	9.57	8.21
680*	5.0	.06	.03	S	T-1	9.00	7.87	6.75
682*	5.0	.06	.03	A	T-1	15.50	13.56	11.63
683*	5.0	.06	.05	S	T-1	9.86	8.62	7.39
685*	5.0	.06	.05	A	T-1	18.68	16.35	14.01
713*	5.0	.075	.09	S	T-1	9.42	8.24	7.06
714*	5.0	.075	.09	A	T-1	18.68	16.35	14.01
718*	5.0	.115	.15	A	T-1	14.74	12.89	11.05
755	6.3	.15	.33	J	T-3¼	4.02	3.52	3.02
757	28.0	.08	.62	J	T-3¼	5.92	5.18	4.44
965	9.8	.50	6.0	H	T-4½	13.82	12.09	10.37
CM8-967	120	.025	.36	J	T-2	20.52	17.69	15.39
6803	5.0	.06	.03	S	T-¾	15.18	13.28	11.38
6833	5.0	.06	.05	S	T-¾	15.18	13.28	11.38
6839	28.0	.024	.15	A	T-1	34.22	29.94	25.66
7153	5.0	.115	.15	S	T-¾	17.36	15.19	13.02
7216•	5.0	.125	.22	S	T-1	28.52	24.96	21.39
8610•	6.3	.20	.55	S	T-1¼	10.32	9.03	7.74
8627	28.0	.04	.32	S	T-1¼	12.88	11.27	9.66
8628•	6.0	.20	.63	D	T-1¼	18.66	16.33	14.00
8631•	1.35	.06	.006	D	T-1¼	14.34	12.55	10.76
8632	28.0	.04	.32	‡	T-1¼	21.02	18.39	15.77
8635	28.0	.04	.32	§	T-1¼	22.88	20.02	17.16
8637•	3.0	.19	.25	D	T-1¼	21.64	18.94	16.23
8640•	14.0	.08	.50	S	T-1¼	10.48	9.17	7.86
8666	5.0	.08	.15	S	T-1¾	27.80	24.33	20.85
8805D•	5.0	.06	.03	A	T-1¾	6.14	5.37	4.61

*Mean Spherical Candlepower. †Silvered base. ‡Special midget flanged, not illus. §Special screw, not illus. •New vs. former No.: 7216 = CM8-715F1; 8610 = CM8-610; 8628 = CM8-628; 8631 = CM8-631; 8637 = CM8-637; 8640 = CM8-640; 8805 = CM8-805; 276 = 334LSV.

BULB SHAPES AND SIZES

The bulb is the glass envelope which houses the lamp filament assembly, and contains the vacuum or gas seal. A letter and number identifies bulb shape and approximate bulb diameter in eighths of an inch. Popular bulb shapes are:



Examples:
T-1 is ⅛" dia.
GTL-1¾ is 7/32" dia.
G-6 is ¾" dia.
S-11 is 1⅜" dia.
G-16½ is 2 1/16" dia.

CM7 SERIES BI-PIN LAMPS

Lamp No. CM7-	Design Volts	Design Amps	MSCP* Approx.	Base Fig.	Bulb	Net/10-Pack 1-9 Pkgs.	Net/10-Pack 10-49 Pkgs.	Net/10-Pack 50 Up Pkgs.
7327	28.0	.04	.34	Q	T-1¾	$ 6.22	$ 5.44	$ 4.67
7328	6.0	.20	.60	Q	T-1¾	6.58	5.76	4.94
7330	14.0	.08	.50	Q	T-1¾	6.70	5.86	5.03
7838	2.7	.06	.04	Q	T-1¾	7.34	6.42	5.51
7375	3.0	.015	.003	Q	T-1¾	8.22	7.19	6.17

*Mean Spherical Candlepower.

STANDARD VOLTAGE LAMPS

Lamp No.	Design Volts	Design Watts	Base Fig.	Bulb	Net Each
3S6/5	120–125	3	E	S-6	$1.394
6S6	115–125	6	E	S-6	5.12
6S6	130	6	E	S-6	.596
6S6	145	6	E	S-6	1.392
6S6DC	120	6	L	S-6	.852
6T4121	115–125	6	E	T-4½	1.584
7C7	115–125	7	E	C-7	.440
10C7	115–125	10	E	C-7	.752
10S6C	230	10	E	S-6	1.584

NEON GLOW LAMPS

Cold-cathode gas discharge type lamps. Neon gas ionizes and glows when voltage is applied. Lamp 83(5AH) is a circuit glow lamp; all others are neon indicator lamps.

Lamp No. NE-§	Design Volts	Design W	A	Base Fig.	Bulb	Net/10-Pack 1-99 Pkgs.	Net/10-Pack 100-499 Pkgs.	Net/10-Pack 500Up Pkgs.
2(A1A)	105–125	1/17	0.5	S	T-2	$1.77	$ 1.49	$1.18
2D(C7A)*	105–125	1/12	0.7	D‡	T-2	9.52	8.00	6.45
2H(C2A)	105–125AC	1/4	1.9	S	T-2	1.41	1.19	.95
45(B7A)	105–125	1/4	2.0	E	T-4½	13.50	11.40	9.20
48(B9A)	105–125	1/4	2.0	L	T-4½	11.00	9.23	7.45
51(B1A)	105–125	1/25	0.3	J	T-3¼	3.88	3.26	2.64
51H(B2A)	105–125AC	1/7	1.2	J	T-3¼	3.88	3.26	2.64
83(5AH)	60–65	.....	10.0	S	T-2	3.41	2.86	2.31

§Numbers in parentheses are ASA (American Standards Association) numbers. ‡Single contact.

★MILITARY (MS) EQUIVALENTS

Lamp No.	MS Number	Lamp No.	MS Number	Lamp No.	MS Number	Lamp No.	MS Number	Lamp No.	MS Number	Lamp No.	MS Number	Lamp No.	MS Number
PR-3	15610-2	**46**	15536-1	**88**	15584-1	**313**	25231-313	**1133**	15565-1	**1385**	35480-2	**683‡**	24367-683‡
PR-6	15610-1	**47**	15571-2	**90**	15569-4	**323**	25236-323	**1141**	35478-4	**1491**	15568-1	**685‡**	24515-685‡
13	15611-1	**51**	15573-1	**93**	35478-93	**327**	25237-327	**1142**	15584-4	**1767**	15612-3	**713‡**	24367-713‡
14	15611-3	**53**	15573-3	**94**	15584-2	**328**	25237-328	**1143**	15565-3	**1768**	15612-1	**714‡**	24515-714‡
27	15587-1	**55**	15572-1	**131**	15611-4	**365**	15611-2	**1154**	35481-1	**1815**	15571-8	**715‡**	24367-715‡
31	15587-2	**64**	15569-1	**222**	28798-222	**387**	18209	**1158**	15584-13	**1819**	15571-6	**718‡**	24515-718‡
40	15536-4	**67**	15570-4	**301**	25238-301	**1016**	35481-2	**1184**	15564-1	**1829**	25231-1829	**NE2D (C7A)**	25257-C7A (NE-2D)
42	15536-3	**68**	15569-6	**304**	15569-8	**1073**	35478-1073	**1240**	15618-5	**10C7DC**	16123		
44	15571-1	**82**	15569-3	**305**	35478-305	**1129**	35478-1129	**1251**	*	**680‡**	24367-680‡		
45	15571-11	**87**	35478-87	**307**	35478-307	**1130**	15584-3	**1252**	15569-7	**682‡**	24515-682‡		

*15570-1251. ‡Also AS15 (aged and selected with candlepower indicated) versions; e.g., 680AS15 = 24367-680AS15.

DIALIGHT Indicator Lights

DIALCO®

95-0408

81-0410

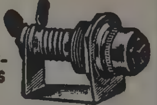
32-4001

103-3101-1331

103-3101-1211

125-0408

502-3214


502-8136

NEON SERIES 95-0408, 52-0408, & SERIES 135-0408

Now also available with new High Brightness B2A Neon Glow Lamp. Have Patented Built-In Resistor.

Series 95—Two types available: Series 95-0408 enclosed neon indicator light has 56K-ohm, ⅓-watt resistor built-in for use with the regular B1A neon lamp on 105–125 volt circuit. Series 95-0463 has built-in 22K-ohm resistor for use with new B2A high brightness neon lamp on 110–125 VAC circuits. Rugged design; resistor fully insulated in molded phenolic. Plastic head gives 180° light spread. Mounting bushing is black nickel plated. Solder terminals. Size: 2¹⁄₁₆″ long, ¹⁵⁄₁₆″ O.D.; mounts in ¹¹⁄₁₆″ hole in panels up to ⅜″ thick. UL and CSA Listed. Meets requirements of MIL-L-3661A. **Series 52-0408** same as 95-0408 and **52-0463** same as 95-0463, but with internally fluted stovepipe lens. **Series 135-0408** same as 95-0408 and **135-0463** same as 95-0463, but with cylindrical (screw-in) lens. Shpg. Wt., 3 oz. Less lamp.

Net Each, 1–9 .... **$2.16**
Net Each, 10–24 . **$1.81**; 25–99 . **1.65**

WITH 56K-OHM RESISTOR

	Dialco No.†		
*	95-0408-	52-0408-	135-0408-
R	0931-241	0991-241	1431-241
A	0933-241	0993-241	1433-241
W	0935-241	0995-241	1435-241
C	0937-241	0997-241	1437-241

WITH 22K-OHM RESISTOR

	Dialco No.†		
*	95-0463-	52-0463-	135-0463-
R	0931-211	0991-211	1431-211
A	0933-211	0993-211	1433-211
W	0935-211	0995-211	1435-211
C	0937-211	0997-211	1437-211

*Lens: R, red; A, amber; W, white; C, clear. †Black nickel finish as listed; for polished chrome finish change 11th digit to 3 (e.g., 95-0408-0931-341).

INCANDESCENT SERIES 81-0410 SERIES 95-0410, 52-0410

Series 81-0410—For use with T-3¼ bulb, miniature bayonet base incandescent, for 2–55 V circuits. Replaceable from front of panel. Aviation type assembly with socket shell encased in molded phenolic. Smooth face lenses in ½″ brass lens holder. Black nickel bushing on all assemblies. Also black nickel holder on 81-Series. Solder terminals. Size: 2¼″ lg., ¹⁵⁄₁₆″ O.D.; mounts in ¹¹⁄₁₆″ hole in panels up to ⅜″ thick. UL and CSA Listed. Meets MIL-L-3661A requirements.

Net Each, 1–9 .... **$2.19**
Net Each, 10–24 . **$1.95**; 25–99 . **1.74**

Series 95-0410 and **52-0410**—Same as 81-0410, but ⅝″ plastic stovepipe lens. Series 52-0410 lens is internally fluted. Wt., 3 oz. Less lamp. **For polished chrome finish** change third-from-last digit to 3 (e.g., 81-0410-0111-301). Net Ea., 1–9 . . **$1.85**
Net Each, 10–24 . **$1.57**; 25–99 . **1.39**

*	Convex No. 81-0410-	Stovepipe No. 95-0410-	Fluted No. 52-0410-
R	0111-201	0971-201	0991-201
G	0112-201	0972-201	0992-201
A	0113-201	0973-201	0993-201
W	0135-201†	0975-201	0995-201

*Lens: R—red, G—green, A—amber, W—white. †Translucent unfrosted lens.

ENCLOSED ASSEMBLIES ONE-INCH SERIES 32-4001

Series for use with S-6 incandescent bulbs with candelabra screw base for 6–125 volt circuits. Lamp replaceable from front of panel. Faceted lens in choice of colors with friction-fit lens holder of polished chrome; white nickel plated mounting bushing. Iridite coated, cadmium plated steel hex nut and split lockwasher. Solder terminals. Size, 2²⁵⁄₃₂″ long, 1³⁄₁₆″ O.D.; mounts in 1″ hole. UL and CSA Listed. Shpg. Wt., 4 oz. Less lamp.

Dialco Nos. 32-4001-0431-302 (Red), **32-4001-0432-302** (Green), **32-4001-0433-302** (Amber) or **32-4001-0437-302** (Clear)—Same, but with convex back frosted lens.

Dialco Nos. 32-4001-0111-302 (Red), **32-4001-0112-302** (Green), **32-4001-0113-302** (Amber), **32-4001-0117-302** (Clear).

Net Each, 1–9 .... **$2.66**
Net Each, 10–24 . **$2.45**; 25–99 . **2.21**

1″ OIL-TIGHT SERIES

For Heavy Duty Industrial Applications

Enclosed rugged design gasketed with oil-proof gaskets impervious to oil, water and dust. Rugged binding screw terminals. Caps unscrew from face of panel. One-piece, solid brass mounting bushing; solid brass knurled lens holder; chrome finish. Lens gives omnidirectional (180°) light spread. High impact phenolic insulation. Size, 1⅞″ long, 1³⁄₁₆″ O.D. Mounts in 1″ clearance hole. Shpg. Wt., 3 oz., average. Less lamp.

Screw Base Types—Net Ea., 1–9 . . **$4.97**
Net Each, 10–24 . **$4.47**; 25–99 . **4.02**
Bayonet Base Types—Net, 1–9 . . . **5.46**
Net Each, 10–24 . **$4.92**; 25–99 . **4.42**

FOR 6S6 INCANDESCENT LAMPS

Torpedo Faceted Lens

For Screw Base	*	For Bayonet Base
103-3101-1331-403	R	103-3502-1331-403
103-3101-1332-403	G	103-3502-1332-403
103-3101-1333-403	A	103-3502-1333-403
103-3101-1334-403	B	103-3502-1334-403
103-3101-1335-403	W	103-3502-1335-403
103-3101-1336-403	Y	103-3502-1336-403
103-3101-1337-403	C	103-3502-1337-403
Dome Type Lens (Frosted Back)		
103-3101-1211-403	R	103-3502-1211-403
103-3101-1212-403	G	103-3502-1212-403
103-3101-1213-403	A	103-3502-1213-403
103-3101-1214-403	B	103-3502-1214-403
103-3101-1235-403	W	103-3502-1235-403
103-3101-1216-403	Y	103-3502-1216-403
103-3101-1217-403	C	103-3502-1217-403

*R–Red; G–Green; A–Amber; B–Blue; W–Translucent, unfrosted white; Y–Yellow; C–Clear.

FOR NEON GLOW LAMPS

Dome Type Lens

For use with B7A candelabra screw base lamps. Resistor built into lamp base. Size, 2⁷⁄₃₂″ long, 1³⁄₁₆″ O.D. Fits 1″ clearance hole. Shpg. Wt., 3 oz. Less lamp.

Dialco No.	Lens Color	Net Ea., Lots	
		1-9	10-24
103-3114-1231-403	Red	$4.81	$4.33
103-3114-1233-403	Amber	4.81	4.33
103-3114-1236-403	Yellow	4.81	4.33
103-3114-1237-403	Clear	4.81	4.33
103-3114-1217-403	Clear*	4.81	4.33

*Frosted back.

11/16″ OIL-TIGHT SERIES

Stovepipe Lenses—Fluted or Plain

With built-in resistor. Size, 2⁹⁄₆₄″ long, ¹⁵⁄₁₆″ O.D. Mounts in ¹¹⁄₆₄″ diameter hole. Shipping Weight, 2 oz. Less lamp.

FOR B1A NEON GLOW LAMP

Any model. Net Each, 1–9 .... **$3.56**
Net Each, 10–24 . **$3.22**; 25–99 . **2.92**

Fluted Lens	*	Plain Lens
125-0408-1191-443	R	125-0408-1131-443
125-0408-1193-443	A	125-0408-1133-443
125-0408-1196-443	Y	125-0408-1136-443
125-0408-1197-443	C	125-0408-1137-443
....	CL	125-0408-1117-443

11/16″ OIL-TIGHT SERIES (CONT'D)

FOR B2A NEON GLOW LAMP

Any model. Net Each, 1–9 .... **$3.56**
Net Each, 10–24 . **$3.22**; 25–99 . **2.92**

Fluted Lens	*	Plain Lens
125-0463-1191-413	R	125-0463-1131-413
125-0463-1193-413	A	125-0463-1133-413
125-0463-1195-413	W†	125-0463-1135-413
125-0463-1196-413	Y	125-0463-1136-413
125-0463-1197-413	C	125-0463-1137-413

FOR LOW-VOLTAGE T-3¼ MINIATURE BAYONET BASE LAMP

Any model. Net Each, 1–9 .... **$3.32**
Net Each, 10–24 . **$3.07**; 25–99 . **2.77**

Fluted Lens	*	Frosted Lens
125-0410-1191-403	R	125-0410-1111-403
125-0410-1192-403	G	125-0410-1112-403
125-0410-1193-403	A	125-0410-1113-403
125-0410-1194-403	B	125-0410-1114-403
125-0410-1195-403	W	125-0410-1135-403†
125-0410-1196-403	Y	125-0410-1116-403
125-0410-1197-403	C	125-0410-1117-403

*R–Red; G–Green; A–Amber; B–Blue; W–White; Y–Yellow; C–Clear; Cl–Frosted back, clear. †Translucent unfrosted.

OPEN SOCKET ASSEMBLIES SERIES 502-3214

ONE-INCH REMOVABLE JEWEL

Candelabra base, 115 volt pilot light assembly with faceted jewel in highly polished chrome plated brass holder. For standard bulbs. Requires 1″ mounting hole. Solder terminals. Easily adjusted to panel. Secured to panel by separate bushings into which the lens holders are a friction fit, permitting removal for lamp replacement. **Dialco Nos. 502-3214-0431-302** (Red), **502-3214-0432-302** (Green) or **502-3214-0433-302** (Amber)—Net Each, 1–9 ..... **$2.08**
Net Each, 10–24 . **$1.86**; 25–99 . **1.69**

SERIES 502-8136, -8137

HALF-INCH REMOVABLE JEWEL

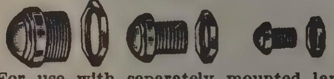
For operation with low volt, miniature bayonet and miniature screw base, incandescent lamps. Has white nickel finish. Requires ¹¹⁄₁₆ in. mounting hole. Faceted lens. Solder terminals. Effective lens diameter ½″. All brackets are insulated from the live terminals. Unit secured by separate bushings; caps may be removed easily for access to the lamps. Less bulb.

Any model. Net Each, 1–9 .... **$1.38**
Net Each, 10–24 .... **1.21**

Bayonet Base	*	Screw Base
502-8136-2131-102	R	502-8137-2131-102
502-8136-2132-102	G	502-8137-2132-102
502-8136-2133-102	A	502-8137-2133-102

*R–Red; G–Green; A–Amber.

LENSES IN THREADED HOLDERS FOR PANEL MOUNTING



For use with separately mounted lamp sockets. All-purpose smooth jewels in polished chrome-plated brass holders for up to ⁹⁄₃₂″ panels, ¾″, ½″ and ¹¹⁄₃₂″ diameters—requiring ¹¹⁄₁₆″, ⁷⁄₁₆″ and ⁹⁄₃₂″ holes, respectively for mounting. Shpg. Wt., 2 oz.

Dialco Nos. 514-2512-0111-302 (Red), **514-2512-0112-302** (Green), **514-2512-0113-302** (Amber)—Net Each, 1–9 .... **$1.39**
Net Each, 10–24 . **$1.27**; 25–99 . **1.16**

Dialco Nos. 514-1012-0621-102 (Red), **514-1012-0622-102** (Green), **514-1012-0623-102** (Amber)—Net Each, 1–9 .... **$0.46**
Net Each, 10–24 . **$0.43**; 25–99 . **.38**

Dialco Nos. 514-0512-0621-102 (Red), **514-0512-0622-102** (Green), **514-0512-0623-102** (Amber)—Net Each, 1–9 .... **$0.46**
Net Each, 10–24 . **$0.43**; 25–99 . **.38**

DIALIGHT LED Indicator Lights

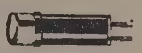
DIALCO®

SERIES 249

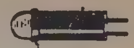
Cylindrical

Stovepipe

SERIES 507


Cylindrical

Datalamp Holder


Stovepipe

249 SERIES ULTRAMINIATURE INDICATOR LIGHTS WITH RED, GREEN OR YELLOW DIODE-LITES (LED)

Complete solid state indicator package consisting of light source, housing and lens, ready for permanent panel mounting. Light source is a solid state (LED) lamp that provides the advantages of low power with extremely long life measured in years. Compatible with IC's (can be driven directly by RTL, DTL and TTL logic). Unique lens design uses an internal fresnel ring to assure maximum distribution of the light output. Positive terminal is marked "+" for proper installation. Mounting bushing and flange ring are black anodized aluminum; terminals are low carbon steel, solder plated; lens is high strength plastic. Size: ⅞" behind panel (including 3⁄16" terminals); ⅜"-32 threaded body with ½" hex nut; fits panels to 5⁄16" thick. Lens, 9⁄32" dia. x 3⁄16".

SERIES 249 WITH RED LED

VDC at 20 mA	Lens Color	Dialco Lens No.		Net Each, 1-9*
		Short Cylindrical	Short Stovepipe	
3.6	Red	249-7867-3331-504	249-7867-3731-504	$3.12
3.6	White	249-7867-3335-504	249-7867-3735-504	3.12
3.6	Clear	249-7867-3337-504	249-7867-3737-504	3.12
5	Red	249-7868-3331-504	249-7868-3731-504	3.12
5	White	249-7868-3335-504	249-7868-3735-504	3.12
5	Clear	249-7868-3337-504	249-7868-3737-504	3.12
6	Red	249-7869-3331-504	249-7869-3731-504	3.12
6	White	249-7869-3335-504	249-7869-3735-504	3.12
6	Clear	249-7869-3337-504	249-7869-3737-504	3.12
10	Red	249-7870-3331-504	249-7870-3731-504	3.12
10	White	249-7870-3335-504	249-7870-3735-504	3.12
10	Clear	249-7870-3337-504	249-7870-3737-504	3.12
14	Red	249-7871-3331-504	249-7871-3731-504	3.12
14	White	249-7871-3335-504	249-7871-3735-504	3.12
14	Clear	249-7871-3337-504	249-7871-3737-504	3.12
28	Red	249-7872-3331-504	249-7872-3731-504	3.38
28	White	249-7872-3335-504	249-7872-3735-504	3.38
28	Clear	249-7872-3337-504	249-7872-3737-504	3.38

SERIES 249 WITH GREEN LED

Green white or clear transparent lens available. To order white or clear transparent lens use Part Nos. listed above for Series 249 with red LED and change 4th and 5th digits from 78 to 79 (e.g., 249-7967-3335-504). For green transparent lens use following Part Nos.:

VDC	Short Cylindrical	Short Stovepipe
3.6	249-7967-3332-504	249-7967-3732-504
5	249-7968-3332-504	249-7968-3732-504
6	249-7969-3332-504	249-7969-3732-504
10	249-7970-3332-504	249-7970-3732-504
14	249-7971-3332-504	249-7971-3732-504
28	249-7972-3332-504	249-7972-3732-504

SERIES 249 WITH YELLOW LED

Yellow, white or clear transparent lens available. To order white or clear transparent lens use Part Nos. listed above for Series 249 with red LED and change 4th and 5th digits from 78 to 80 (e.g., 249-8067-3335-504). For yellow transparent lens use following Part Nos.:

VDC	Short Cylindrical	Short Stovepipe
3.6	249-8067-3333-504	249-8067-3733-504
5	249-8068-3333-504	249-8068-3733-504
6	249-8069-3333-504	249-8069-3733-504
10	249-8070-3333-504	249-8070-3733-504
14	249-8071-3333-504	249-8071-3733-504
28	249-8072-3333-504	249-8072-3733-504

★QUANTITY PRICING

249 AND 507 SERIES WITH RED LED

Series	VDC	Net Each, Lots of						
		1-9	10-24	25-99	100-249	250-499	500-999	1000-2499
249	3.6–14	$3.12	$2.71	$2.42	$2.21	$2.04	$1.87	$1.71
249	28	3.38	2.94	2.63	2.39	2.21	2.05	1.86
507	3.6–14	2.16	1.88	1.67	1.52	1.41	1.29	1.18
507	28	2.39	2.07	1.84	1.68	1.54	1.43	1.30

249 AND 507 SERIES WITH GREEN OR YELLOW LED

Series	VDC	1-9	10-24	25-99	100-249	250-499	500-999	1000-2499
249	3.6–14	$3.42	$2.97	$2.66	$2.43	$2.23	$2.07	$1.88
249	28	3.71	3.23	2.89	2.64	2.43	2.25	2.06
507	3.6–14	2.39	2.07	1.85	1.68	1.54	1.43	1.30
507	28	2.62	2.28	2.05	1.84	1.70	1.56	1.44

Cartridge Connector—Ask for No. **515-0050** or **515-0012.**
Speed Clip—Ask for No. **515-0051.**

507 SERIES DATALAMP CARTRIDGES WITH RED, GREEN OR YELLOW SOLID STATE DIODE-LITES

Light source is a solid state lamp that provides the advantages of low power with extremely long life and reliability. IC compatible; interchangeable with standard incandescent cartridges. Oper. temperature, −55° to +60° C. For operation directly from RTL, DTL or TTL logic, the 10 mA cartridge is recommended; for optimum brightness, the 20 mA cartridge is recommended. Unique lens design features an internal fresnel ring to assure maximum distribution of light output. Polarity is marked on housing; terminal base is keyed. Housing is black anodized aluminum for high contrast; connections are stainless steel pins mounted in nylon insulated header, offset for polarization; lens is high strength plastic, permanently attached. Cartridge may be mounted with Datalamp Holder or cartridge connector with speed clip (listed below). Size, .284" dia. x 1.140" max. overall (including .203" terminals).

20 mA DATALAMP CARTRIDGES WITH RED LED

VDC	Lens Color	Dialco Lens No.		Net Each, 1-9*
		Short Cylindrical	Short Stovepipe	
3.6	Red	507-4756-3331-500	507-4756-3731-500	$2.16
3.6	White	507-4756-3335-500	507-4756-3735-500	2.16
3.6	Clear	507-4756-3337-500	507-4756-3737-500	2.16
5	Red	507-4757-3331-500	507-4757-3731-500	2.16
5	White	507-4757-3335-500	507-4757-3735-500	2.16
5	Clear	507-4757-3337-500	507-4757-3737-500	2.16
6	Red	507-4758-3331-500	507-4758-3731-500	2.16
6	White	507-4758-3335-500	507-4758-3735-500	2.16
6	Clear	507-4758-3337-500	507-4758-3737-500	2.16
10	Red	507-4759-3331-500	507-4759-3731-500	2.16
10	White	507-4759-3335-500	507-4759-3735-500	2.16
10	Clear	507-4759-3337-500	507-4759-3737-500	2.16
14	Red	507-4760-3331-500	507-4760-3731-500	2.16
14	White	507-4760-3335-500	507-4760-3735-500	2.16
14	Clear	507-4760-3337-500	507-4760-3737-500	2.16
28	Red	507-4761-3331-500	507-4761-3731-500	2.39
28	White	507-4761-3335-500	507-4761-3735-500	2.39
28	Clear	507-4761-3337-500	507-4761-3737-500	2.39

20 mA DATALAMP CARTRIDGES WITH GREEN LED

Green, white or clear transparent lens available. To order white or clear transparent lens use Part Nos. listed above for Series 507 with red LED and change 4th and 5th digits from 47 to 48 (e.g., 507-4856-3335-500). For green transparent lens use following Part Nos.:

VDC at 20 mA	Short Cylindrical	Short Stovepipe
3.6	507-4856-3332-500	507-4856-3732-500
5	507-4857-3332-500	507-4857-3732-500
6	507-4858-3332-500	507-4858-3732-500
10	507-4859-3332-500	507-4859-3732-500
14	507-4860-3332-500	507-4860-3732-500
28	507-4861-3332-500	507-4861-3732-500

20 mA DATALAMP CARTRIDGES WITH YELLOW LED

Yellow, white or clear transparent lens available. To order white or clear transparent lens use Part Nos. listed above for Series 507 with red LED and change 4th and 5th digits from 47 to 49 (e.g., 507-4956-3335-500). For yellow transparent lens use following Part Nos.:

VDC at 20 mA	Short Cylindrical	Short Stovepipe
3.6	507-4956-3333-500	507-4956-3733-500
5	507-4957-3333-500	507-4957-3733-500
6	507-4958-3333-500	507-4958-3733-500
10	507-4959-3333-500	507-4959-3733-500
14	507-4960-3333-500	507-4960-3733-500
28	507-4961-3333-500	507-4961-3733-500

Series 507 Datalamp Cartridges also available at 10 mA. Write for complete information.

DATALAMP HOLDERS FOR 507 SERIES

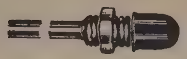
Black anodized mtg. bushing, collar, flange nut; gold plated phosphor bronze terminals. Series 508 has collar (33⁄64" dia. x 9⁄32"); extends 57⁄64" behind panel. Series 250 has no collar, extends 1 1⁄32". Mount in ⅜" hole in panels to 5⁄32" thick.

Dialco No.	Terminals	Net Each, Lots of						
		1-9	10-24	25-99	100-249	250-499	500-999	1000-2499
508-8738-504	Turret	$2.10	$1.73	$1.51	$1.25	$1.13	$1.02	$0.91
508-7538-504	Cup†	2.10	1.73	1.51	1.25	1.13	1.02	.91
508-7438-504	Blade†	1.75	1.43	1.23	1.05	.97	.85	.77
508-9038-504	Taper*	3.45	2.89	2.61	2.24	2.08	1.86	1.60
250-8738-14-504	Turret	1.90	1.56	1.37	1.13	1.05	.92	.85
250-7538-14-504	Cup†	1.90	1.56	1.37	1.13	1.05	.92	.85
250-7438-14-504	Blade†	1.53	1.25	1.08	.91	.81	.72	.66
250-9038-14-504	Taper*	3.25	2.72	2.46	2.10	2.01	1.77	1.53
515-0051	Speed Clip	.18	.15	.13	.08	.07	.06	.05
515-0012	Connector	1.06	.85	.71	.59	.50	.45	.42

*Amp "53" taper pin receptacle. †Solder type.

DIALIGHT Indicator Lights

DIALCO®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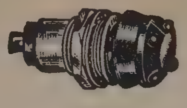
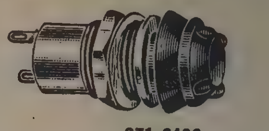

270-1930


271-8430

SUB-SUBMINIATURE SERIES 252-9951

Reliable T-1 filament lamp enclosed in stovepipe, high-impact, translucent plastic lens molded to mounting bushing. Stainless steel housing. Steel, cadmium-plated mounting nut with chromate coating. Moisture and dust proof. High-temperature, Type E wire leads with silver-plated, stranded #26 copper conductor and fluorocarbon insulation. Anti-rotation (locked) construction. Long-life lamp, 60,000 hrs. at 5 volts. Requires only .193″ panel mounting hole Conforms to MIL-L-3661B Size, 7/32″ dia x 35/64″ long (less terminal length).

Dialco Nos. 252-9951-0971 (Red), **252-9951-0972** (Green), **252-9951-0973** (Amber), **252-9951-0974** (Blue), **252-9951-0975** (White), **252-9951-0937** (Clear, transparent). Net Each, 1–9 ...... **$4.22**
10–24 .... **$3.69**; 25–99 .... **3.32**

SERIES 270 FOR PLASTIC PLATE EDGE-LIGHTING

Subminiature units for MIL-P-7788 plastic plate panels. Size, 17/16″ long, 1½″ O D Mounts in 15/32″ hole **Series 270-1930** has solder type terminals; **Series 270-1830**, screw-type terminals Shipping Weight, 2 oz Less lamp

Dialco No.	Filter Color	Terminal Type	Net Each, Lots of 1-9	10-24	25-99
270-1930-0111-702	Red	Solder	$1.38	$1.15	$1.00
270-1930-0171-702	Clear	Solder	1.38	1.15	1.00
270-1930-3111-702	Red	Solder	1.38	1.15	1.00
270-1930-3771-702	Clear	Solder	1.38	1.15	1.00

SERIES 270 (CONT'D)

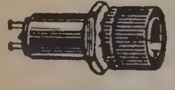
Dialco No.	Filter Color	Terminal Type	Net Each, Lots of 1-9	10-24	25-99
270-1830-0111-702	Red	Screw	$1.63	$1.30	$1.14
270-1830-0171-702	Clear	Screw	1.63	1.30	1.14
270-1830-3111-702	Red*	Screw	1.63	1.30	1.14
270-1830-3771-702	Clear*	Screw	1.63	1.30	1.14

*With light-emitting top.

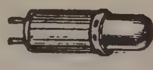
NEW SUB-MINIATURE LIGHTS FOR TRANSLUCENT PANEL EDGE LIGHTING

Designed to emit light through a red or clear-colored filter. For use with MIL-P-7788 (plastic plate) panels. Insulated brass terminals have elongated slots. Cadmium-plated brass bushing. Cadmium-plated steel internal-tooth lockwasher and hex nut. Anti-rotation notch on face of flange. Opaque, light-seal washer. Mounting hole, 15/32″. Max. panel thickness, ¼″. Max. projection back of panel, 31/32″ O D , ⅝″ Meet MIL-L-3661B, MS25010 Rev. D. Less lamp.

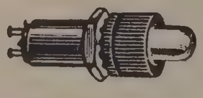
Dialco Nos. 271-8430-0111-702 (Red filter, black top), **271-8430-0171-702** (Clear filter, black top), **271-8430-3111-702** (Red filter, red top), **271-8430-3171-702** (Clear filter, red top), **271-8430-0212-702** (Red filter, gray top), **271-8430-0272-702** (Clear filter, gray top).
Net Each, 1–9 .... **$2.16**; 10–24 .... **$1.87**; 25–99 .... **$1.65**

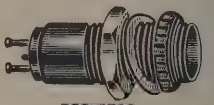

508-8738-504
Lamp Holder

plus—


Dialco Lamp
Cartridge

makes—


Complete Dialco
DATALITE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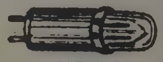
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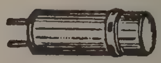
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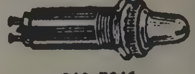

249-7841

DIALCO DATALITES®

Ultra-miniature indicator lights for computers, data processing equipment, automation, etc. Mount in ⅜″ hole. "Datalites" are made in two basic styles—with Dialco's lamp cartridges, which are replaceable, and with built-in neon lamps which are permanent not replaceable.

SINGLE LAMP HOLDER

Use with Dialco's lamp cartridge, removable from front. Size, 115/64″ long, 33/64″ O.D. collar. Mounts in ⅜″ hole. Two insulated terminals offset for correct polarity when replacing cartridges in DC circuits. Conform to applicable MIL specs. Collar, flange ring, mounting bushing of black anodized aluminum. Collar utilized when conditions demand plug-in datalamp cartridge be very securely retained. With mounting hardware, less cartridge.

Dialco No. 508-7538-504—Solder cup terminals.
Dialco No. 508-8738-504—Turret terminals.
Dialco No. 508-7545-504—Solder cup terminals, 5/64″ longer to accommodate neon cartridge 507-4537 and high brightness type 507-4538.
Dialco No. 508-8745-504—Same as 508-7545-504, but with turret terminals.
Any Model—Net Each, 1–9 .... **$2.10**
Net Each, 10–24 .... **$1.73**; 25–99 .... **1.51**

NEW PANEL-MOUNTING DATALAMP HOLDERS

Similar to 508 Series single lampholder, less collar. Black, anodized alum. mtg. bushing flange nut. Brass, white nickel finish mounting nut. Internal-tooth lockwasher of phosphor bronze with white nickel finish. Phosphor bronze, gold-plated terminals. Choice of turret or solder cup terminals. Max. projection back of panel, 1⅛″. Max. panel thickness, 5/32″. Knurled flange nut. 33/64″ dia. **Dialco Nos. 250-8738-14-504, 250-8745-14-504**—With turret terminals; **Nos. 250-7538-14-504, 250-7545-14-504**—Same, but with solder cup terminals.
Net Each, 1–9 .... **$1.90**; 10–24 .... **$1.56**; 25–99 .... **$1.37**

NEON LAMP CARTRIDGES

For use with 508-8738-504, or 508-7538-504, and 250-7538-14-504, or 250-8738-14-504. Consists of NE-2E neon bulb, 1/25 watt with starting 65 VAC and 90 VDC; mounted in aluminum sleeve, capped with plastic stovepipe lens. Requires ⅓-watt ballast resistor. Size, 121/64″ long, ⅓″ O.D. Lens is transparent. **Lens Color:** Specify by changing 11th digit of part no. to: **1**, red, as listed; **3**, amber; **5**, white; **6**, yellow; **7**, clear (e.g., 507-3835-0933-600, amber lens). AC/DC models, standard brightness; AC models, high brightness.

Dialco No. 507-3835-0931-600—AC/DC, stovepipe lens.
Dialco No. 507-3835-1531-600—AC/DC, long cylindrical lens.
Dialco No. 507-3836-0931-600—AC, stovepipe lens.
Dialco No. 507-3836-1531-600—AC, long cylindrical lens.
Any Model—Net Each, 1–9 .... **$1.53**
Net Each, 10–24 .... **$1.25**; 25–99 .... **1.09**

NEON CARTRIDGES

High brightness and standard brightness. Similar to Series 507-3835 and 507-3836 cartridges at left, but ⅛″ longer. Built-in resistor.

Dialco No.* 507-	Built-In Resistor	Current, Volts	Lens Type	Net Each, Lots of 1-9	10-24	25-99
4537-0931-640	56 K-ohms	105–125 AC/DC	Stovepipe	$2.06	$1.68	$1.49
4538-0931-610	22 K-ohms	110–125 AC	Stovepipe	2.06	1.68	1.49
4537-1531-640	56 K-ohms	105–125 AC/DC	Long Cylinder	2.06	1.68	1.49
4538-1531-510	22 K-ohms	110–125 AC	Long Cylinder	2.06	1.68	1.49

***Lens Color:** Specify by changing 11th digit of part no. to: **1**, red, as listed; **3**, amber; **5**, white; **6**, yellow; **7**, clear (e.g., 507-3835-0933-600, amber lens).

INCANDESCENT LAMP CARTRIDGES

For use with 508-8738-504, or 508-7538-504, and 250-7538-14-504, or 250-8738-14-504. Uses T-1¾ incandescent bulb mounted in aluminum sleeve and capped with short cylindrical lens. Size, 17/64″ long, 21/64″ O.D. Shpg. Wt., 1 oz.

Dialco No.*	Volts	Amps	Hours	Net Each, Lots of 1-9	10-24	25-99
507-3906-1471-600	6	.20	1000	$1.98	$1.64	$1.45
507-3913-1471-600	14	.08	1500	2.08	1.72	1.49
507-3917-1471-600	28	.04	4000	1.90	1.57	1.38
507-3914-1471-600	14	.08	15000	2.22	1.83	1.61
507-3918-1471-600	28	.04	7000	2.26	1.85	1.64

***Lens Color:** Specify by changing 11th digit of part no. to: **1**, red, as listed; **2**, green; **3**, amber; **4**, blue; **5**, white; **6**, yellow; **7**, clear (e.g., 507-3906-1472-600, green lens).

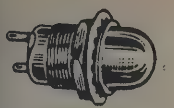
PERMANENT INDICATOR LIGHTS, NEON

Approximate life, 25,000 hours. With built-in resistors. Size, 153/64″ long, ½″ O.D. **Lens Color:** Specify by changing 11th digit of part no. to: **1**, red, as listed; **3**, amber; **5**, white; **7**, clear (e.g., 249-7841-0933-574, amber lens).

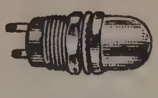
Dialco No. 249-7841-0931-574—Stovepipe lens, 100 K resistor.
Dialco No. 249-7866-0931-534—As above, but 33 K resistor. High Brightness.
Dialco No. 249-7841-1431-574—Short cylindrical, 100 K resistor.
Dialco No. 249-7866-1431-534—As above, but 33 K resistor. High Brightness.
Any Model—Net Each, 1–9 .... **$2.55**
Net Each, 10–24 .... **$2.25**; 25–99 .... **2.04**

DIALIGHT Indicator Lights

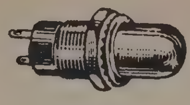
DIALCO®



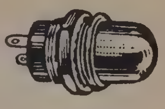
101-5030



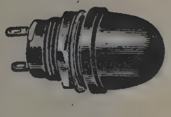
101-3830



137-8836



162-8430



804-1710

801-1030

812-1030

SUBMINIATURE SERIES

For use with T-1¾ bulbs for 1.35–28 V. Bulb replaceable from front of panel. Military grade phenolic assures permanent isolation from ground. Fully insulated. Black nickel finish. Lockwasher and nut supplied. Size, 1⅜" long, ¾" O.D. Shpg. Wt., 2 oz. Less lamp.

OMNIDIRECTIONAL LENS

Radiate light in all directions. **Series 101-3830** and **140-3830** mount in 15⁄32" clearance hole, front or back of panel. **Series 101-5030** and **140-5030** mount in 17⁄32" clearance hole, front of panel. **Series 101-3830** and **140-3830** has movable flange, others fixed flange. Solder terminals.
Series 101 has stovepipe shaped lens; Series 140, cylindrical lens.

Dialco No. Front Mounting	Lens Color	Dialco No. Front or Back Mtg.	Net Ea., Lots of 1-9	10-24	25-99
101-5030-0971-201	Red	101-3830-0971-201	$2.20	$1.80	$1.54
101-5030-0972-201	Green	101-3830-0972-201	2.20	1.80	1.54
101-5030-0973-201	Amber	101-3830-0973-201	2.20	1.80	1.54
101-5030-0975-201	White	101-3830-0975-201	2.20	1.80	1.54
140-5030-1471-201	Red	140-3830-1471-201	2.20	1.80	1.54
140-5030-1472-201	Green	140-3830-1472-201	2.20	1.80	1.54
140-5030-1473-201	Amber	140-3830-1473-201	2.20	1.80	1.54
140-5030-1475-201	White	140-3830-1475-201	2.20	1.80	1.54

NEON SUBMINIATURE MS25257

Series 137-8836—Front mount in 15⁄32" hole. Built-in resistor (pat.). Accommodates C7A (NE-2D) lamp. For 105–125 VAC or DC. Size, 1½" x ⅝". Weight, 1½ oz. Less lamp. **Series 137-8864**—Same, but not for MS Drawing. Accommodates C9A (NE-2J) lamp.

Lens Color	Dialco No.	MIL Type No.	Net Ea., Lots of 1-9	10-24	25-99
Yellow	137-8836-0933-552	MS25257-2	$3.50	$2.86	$2.49
Red	137-8836-0931-552	MS25257-4	3.50	2.86	2.49
Clear	137-8836-0937-552	MS25257-6	3.50	2.86	2.49
Red	137-8864-0931-512	....	3.50	2.86	2.49
Amber	137-8864-0933-512	....	3.50	2.86	2.49
White	137-8864-0935:512	....	3.50	2.86	2.49
Yellow	137-8864-0936-512	....	3.50	2.86	2.49
Clear	137-8864-0937-513	....	3.50	2.86	2.49

INCANDESCENT SUBMINIATURE MS25256

Front mount in 15⁄32" hole. Use T-1¾ incandescent bulbs. Fully insulated. Size, 1 3⁄32" x ⅝". Weight, 1½ oz. Less lamp.

Lens Color	Dialco No.	MIL Type No.	Net Ea., Lots of 1-9	10-24	25-99
Yellow	162-8430-0933-502	MS25256-2	$2.09	$1.73	$1.51
Green	162-8430-0932-502	MS25256-4	2.09	1.73	1.51
Red	162-8430-0931-502	MS25256-6	2.09	1.73	1.51
Clear	162-8430-0937-502	MS25256-8	2.09	1.73	1.51
White	162-8430-0975-502	MS25256-10	2.09	1.73	1.51
Blue	162-8430-0934-502	MS25256-12	2.09	1.73	1.51

WATER-TIGHT INCANDESCENT LIGHTS

Complete assemblies incandescent indicator lights in translucent colors. Water-tight, oil-tight, dust-tight on face of panel. With retained O-ring seals. Black, anodized aluminum mounting bushing. Internal-tooth lockwasher and mounting nut of cadmium-plated steel. Fully insulated brass terminals with elongated slots. Meet MIL-L-6723 and MIL-L-3661B. Max. projection back of panel, ⅝". Max. panel thickness, 3⁄16". Mount in 15⁄32" clearance hole front of panel with fixed flange. Size, O.D., 37⁄64".
Dialco Nos. 177-8430-0971-503 (Red), **177-8430-0972-503** (Green), **177-8430-0973-503** (Amber), **177-8430-0974-503** (Blue), **177-8430-0975-503** (White, translucent), **177-8430-0976-503** (Light Yellow). Net Each, 1–9....**$2.70**; 10–24....**$2.24**; 25–99....**$1.98**

PRESS-TO-TEST ASSEMBLIES

Meets requirements of MIL-L-7961B

A slight pressure on the face of the unit "breaks" the normal circuit and "makes" a test circuit. If lamp lights up when pressed in, it is satisfactory. If it fails to light, the lamp is defective. Equipped with three terminals: Two for "normal" circuit, the third for "test" circuit.

SERIES 804/803 (MS25331)

Mount from back in ⅝" clearance hole. Accommodates T-3¼ lamp with miniature bayonet base. Overall size, ⅞" x 2¼". Shpg. Wt., 1½ oz. Less lamp.

WITH MECHANICAL SHUTTER DIMMER

Lens Color	Dialco No.	MIL Type No.	Net Ea., Lots of 1-9	10-24	25-99
Clear	804-1710-0337-504	MS25331-1	$5.06	$4.32	$3.82
Red	804-1710-0331-504	MS25331-2	5.06	4.32	3.82
Green	804-1710-0332-504	MS25331-3	5.06	4.32	3.82
Amber	804-1710-0333-504	MS25331-4	5.06	4.32	3.82
Blue	804-1710-0334-504	....	5.06	4.32	3.82

WITHOUT DIMMER

Lens Color	Dialco No.	MIL Type No.	Net Ea., Lots of 1-9	10-24	25-99
Clear	803-1710-0337-504	MS25331-5	$4.39	$3.65	$3.17
Red	803-1710-0331-504	MS25331-6	4.39	3.65	3.17
Green	803-1710-0332-504	MS25331-7	4.39	3.65	3.17
Amber	803-1710-0333-504	MS25331-8	4.39	3.65	3.17
Blue	803-1710-0334-504	....	4.39	3.65	3.17

SERIES 801/800 (MS25041)

Similar to above, but mounts in 15⁄32" clearance hole, accommodates T-1¾ lamp with midget flange base, ⅝" x 1⅜". Less lamp.

WITH MECHANICAL SHUTTER DIMMER

Lens Color	Dialco No.	MIL Type No.	Net Ea., Lots of 1-9	10-24	25-99
Clear	801-1030-0337-504	MS25041-1	$4.15	$3.60	$3.22
Red	801-1030-0331-504	MS25041-2	4.15	3.60	3.22
Green	801-1030-0332-504	MS25041-3	4.15	3.60	3.22
Amber	801-1030-0333-504	MS25041-4	4.15	3.60	3.22
Blue	801-1030-0334-504	MS25041-10	4.15	3.60	3.22

WITHOUT DIMMER

Lens Color	Dialco No.	MIL Type No.	Net Ea., Lots of 1-9	10-24	25-99
Clear	800-1030-0337-504	MS25041-5	$3.48	$2.92	$2.60
Red	800-1030-0331-504	MS25041-6	3.48	2.92	2.60
Green	800-1030-0332-504	MS25041-7	3.48	2.92	2.60
Amber	800-1030-0333-504	MS25041-8	3.48	2.92	2.60
Blue	800-1030-0334-504	MS25041-11	3.48	2.92	2.60

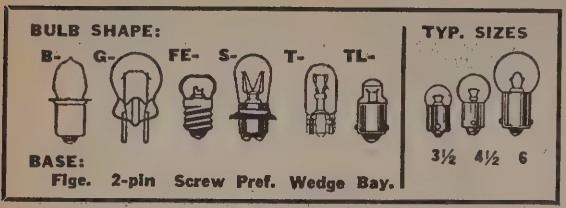
SERIES 812

Same as above, but with stovepipe lens.

Lens Color	Dialco No.	Net Each, Lots of 1-9	10-24	25-99
White	812-1030-0975-506	$3.73	$3.12	$2.75
Red	812-1030-0971-506	3.73	3.12	2.75
Green	812-1030-0972-506	3.73	3.12	2.75
Amber	812-1030-0973-506	3.73	3.12	2.75

General Electric Miniature Lamps

PANEL, PILOT, FLASHLIGHT LAMPS



Lamp No.	Bulb	Base*	Design		Net Price*	
			Volts	Amps	Each	Box10
PR2	B-3½	S.C. min. flanged	2.38	.50	$0.39	$ 2.35
PR3	B-3½	S.C. min. flanged	3.57	.50	.41	2.43
PR4	B-3½	S.C. min. flanged	2.33	.27	.41	2.43
PR6	B-3½	S.C. min. flanged	2.47	.30	.41	2.43
PR7	B-3½	S.C. min. flanged	3.7	.30	.47	2.82
PR12	B-3½	S.C. min. flanged	5.95	.50	.41	2.43
PR13	B-3½	S.C. min. flanged	4.75	.50	.41	2.43
PR15	B-3½	S.C. min. flanged	4.82	.50	.53	3.21
PR16	B-3½	S.C. min. flanged	12.5	.25	.54	3.27
PR18	B-3½	S.C. min. flanged	7.2	.55	.51	3.06
PR20	B-3½	S.C. min. flanged	8.63	.50	.61	3.68
6	S-8	D.C. bayonet	6.4	3.00	1.29	7.75
10	G-3½	Min. two-pin	2.5	.50	.70	4.21
12	G-3½	Min. two-pin	6.3	.15	.57	3.43
13	G-3½	Min. screw	3.7	.30	.32	1.94
14	G-3½	Min. screw	2.47	.30	.32	1.94
15	G-4½	Min. two-pin	7.0	.40	1.19	7.15
19	G-3½	Min. two-pin	14.4	.10	.80	4.80
27	G-4½	Min. screw	4.9	.30	.55	3.32
31	G-4½	Min. screw	6.15	.30	.91	5.47
35	G-5½	Min. screw	2.5	.80	1.62	9.71
37	T-1¾	Subminiature wedge	14	.09	.53	3.18
40	T-3¼	Min. screw	6.3	.15	.34	2.04
41	T-3¼	Min. screw	2.5	.50	.51	3.07
42	T-3¼	Min. screw	3.2	.35	1.31	7.86
43	T-3¼	Min. bayonet	2.5	.50	.51	3.07
44	T-3¼	Min. bayonet	6.3	.25	.33	1.97
45	T-3¼	Min. bayonet	3.2	.35	.87	5.22
46	T-3¼	Min. screw	6.3	.25	.32	1.91
47	T-3¼	Min. bayonet	6.3	.15	.31	1.84
48	T-3¼	Min. screw	2.0	.06	.65	3.91
49	T-3¼	Min. bayonet	2.0	.06	.59	3.56
50	G-3½	Min. screw	7.5	.22	.39	2.32
51	G-3½	Min. bayonet	7.5	.22	.28	1.71
52	G-3½	Min. screw	14.4	.10	1.03	6.21
53	G-3½	Min. bayonet	14.4	.12	.31	1.85
53R†	G-3½	Min. bayonet	14.4	.12	1.34	8.06
55	G-4½	Min. bayonet	7.0	.41	.41	2.44
57	G-4½	Min. bayonet	14.0	.24	.38	2.27
63	G-6	S.C. bayonet	7.0	.63	.42	2.52
64	G-6	D.C. bayonet	7.0	.63	.59	3.55
67	G-6	S.C. bayonet	13.5	.59	.40	2.40
67K	G-6	Candelabra screw	13.5	.41	1.58	9.47
68	G-6	D.C. bayonet	13.5	.59	.57	3.41
72	G-6	D.C. bayonet	22	.18	1.69	10.12
73	T-1¾	Subminiature wedge	14	.08	.53	3.18
74	T-1¾	Subminiature wedge	14	.10	.53	3.18
81	G-6	S.C. bayonet	6.5	1.02	.52	3.13
82	G-6	D.C. bayonet	6.5	1.02	.46	2.74
84	T-1¾	Subminiature wedge	6.3	.04	.65	3.87
85	T-1¾	Subminiature wedge	28	.04	.65	3.87
86	T-1¾	Subminiature wedge	6.3	.20	.65	3.87
87	S-8	S.C. bayonet	6.8	1.91	1.14	6.84
88	S-8	D.C. bayonet	6.8	1.91	.71	4.24
89	G-6	S.C. bayonet	13.0	.58	.42	2.52
89K	G-6	Candelabra screw	13.0	.53	1.81	10.89
90	G-6	D.C. bayonet	13.0	.58	.47	2.82
93	S-8	S.C. bayonet	12.8	1.04	.60	3.59
94	S-8	D.C. bayonet	12.8	1.04	.67	4.02
97	G-6	S.C. bayonet	13.5	.69	.47	2.81
112	TL-3	Min. screw	1.2	.22	.85	5.10
123	G-3½	Min. screw	1.25	.30	.40	2.41
130	G-3½	Min. bayonet	6.3	.15	.43	2.59
131	G-3½	Min. screw	1.3	.10	.42	2.50
136	G-4½	Min. screw	1.25	.60	1.44	8.66
153	G-6	Min. screw	5.8	1.10	5.05	30.30
157	G-6	Min. screw	5.8	1.10	2.62	15.72
158	T-3¼	Wedge	14	.24	.38	2.28
159	T-3¼	Wedge	6.3	.15	.51	3.03
161	T-3¼	Wedge	14	.19	.39	2.32
168	T-3¼	Wedge	14	.35	.40	2.40
192	T-3¼	Wedge	13	.33	.91	5.46
194	T-3¼	Wedge	14	.27	.38	2.28
209	B-6	S.C. bayonet	6.5	1.78	1.17	7.02
210	B-6	D.C. bayonet	6.5	1.78	.76	4.57
211-2	T-3	Min. cap (round)	12.8	.97	.66	3.93
212-2	T3	Min. cap (round)	13.5	.74	.75	4.50
214-2	T-3	Min. cap (round)	13.5	.50	.77	4.60
222	TL-3	Min. screw	2.25	.25	.55	3.30
224	TL-2¾	Special 1½-turn thd.	2.15	.22	1.09	6.53
233	G-3½	Min. screw	2.33	.27	.83	4.99
238	T-3¼	Min. bayonet	6.3	.50	1.53	9.18
239	T-3¼	Min. bayonet	6.3	.36	1.30	7.77
240	T-3¼	Min. bayonet	6.3	.36	1.38	8.30
245	G-3½	Min. screw	2.46	.50	.55	3.31
253	TL-1¾	Midget grooved	2.5	.35	5.10	30.60
253X	TL-1¾	Midget grooved	2.5	.35	6.22	37.29
256	T-3¼	Min. bayonet, flasher	14	.27	1.03	6.15
257	G-4½	Min. bayonet, flasher	14.0	.27	.77	4.63
258	G-4½	Min. screw, flasher	14.0	.27	$1.05	$ 6.33
259	T-3¼	Wedge	6.3	.25	.40	2.40
261	TL-1¾	Midget grooved	2.5	.35	10.02	60.11
268	T-1¾	S.C. midget flanged	2.5	.35	3.30	19.80
293	G-4½	Min. bayonet	14	.33	.39	2.32
303	G-6	S.C. bayonet	28	.30	1.24	7.41
304	G-6	D.C. bayonet	28	.30	1.43	8.59
306	S-8	D.C. bayonet	28.0	.51	2.63	15.78
307	S-8	S.C. bayonet	28.0	.67	1.28	7.66
308	S-8	D.C. bayonet	28.0	.67	1.76	10.55
311	S-11	S.C. bayonet	28	1.29	2.06	12.33
312	S-11	D.C. bayonet	28	1.29	14.11	24.68
313	T-3¼	Min. bayonet	28	.17	.71	4.24
323	T-1¼	Special thd.	3	.19	2.73	16.37
325	T-1¼	Special thd.	3	.19	3.06	18.37
327	T-1¾	S.C. midget flanged	28	.04	1.03	6.18
327R†	T-1¾	S.C. midget flanged	28	.04	1.62	9.69
328	T-1¾	S.C. midget flanged	6	.20	.80	4.78
330	T-1¾	S.C. midget flanged	14	.08	1.38	8.27
331	T-1¾	S.C. midget flanged	1.35	.06	1.68	10.11
334	T-1¾	Midget grooved	28	.04	1.54	9.25
335	T-1¾	Midget screw	28	.04	2.63	15.78
336	T-1¾	Midget grooved	14	.08	2.50	14.97
337	T-1¾	Midget grooved	6	.20	2.97	17.80
338	T-1¾	S.C. midget flanged	2.7	.06	1.50	8.99
342	T-1¾	Midget screw	6	.04	3.03	18.15
344	T-1¾	S.C. midget flanged	10	.014	2.36	14.15
345	T-1¾	S.C. midget flanged	6	.04	2.61	15.64
346	T-1¾	Midget grooved	18	.04	2.17	13.02
349	T-1¾	S.C. midget flanged	6.3	.20	1.86	11.14
356	G-3½	Min. bayonet	28	.17	1.31	7.84
363	G-3½	Min. bayonet	14.0	.20	.51	3.06
370	T-1¾	S.C. midget flanged	18	.04	2.61	15.64
378	T-1¾	Midget screw	6.3	.20	3.08	18.46
380	T-1¾	S.C. midget flanged	6.3	.04	3.64	21.81
381	T-1¾	S.C. midget flanged	6.3	.20	1.94	11.62
382	T-1¾	S.C. midget flanged	14	.08	2.05	12.28
387	T-1¾	S.C. midget flanged	28	.04	1.04	6.24
400	T-3¼	Wedge	28	.10	1.30	7.77
401	G-4½	Min. screw, flasher	1.25	.25	1.33	7.96
405	G-4½	Min. screw, flasher	6.5	.50	1.19	7.15
406	G-4½	Min. screw, flasher	2.6	.30	.99	5.96
407	G-4½	Min. screw, flasher	4.9	.30	.67	4.02
425	G-4½	Min. screw	5.0	.50	.55	3.28
428	G-4½	Min. screw	12.5	.25	1.00	6.00
430	G-4½	Min. screw	14.0	.25	1.39	8.34
431	G-4½	Min. bayonet	14.0	.25	1.43	8.56
432	G-4½	Min. screw	18.0	.25	1.04	6.22
433	G-4½	Min. bayonet	18	.25	1.39	8.33
455	G-4½	Min. bayonet, flasher	6.5	.50	.98	5.90
464	T-3¼	Wedge	28	.17	1.98	11.89
502	G-4½	Min. screw	5.1	.15	.34	2.04
509K	G-6	Candelabra screw	24	.18	.83	4.96
557	T-3¼	Wedge, flasher	14	.42	.54	3.27
558	T-3¼	Wedge	13	.34	.72	4.30
561	T-3	Flat clip	12.8	.97	.67	4.00
562	T-3	Flat clip	13.5	.74	.74	4.44
563	T-3	Flat clip	13.5	.50	.72	4.32
605	G-4½	Min. screw	6.15	.50	.95	5.69
623	G-6	S.C. bayonet	28	.37	1.38	8.25
656	T-3¼	Wedge	28	.06	.99	5.91
657	T-3¼	Wedge	28	.08	.94	5.63
658	T-3¼	Wedge	14	.08	2.11	12.64
680	T-1	Wire terminal	5	.06	3.32	19.93
682	T-1	Sub-midget flanged	5	.06	4.01	24.08
683	T-1	Wire terminal	5	.06	3.32	19.93
685	T-1	Sub-midget flanged	5	.06	4.01	24.08
715	T-1	Wire terminal	5	.115	3.32	19.93
718	T-1	Sub-midget flanged	5	.115	4.01	24.08
755	T-3¼	Min. bayonet	6.3	.15	.64	3.82
756	T-3¼	Min. bayonet	14	.08	1.05	6.30
757	T-3¼	Min. bayonet	28	.08	.94	5.63
809M	G-8	Min. screw	70	8 W	6.49	38.94
844	G-9	D.C. bayonet	28	.68	31.31	187.82
872	T-4½	Min. bayonet	8.0	.90	14.27	85.61
904	T-5	Wedge	13.5	.69	1.05	6.28
906	T-5	Wedge	13.0	.66	.47	2.79
912	T-5	Wedge	12.8	1.0	1.39	8.31
958	G-16½	D.C. bayonet	5.5	2.0	11.11	66.64
965	T-4½	Min. screw	9.84	.50	2.19	13.17
1003	B-6	S.C. bayonet	12.8	.94	.59	3.53
1004	B-6	D.C. bayonet	12.8	.94	.59	3.53
1019	G-16½	S.C. bayonet	12.8	4.75	5.71	34.27
1021	RP-11	S.C. prefocus	4.5	1.25	5.13	30.76
1034	S-8	D.C. indexing (2 pos. taillight)	12.8 14.0	1.80 .59	.66	3.94
1034A▲	S-8	D.C. indexing (front park & turn signal)	12.8 14.0	1.80 .59	1.21	7.25
1035	S-8	D.C. index	12.8 14.0	1.44 .59	1.46	8.75
1056	RP-11	D.C. bayonet	32	1.15	5.33	31.95
1073	S-8	S.C. bayonet	12.8	1.80	.77	4.60
1076	S-8	D.C. bayonet	12.8	1.80	.91	5.43
1129	S-8	S.C. bayonet	6.4	2.63	.66	3.93
1130	S-8	D.C. bayonet	6.4	2.63	.96	5.74
1133	RP-11	S.C. bayonet	6.2	3.91	1.31	7.86
1134	RP-11	D.C. bayonet	6.2	3.91	1.99	11.93
1141	S-8	S.C. bayonet	12.8	1.44	.59	3.53
1142	S-8	D.C. bayonet	12.8	1.44	.67	4.02
1143	RP-11	S.C. bayonet	12.5	1.98	1.93	11.56
1144	RP-11	D.C. bayonet	12.5	1.98	1.89	11.36

*S.C. single contact; D.C., double contact; Min., miniature. †Outside coated red. ‡Outside coated green. ▲Outside coated amber. *FET included where applicable.

CONTINUED ON FOLLOWING PAGE

General Electric Miniature Lamps

PANEL, PILOT, FLASHLIGHT LAMPS (CONT'D)

Lamp No.	Bulb	Base*	Design		Net Price*	
			Volts	Amps	Each	Box 10
1154	S-8	D.C. indexing (2 pos. taillight)	6.4 7.0	2.63 .75	$0.82	$ 4.94
1156	S-8	S.C. bayonet	12.8	2.10	.77	4.60
1157	S-8	D.C. indexing (2 pos. taillight)	12.8 14.0	2.10 .59	.57	3.43
1157A▲	S-8	D.C. indexing (front park & turn signal)	12.8 14.0	2.10 .59	1.14	6.84
1158	S-8	D.C. bayonet (2 pos. taillight)	6.4 7.0	2.63 .75	1.13	6.77
1176	S-8	D.C. bayonet (2 pos. taillight)	12.8 14.0	1.34 .59	.87	5.24
1183	RP-11	S.C. bayonet	5.5	6.25	2.64	15.86
1184	RP-11	D.C. bayonet	5.5	6.25	2.59	15.53
1195	RP-11	S.C. bayonet	12.5	3.00	2.87	17.21
1196	RP-11	D.C. bayonet	12.5	3.00	3.02	18.09
1203	S-8	S.C. bayonet	28.0	.71	2.41	14.46
1204	S-8	D.C. bayonet	28.0	.71	3.58	21.46
1209	RP-11	S.C. prefocus	6.1	4.1	3.92	23.51
1224	G-6	D.C. bayonet	34	.16	1.54	9.25
1224K	G-6	Candelabra screw	32	.16	1.55	9.28
1228	S-8	D.C. bayonet	34.0	.45	2.68	16.06
1240	G-16½	D.C. prefocus	32	3.6	4.30	25.79
1247	G-6	S.C. bayonet	14	.48	2.02	12.14
1251	G-6	S.C. bayonet	28	.23	1.14	6.85
1252	G-6	D.C. bayonet	28	.23	1.41	8.44
1295	S-8	S.C. bayonet	12.5	3	2.25	13.52
1302	T-3¼	Min. bayonet	6.3	.035–.050	.95	5.72
1309	B-6	S.C. bayonet	28	.52	4.55	27.32
1314X	G-6	D.C. bayonet	6.5	1.02	1.56	9.38
1315	G-5	S.C. bayonet	2.5	1.00	2.25	13.49
1323	RP-11	S.C. prefocus	6.2	4.13	3.88	23.29
1325	RP-11	S.C. prefocus	6.2	4.13	6.84	41.01
1380	R-12	D.C. bayonet	28	1.35	13.24	79.45
1385	R-12	S.C. bayonet	28	20 W	5.95	35.67
1406	G-4½	Min. bayonet	6.0	.04	2.03	12.18
1408	T-3¼	Min. bayonet	10	.13	.60	3.62
1414	T-4½	Min. bayonet	14	.46	1.88	11.28
1416	T-4½	Min. bayonet	12.8	.80	1.44	8.66
1434	T-5	S.C. bayonet	3.7	2.75	7.70	46.19
1445	G-3½	Min. bayonet	14.4	.135	.38	2.28
1446	G-3½	Min. screw	12.0	.20	1.00	6.02
1447	G-3½	Min. screw	18	1.5	.44	2.62
1449	G-3½	Min. screw	14.0	.20	.33	1.99
1450	G-3½	Min. bayonet	24	.03	2.10	12.62
1458	G-5	Min. bayonet	20	.25	1.67	10.00
1459	S-8	S.C. bayonet	4.0	.80	3.56	21.34
1460	S-8	D.C. prefocus	6.5	2.75	5.34	32.02
1460X	S-8	D.C. prefocus	6.5	2.75	7.05	42.29
1471	G-6	Candelabra screw	12	.26	1.80	10.78
1474	T-3	Min. screw	14.0	.17	1.25	7.47
1476	T-3	Min. screw	18.0	.17	1.45	8.69
1477	T-3	Min. screw	24.0	.17	1.67	10.00
1479	T-4	Candelabra screw	14	.17	3.04	18.23
1480	T-4	Candelabra screw	18	.17	2.93	17.56
1482	G-4½	Min. screw	6.0	.45	1.19	7.12
1483	G-4½	Min. screw	6.0	.04	.82	4.94
1487	T-3¼	Min. screw	14	.20	.51	3.07
1488	T-3¼	Min. bayonet	14	.15	1.09	6.52
1489	T-5	S.C. bayonet	6.5	2.75	7.89	47.37
1490	T-3¼	Min. bayonet	3.2	.16	1.03	6.15
1493	S-8	D.C. bayonet	6.5	2.75	2.60	15.58
1495	T-4½	Min. bayonet	28	.30	1.17	7.05
1497	S-8	D.C. bayonet	6.5	2.75	4.63	27.80
1501	RP-11	S.C. prefocus	5.9	6.36	5.40	32.38
1503	RP-11	S.C. prefocus	5.9	6.53	3.74	22.46
1507	RP-11	S.C. prefocus	12.5	3.00	4.90	29.42
1561	S-11	S.C. prefocus	6.3	4.0	9.90	59.41
1584	S-8	D.C. bayonet	4.0	2.0	4.06	24.33
1594	S-8	D.C. bayonet	6.0	5.0	5.36	32.16
1605	S-8	S.C. bayonet	6.4	2.69	3.89	23.34
1608	S-8	D.C. bayonet	6.4	2.69	4.19	25.11
1613	S-8	S.C. bayonet	6.0	1.5	4.48	26.85
1615	S-8	S.C. prefocus	6.0	5.0	6.21	37.28
1619	S-8	S.C. bayonet	6.7	1.90	3.38	20.27
1630	S-8	D.C. prefocus	6.5	2.75	3.40	20.40
1631X	S-8	D.C. prefocus	6.5	2.75	7.83	46.97
1634	S-8	D.C. prefocus	20.0	1.0	7.36	44.13
1638	S-8	D.C. bayonet	28.0	1.02	3.60	21.61
1649	S-8	D.C. prefocus	6.5	2.75	17.97	107.82
1651	S-8	S.C. bayonet	5.0	.60	2.75	16.50
1662	S-8	D.C. index	28 28	.93 .34	6.19	37.11
1665	S-8	S.C. bayonet	28	.80	2.56	15.34
1665IF	S-8	S.C. bayonet	28	.80	2.48	14.90
1680	S-8	S.C. bayonet	6.0	4.10	1.87	11.22
1683	S-8	S.C. bayonet	28.0	1.02	2.34	14.02
1691	S-8	S.C. bayonet	28	.61	3.23	19.39
1691IF	S-8	S.C. bayonet	28	.61	4.88	29.24
1692	S-8	D.C. bayonet	28.0	.61	3.81	22.87
1724	S-11	D.C. bayonet	6.2	4.5	3.47	20.79
1738D	T-1¾	Wire terminal	2.7	.06	.85	5.08
1759	S-11	S.C. prefocus	6.1	4.10	10.05	60.27
1763	S-11	S.C. prefocus	6.1	4.10	4.39	26.33
1764D	T-1¾	Wire terminal	28	.04	.94	5.62
1767	T-1¾	Midget screw	2.5	.20	1.35	8.09
1768	T-1¾	Midget screw	6	.20	1.59	9.55
1769	T-1¾	Midget screw	2.5	.20	1.89	11.34
1810	T-3¼	Min. bayonet	6.3	.40	2.08	12.50
1813	T-3¼	Min. bayonet	14.4	.10	.55	3.28
1815	T-3¼	Min. bayonet	14	.20	$0.65	$ 3.87
1816	T-3¼	Min. bayonet	1.3	.33	.46	2.74
1818	T-3¼	Min. bayonet	24	.17	1.61	9.68
1819	T-3¼	Min. bayonet	28	.04	.77	4.63
1820	T-3¼	Min. bayonet	28	.10	.75	4.49
1821	T-3¼	Min. screw	28	.17	16.45	98.70
1822	T-3¼	Min. bayonet	36	.10	1.28	7.65
1823	T-3¼	Min. screw	48	.10	2.12	12.72
1826	T-3¼	Min. bayonet	18	.15	1.45	8.68
1828	T-3¼	Min. bayonet	37.5	.05	1.36	8.18
1829	T-3¼	Min. bayonet	28	.07	.77	4.59
1835	T-3¼	Min. bayonet	55	.05	1.54	9.25
1841	T-4	Candelabra screw	24	.17	3.14	18.84
1843	T-3¼	Min. bayonet	28	.022	2.08	12.46
1847	T-3¼	Min. bayonet	6.3	.15	.36	2.19
1850	T-3¼	Min. bayonet	5	.09	.77	4.63
1850W	T-3¼	Min. bayonet	5.0	.09	1.48	8.87
1855	T-4½	Min. bayonet	6.3	.80	1.17	7.03
1864	T-3¼	Min. bayonet	28	.17	.94	5.66
1866	T-3¼	Min. bayonet	6.3	.25	.46	2.74
1867	T-3¼	Min. bayonet	4	.06	2.08	12.50
1874	T-5	S.C. bayonet	3.7	2.75	7.33	43.98
1876	T-5	S.C. bayonet	3.5	2.50	9.64	57.84
1884	T-5	S.C. bayonet	6.5	1.54	23.47	140.83
1886	T-4½	Min. bayonet	6.3	.90	1.42	8.53
1891	T-3¼	Min. bayonet	14	.24	.36	2.16
1892	T-3¼	Min. bayonet	14.4	.12	.52	3.12
1893	T-3¼	Min. bayonet	14	.33	.37	2.24
1895	G-4½	Min. bayonet	14.0	.27	.38	2.27
1898	T-3¼	Min. bayonet	14	.33	1.22	7.33
1906	T-3¼	Min. bayonet	5.0	.07	2.91	17.43
1909	T-3¼	Min. bayonet	14.4	.10	.66	3.96
2140D	TL-1¾	Wire terminal	2.5	.35	4.01	24.05
2158D	T-1¾	Wire terminal	3	.013–.017	2.39	14.31
2180D	T-1¾	Wire terminal	6.3	.04	1.93	11.58
2181D	T-1¾	Wire terminal	6.3	.20	1.05	6.28
2182D	T-1¾	Wire terminal	14	.08	1.13	6.77
2187D	T-1¾	Wire terminal	28	.04	1.63	9.78
2233	S-8	S.C. bayonet	28	.766	4.85	29.08
2331	RP-11	D.C. prefocus (2-pos. headlamp)	5.9 6.2	4.66 4.49	2.63	15.75
2530	RP-11	D.C. prefocus (2-pos. headlamp)	5.9 6.2	6.53 4.23	5.33	31.96
7327	T-1¾	Bi-Pin	28	.04	1.63	9.78
7381	T-1¾	Bi-Pin	6.3	.20	2.21	13.25
7382	T-1¾	Bi-pin	14	.08	2.21	13.25
7387	T-1¾	Bi-pin	18	.04	2.17	13.00
8361	T-1¾	S.C. midget flange	28	.065	1.51	9.03

*S.C., single contact; D.C., double contact; Min., miniature.

***FET included where applicable.**

*S.C., single contact; D.C., double contact; Min., miniature.
***FET included where applicable.**

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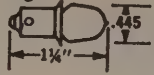
Lamp No.	Bulb	Volts	Amps	M.S. C.P.	Fig.	Net Each, Lots of		
						1-9	10-49	100-499
PR2	B-3½	2.38	.50	.80	1	$0.39	$0.235	$0.198
PR3	B-3½	3.57	.50	1.50	1	.40	.243	.204
PR4	B-3½	2.33	.27	.40	1	.40	.243	.204
PR6	B-3½	2.47	.30	.45	1	.40	.243	.204
PR7	B-3½	3.7	.30	.90	1	.47	.282	.237
PR12	B-3½	5.95	.50	3.10	1	.40	.243	.204
PR13	B-3½	4.75	.50	2.20	1	.40	.243	.204
PR18	B-3½	7.2	.55	5.5	1	.51	.36	.257
6S6	S-6	120	6W	......	....	.71	.428	.359
7C7	C-7	115-125	7W	......	....	.60	.359	.301
12	G-3½	6.3	.15	.35	5	.54	.326	.274
13	G-3½	3.7	.30	.98	4	.32	.194	.163
14	G-3½	2.47	.30	.50	4	.32	.194	.163
19	G-3½	14.4	.10	.90	5	.80	.479	.403
27	G-4½	4.9	.30	1.4	7	.55	.332	.279
31	G-4½	6.15	.30	2.0	7	.91	.547	.459
41	T-3¼	2.5	.50	.50	26	.51	.307	.258
43	T-3¼	2.5	.50	.50	27	.51	.307	.258
44	T-3¼	6.3	.25	.90	27	.33	.197	.165
45	T-3¼	3.2	.35	.50	27	.87	.522	.438
46	T-3¼	6.3	.25	.90	27	.32	.191	.161
47	T-3¼	6.3	.15	.52	27	.31	.184	.154
48	T-3¼	2.0	.06	.04	26	.65	.391	.329
49	T-3¼	2.0	.06	.04	27	.59	.356	.299
51	G-3½	7.5	.22	1.0	6	.28	.171	.143
53	G-3½	14.4	.12	1.0	6	.31	.185	.156
53X	G-3½	14.4	.12	1.0	6	.40	.241	.203
55	G-4½	7.0	.41	2.0	8	.41	.244	.205
57	G-4½	14.0	.24	2.0	8	.38	.226	.19
57X	G-4½	14.0	.24	2.0	8	.37	.222	.186
63	G-5	7.0	.63	3.0	11	.42	.251	.211
67	G-6	13.5	.59	4.0	11	1.58	.947	.795
81	G-5	6.5	1.02	6.0	11	.52	.313	.263
82	G-5	6.5	1.02	6.0	12	.46	.273	.23
87	S-8	6.8	1.91	15.0	14	1.14	.684	.574
88	S-8	6.8	1.91	15.0	15	.71	.423	.356
89	G-5	13.0	.58	6.0	11	.42	.251	.211
93	S-8	12.8	1.04	15.0	14	.60	.359	.301
112	TL-3	1.2	.22	......	30	.85	.51	.429
123	G-3½	1.25	.30	.10	4	.40	.241	.203
136	G-4½	1.25	.60	.20	7	1.44	.866	.727
158	T-3¼	14.0	.24	2.0	28	.38	.228	.191
161	T-3¼	14.0	.19	1.0	28	.39	.232	.195
168	T-3¼	14.0	.35	3.0	28	.40	.24	.201
194	T-3¼	14.0	.27	2.0	28	.38	.228	.191
222	TL-3	2.25	.25	......	30	.55	.329	.277
301	G-5	28.0	.17	3.0	9	1.39	.835	.701
302	G-5	28.0	.17	3.0	10	1.27	.761	.64
303	G-6	28.0	.30	6.0	11	.75	.448	.377
305	S-8	28.0	.51	15.0	14	1.26	.756	.635
307	S-8	28.0	.67	21.0	14	1.28	.766	.643
308	S-8	28.0	.67	21.0	15	1.76	1.054	.885
309	S-11	28.0	.9	32.0	17	2.01	1.205	1.013
313	T-3¼	28.0	.17	3.5	27	.71	.423	.356
327	T-1¾	28.0	.04	.34	23	1.03	.617	.519
328	T-1¾	6.0	.20	.34*	23	.80	.478	.401
330	T-1¾	14.0	.08	.5	23	1.38	.826	.694
331	T-1¾	1.35	.06	.006	23	1.68	1.010	.848
334	T-1¾	28.0	.04	.34	25	1.54	.925	.777
344	T-1¾	10.0	.014	.004	23	2.36	1.414	1.188
382	T-1¾	14.0	.08	.30	23	2.05	1.227	1.031
387	T-1¾	28.0	.04	.30	23	1.04	.623	.524
388	T-1¾	28.0	.04	.30	25	2.63	1.577	1.325
680	T-1	5.0	.06	.03	20	3.32	1.992	1.673
682	T-1	5.0	.06	.029	21	4.01	2.406	2.022
683	T-1	5.0	.06	.05	20	3.32	1.992	1.673
685	T-1	5.0	.06	.048	21	4.01	2.406	2.022
713	T-1	5.0	.075	.09	20	3.32	1.992	1.673
714	T-1	5.0	.075	.08	21	4.01	2.406	2.022
715	T-1	5.0	.115	.15	20	3.32	1.992	1.673
718	T-1	5.0	.115	.132	21	4.01	2.406	2.022
1003	B-6	12.8	.94	15.0	2	.59	.353	.296
1004	B-6	12.8	.94	15.0	3	.59	.353	.296
1034	S-8	12.8 14.0	1.80 .59	32.0 3.0	16	.66	.394	.331
1076	S-8	12.8	1.80	32.0	15	.90	.542	.456
1133	RP-11	6.2	3.91	32.0	13	1.31	.785	.659
1156	S-8	12.8	2.10	32.0	14	.77	.46	.387
1157	S-8	12.8 14.0	2.10 .59	32.0 3.0	16	.57	.343	.288
1176	S-8	12.8 14.0	1.34 .59	21.0 6.0	16	.87	.523	.44
1183	RP-11	5.5	6.25	50.0	13	2.64	1.585	1.331
1195	RP-11	12.5	3.0	50.0	13	2.87	1.72	1.445
1445	G-3½	14.4	.135	.7	6	.38	.228	.191
1447	G-3½	18.0	.15	1.5	4	.44	.262	.22
1495	T-4½	28.0	.30	6.0	29	1.17	.704	.592
1764	T-1¾	28.0	.04	.34	22	.94	.562	.472
1784	T-1¾	6.0	.20	.60	22	1.28	.77	.647
1813	T-3¼	14.4	.10	.86	27	.55	.328	.275
1815	T-3¼	14.0	.20	1.4	27	.64	.387	.325
1816	T-3¼	13.0	.33	3.0	27	.46	.273	.23
1819	T-3¼	28.0	.04	.34	27	.563	.338	.284
1820	T-3¼	28.0	.10	1.6	27	.75	.448	.377
1829	T-3¼	28.0	.07	1.0	27	.77	.459	.385
1847	T-3¼	6.3	.15	.38	27	.37	.219	.184

*At 5 volts.

INDUSTRY STANDARD LAMPS
CONTINUED ON FOLLOWING PAGE

Fig. 1


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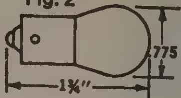

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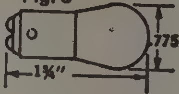

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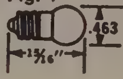

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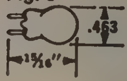

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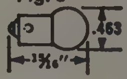

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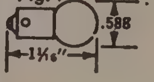

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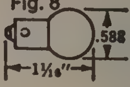

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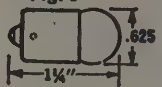

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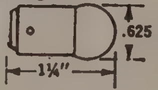

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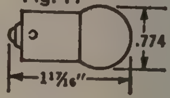

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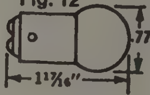

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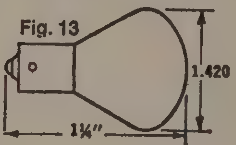

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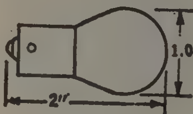

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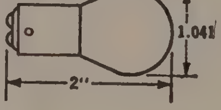

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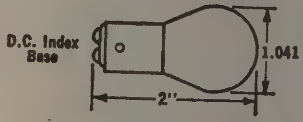

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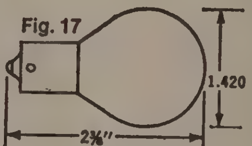

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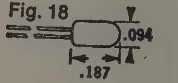


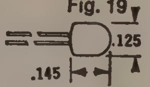
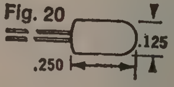
Fig. 19


Fig. 20


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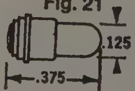

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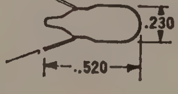

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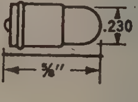

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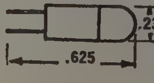

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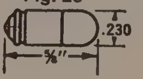

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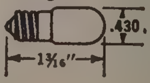

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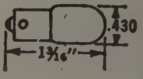

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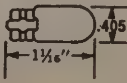

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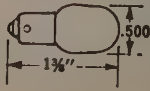

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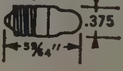


INDUSTRY STANDARD LAMPS (CONT'D)

See previous page for illustrations.

Lamp No.	Bulb	Volts	Amps	M.S. C.P.	Fig.	Net Each, Lots of 1-9	10-99	100-499
1850	T-3¼	5.0	.09	.25	27	$0.87	$0.519	$0.436
1864	T-3¼	28.0	.17	3.0	27	1.13	.68	.571
1869	T-1¾	10.0	.014	.004	22	1.18	.709	.595
1888	T-3¼	7.0	.50	2.0	27	1.34	.805	.676
1889	T-3¼	14.0	.27	2.0	27	.48	.29	.244
1891	T-3¼	14.0	.24	2.0	27	.43	.259	.217
1893	T-3¼	14.0	.33	2.0	27	.45	.268	.225
1895	G-4½	14.0	.27	2.0	8	.32	.193	.162
2162	T-1¾	14.0	.10	.5	22	.94	.566	.475
2182	T-1¾	14.0	.08	.30	22	.91	.545	.458
2187	T-1¾	28.0	.04	.30	22	1.63	.978	.821
6832	T-1†	5.0	.06	.05	18	1.48	.886	.745
6833	T-¾	5.0	.06	.05	18	2.81	1.685	1.415
6838	T-1	28.0	.024	.15	20	3.41	2.045	1.718
6839	T-1	28.0	.024	.15	21	4.63	2.774	2.33
7152	T-1†	5.0	.115	.15	19	1.84	1.103	.926
7327	T-1¾	28.0	.04	.34	24	.99	.594	.499
7328	T-1¾	6.0	.20	.6	24	1.05	.628	.527
7344	T-1¾	10.0	.014	.004	24	1.22	.731	.614
7382	T-1¾	14.0	.08	.30	24	1.11	.666	.559
7387	T-1¾	28.0	.04	.30	24	1.08	.647	.543
7931	T-1¾	1.35	.06	.006	24	1.18	.707	.594

†Short.

NEON GLOW LAMPS

Lamp No.	Fig.	Net Each, Lots of 1-9	10-99	100-499
A1A (NE-2)	31	$0.27	$0.165	$0.138
A2A (NE-2A)	31	.27	.165	.138
A2B (NE-2V)	31	.27	.165	.138
A9A (NE-2E)	31	.24	.146	.122
B1A (NE-51)	27	.78	.467	.393
B2A (NE-51H)	27	.78	.467	.393
B5A (NE-17)	32	4.03	2.415	2.029
B7A (NE-45)	33	4.03	2.415	2.029
B8A (NE-47)	34	4.03	2.415	2.029
B9A (NE-48)	35	3.52	2.108	1.771
C2A (NE-2H)	31	.24	.146	.122
C7A (NE-2D)	36	2.32	1.389	1.167
C9A (NE-2J)	36	2.15	1.289	1.083
F3A (NE-57)	33	3.84	2.302	1.934
F4A (NE-58)	33	3.84	2.302	1.934
J5A (NE-30)	37	5.27	3.162	2.656
J9A (NE-56)	37	4.26	2.553	2.145
K1A5 (NE-84)	38	1.84	1.105	.929
L5A (NE-32)	32	3.55	2.127	1.787
4AB (NE-96)	31	1.22	.731	.614
4AC (NE-97)	31	.92	.55	.462
5AB (NE-23)	31	.72	.429	.361
5AC (NE-68)	31	.95	.567	.477
5AG (NE-81)	31	1.28	.766	.643
5AGA (NE-76)	31	1.52	.91	.764
5AH (NE-83)	31	.98	.587	.493
5AJ (NE-86)	31	.74	.442	.372
6AC (NE-67)	27	1.60	.961	.808
7AA (NE-16)	35	3.52	2.108	1.771
8AA (NE-3)	38	2.20	1.317	1.107
8AB (NE-4)	38	1.52	.911	.766

SLIDE-BASE PILOT LAMPS (FIG. 38)

Lamp No.	Volts	Amps	M.S. C.P.	Net Each, Lots of 1-9	10-99	100-499
6PSB	6	.14	.12	$1.35	$0.810	$0.680
12PSB	12	.17	.35	1.35	.810	.680
24PSB	24	.073	.5	1.35	.810	.680
28PSB	28	.04	.29	1.35	.810	.680
48PSB	48	.053	.7	1.35	.810	.680
60PSB	60	.05	.73	1.55	.929	.781
120PSB	120	.025	.36	1.52	.908	.763

INDICATOR CARTRIDGE LAMPS (T-2 BULB) (FIG. 39)

Lamp No.	Volts	Amps.	Average End F.C.	Net Each, Lots of 1-9	10-99	100-499
30901-0	4	.04	145	$1.84	$1.103	$0.926
30905-0	5	.04	225	1.84	1.103	.926
30909-0	6	.04	160	1.84	1.103	.926
30913-0	10	.01	—	1.84	1.103	.926
30914-0	10	.017	10	1.84	1.103	.926
30915-0	10	.04	540	1.84	1.103	.926
30918-0	12	.04	550	1.84	1.103	.926
30925-0	16	.017	75	1.84	1.103	.926
30926-0	16	.04	750	1.84	1.103	.926
30930-0	18	.04	800	1.84	1.103	.926
30933-0	24	.017	200	1.84	1.103	.926
30934-0	24	.04	650	1.84	1.103	.926
30938-0	28	.04	1500	1.84	1.103	.926
30941-0	48	.04	3000	1.84	1.103	.926

SOCKETS FOR INDICATOR CARTRIDGE LAMPS (FIG. 40)

Part No.	Overall Length	Mtg. Hole Dia.	Term-inals	Net Each, Lots of 1-9	10-99	100-499
30097-0	1 11/64″	.375″	Turret	$2.29	$1.373	$1.153
30098-0	1 11/64″	.375″	Solder	2.29	1.373	1.153

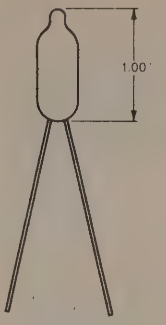


Fig. 31

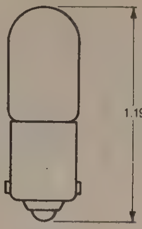


Fig. 32

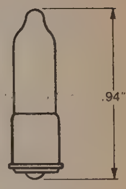


Fig. 33

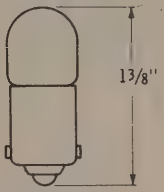


Fig. 34

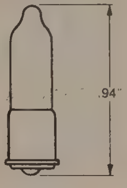


Fig. 36

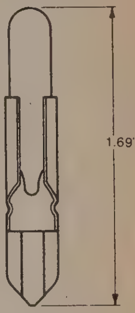


Fig. 38

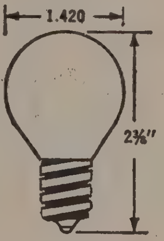


Fig. 37

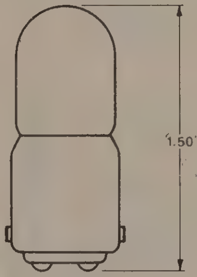


Fig. 35

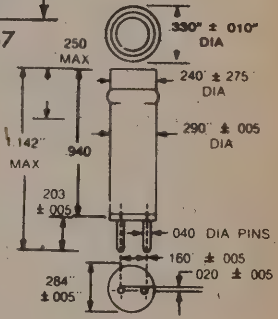


Fig. 39

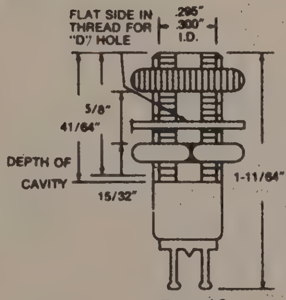


Fig. 40

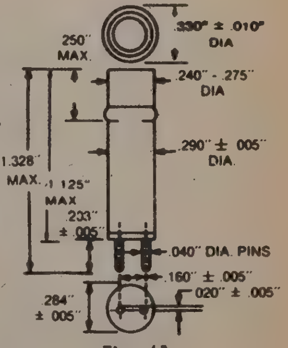


Fig. 41

PILOT CARTRIDGE LAMPS (T-2 BULB) (FIG. 41)

Lamp No.	Volts	Amps	Avg. End F.C.	Net Each, Lots of 1-9	10-99	100-499
30021-0	6	.8	550	$1.84	$1.103	$0.926
30031-0	12	2	2400	1.84	1.103	.926
30041-0	24	1.7	3000	1.84	1.103	.926
30051-0	28	1.1	1500	1.84	1.103	.926
30061-0	48	2.5	1500	1.84	1.103	.926
30071-0	60	3	1800	1.84	1.103	.926
30081-0	120	3	1000	1.84	1.103	.926

INDUSTRY STANDARD LAMPS (CONT'D)

SOCKETS FOR PILOT CARTRIDGE LAMPS (FIG. 34)

Part No.	Overall Length	Mtg. Hole Dia.	Term-inals	Net Each, Lots of 1-9	10-99	100-499
30095-0	1⅜"	.375"	Turret	$2.29	$1.373	$1.153
30096-0	1⅜"	.375"	Solder	2.29	1.373	1.153

LENSES FOR ABOVE SOCKETS (FIG. 42)

Lens Color	Lens No. Trans-parent	Trans-lucent	Net Each, Lots of 1-9	10-99	100-499
Amber	30140-0	....	$0.83	$0.497	$0.417
Clear	30141-0	....	.83	.497	.417
Red	30142-0	30147-0	.83	.497	.417
Blue	30143-0	30148-0	.83	.497	.417
Green	30144-0	30149-0	.83	.497	.417
Yellow	....	30145-0	.83	.497	.417
White	....	30146-0	.83	.497	.417

ANNUNCIATOR LAMPS AND COLOR CAPS

Long life annunciator lamps are designed for use in elevator panels, pushbutton stations, indirect decorative lighting and general signalling applications where a relatively high candlepower miniature light source is necessary. A high degree of light control is made possible by a self-contained aluminized reflector. Unique lighting and signalling effects are attainable using pyrex color caps shown in the chart. Ordering Data: For clear lamps, specify lamp number. For colored lamps, specify color as follows: 6RB/Red, etc. Caps are cemented to lamps when ordered in this manner. Caps may also be ordered separately.

ANNUNCIATOR LAMPS (FIGS. 43 AND 44)

Lamp No.	Base	Volts	Amps	Watts	Net Each, Lots of 1-9	10-99	100-499
6RC	Cand. Screw	6	.14	.8	$2.38	$1.427	$1.199
12RC	Cand. Screw	12	.17	2	2.38	1.427	1.199
24RC	Cand. Screw	24	.073	1.7	2.38	1.427	1.199
28RC	Cand. Screw	28	.04	1.1	2.38	1.427	1.199
60RC	Cand. Screw	60	.050	3	2.38	1.427	1.199
120RC	Cand. Screw	120	.025	3	2.06	1.236	1.039
6RB	Min. Bay	6	.140	.8	2.38	1.427	1.199
12RB	Min. Bay	12	.17	2	2.38	1.427	1.199
24RB	Min. Bay	24	.073	1.7	2.38	1.427	1.199
28RB	Min. Bay	28	.04	1.1	2.38	1.427	1.199
60RB	Min. Bay	60	.05	3	2.38	1.427	1.199
120RB	Min. Bay	120	.025	3	2.06	1.236	1.039

COLOR CAPS FOR ANNUNCIATOR LAMPS (FIG. 45)

Cap Color	Cap No.	Net Each, Lots of 1-9	10-99	100-499
Red	38071-0	$0.29	$0.173	$0.146
Yellow	38072-0	.29	.173	.146
White	38073-0	.29	.173	.146
Green	38074-0	.29	.173	.146
Blue	38075-0	.29	.173	.146

WIRE LEAD INDICATOR LAMPS (T-2 BULB) (FIG. 46)

Lamp No.	Volts	Amps.	M.S. C.P.	Net Each, Lots of 1-9	10-99	100-499
4ES	4	.04	.03	$1.03	$0.616	$0.517
5ES	5	.04	.04	1.03	.616	.517
6ES	6	.04	.025	1.03	.616	.517
10AS	10	.01	.001	1.30	.778	.653
10CS	10	.017	.01	1.12	.67	.563
10ES	10	.04	.07	.90	.542	.456
12ES	12	.04	.09	1.01	.606	.509
16CS	16	.017	.016	1.04	.626	.526
16ES	16	.04	.17	1.01	.606	.509
18ES	18	.04	.14	1.01	.606	.509
24CS	24	.017	.02	1.08	.648	.545
24ES	24	.04	.12	1.01	.606	.509
28ES	28	.04	.25	.90	.542	.456
48ES	28	.04	.44	1.23	.735	.618

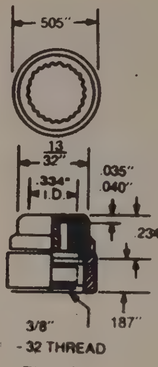


Fig. 42

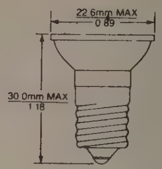


Fig. 43

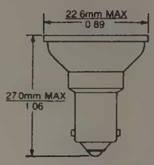


Fig. 44

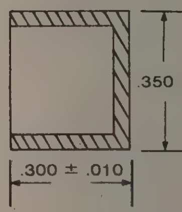


Fig. 45

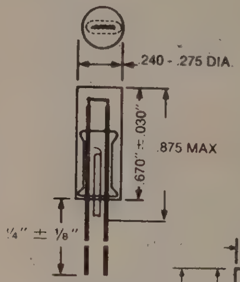


Fig. 46

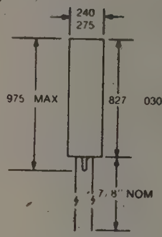


Fig. 47

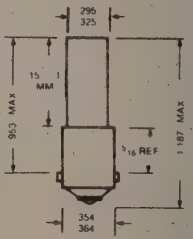


Fig. 48

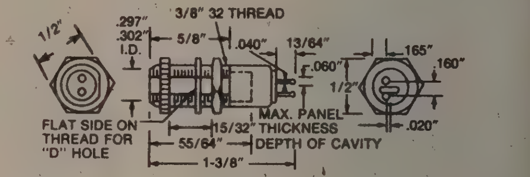


Fig. 49

WIRE LEAD PILOT LAMPS (T-2 BULB) (FIG. 47)

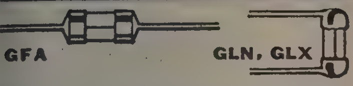
Lamp No.	Volts	Amps	M.S. C.P.	Net Each, Lots of 1-9	10-99	100-499
6PS	6	.14	.12	$1.03	$0.616	$0.517
12PS	12	.17	.35	1.01	.606	.509
24PS	24	.073	.5	1.01	.606	.509
28PS	28	.04	.29	1.01	.606	.509
48PS	48	.053	.7	1.01	.606	.509
60PS	60	.05	.73	1.26	.757	.636
120PS	120	.025	.36	1.12	.67	.563
120PS/6	120	.052	1.43	1.12	.67	.563

MINIATURE BAYONET PILOT LAMPS (T2½ BULB)

Lamp No.	Volts	Amps	M.S. C.P.	Net Each, Lots of 1-9	10-99	100-499
6MB	6	.140	.12	$1.55	$0.929	$0.781
12MB	12	.170	.35	1.55	.929	.781
24MB	24	.073	.50	1.48	.886	.745
28MB	28	.040	.29	1.55	.929	.781
48MB	48	.053	.70	1.62	.973	.818
60MB	60	.050	.73	1.66	.994	.835
90MB	90	.033	.37	1.55	.929	.781
120MB	120	.025	.36	1.59	.951	.799
120MB/6	120	.052	1.43	1.59	.951	.799

Buss® and Fusetron® Fuses, Holders

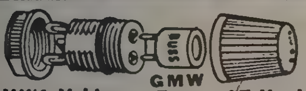
TRON SUBMINIATURE PIG-TAIL FUSES



Glass-tube construction with 1½″ leads of 24 tinned copper for 1/100–5 amp ratings, 18 tinned copper for 7–15 amp ratings. Hermetically sealed. Color coded to indi- ate amp ratings. For circuits with fault urrent of 50 amps or less (1/100–5 amps or 125 V or less, 7–15 amps for 32 V or ess). GLN, GLX body, .140″ x .3″; GFA ody, .145″ x .3″. GFA, UL Recognized.

Buss No.	Amperes	Net Each	
		♦	■
GLN	1/100	$2.13	$1.77
GLN	1/32, 1/20, 1/16, 1/10, 1/8, 3/10, 4/10, 7, 8, 15	1.77	1.48
GLX	15/100, 2/10, 1/4, 1/2, 6/10, 3/4, 1, 1½, 2, 3, 4, 5	2.33	1.94
GFA	1/100, 1/32, 1/20, 1/16, 1/10, 1/8, 15/100, 2/10, 1/4, 3/10, 4/10, 1/2, 6/10	.77	.64
GFA	3/4, 1, 1½, 2, 3, 4, 5, 7, 8, 15	.69	.58

SUBMINIATURE PRONG TYPE UNIT



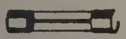
Rated 125 V max; fault current under 300 A. Open at 200% in 10 sec. Use AF knob for waterproof. Body .27″ dia., .25″ long. GMW and HWA* devices UL Recognized.

Buss No.	Amperes	Net Each	
		♦	■
GMW	1/200, 1/100, 1/64, 1/32, 1/16	$1.28	$1.07
GMW	1/10, 2/10, ¼, 3/10, 4/10, ½, 6/10, ¾, 1, 1½, 2, 3, 4, 5	.97	.80
HWA*	Holder, fits all GMW	1.24	1.03
HWA†	Holder, fits all GMW	1.10	.92
AF	Knob only, fits HWA	.16	.14

*With AF knob. †Without AF knob.

13/64 x 45/64 inch FUSES

(5 mm X 20 mm)



Protection of miniaturized circuits commonly used in foreign equipment. Carry 100% open at 200% in 10 sec.

Buss No.	Amperes	Net Each	
		♦	■
GMA	⅛, 1/10, 2/10	$0.53	$0.44
GMA	¼, 3/10, 4/10, ½, 6/10, 7/10	.41	.35
GMA	1, 1-2/10, 1½, 2, 2½, 3, 4, 5, 7, 8, 10	.35	.30

1/4 x 5/8 inch FUSES

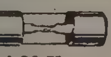
FAST ACTING FUSES

Glass tube, ¼″ x ⅝″. Rated 32 V, carry 110%, open at 135% in 1 hour.

AGA	1, 1½, 2, 2½, 3	$0.14	$0.12
AGA	5, 6, 7½, 10, 15, 20, 25, 30	.10	.08

1/4 x 7/8 inch FUSES

FAST ACTING FUSES



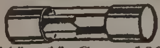
Glass tube, rated 32 V; carry 110%, open at 135% in 1 hour.

AGW	1, 2, 2½, 3, 4	$0.14	$0.12
AGW	5, 6, 7½, 15, 20, 30	.10	.08

♦Less than $100 net. ■$100 net and over.

1/4 x 1 inch FUSES

FAST ACTING FUSES



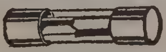
Glass tube, ¼″ x 1″. Carry 100%, open at 200% in 5 sec. Up to 1/32 A sizes have bridge elements, others have straight-through element. UL Listed to 5 amps.

Buss No.	Amperes	Volts	Net Each	
			♦	■
AGX	1/500	250	$2.01	$1.67
AGX	1/200	250	.89	.74
AGX	1/100	250	.75	.62
AGX	1/32	250	.65	.54
AGX	1/16	250	.41	.34
AGX	1/10, ⅛, 2/10	250	.34	.28
AGX	¼, ⅜, 4/10, ½, ¾	250	.19	.16
AGX	1, 1½, 2, 3, 4	125*	.14	.12
AGX	5, 8, 10, 15, 20	32†	.10	.08
AGX	25, 30	32	.10	.08
AGX	35	32	.14	.12

*1A, 250. †5A, 125.

1/4 x 1-1/4 inch FUSES

FAST ACTING FUSES



Glass tube, ¼″ x 1¼″. Carry 110%, open at 135% in 1 hour or less. 1/500 to 2 amp sizes will open at 200% in 5 seconds or less. 1/500 to 1/32 amp have bridge construction; all others straight-through element.

AGC	1/500	250*	$2.01	$1.67
AGC	1/200	250*	.89	.74
AGC	1/100	250*	.75	.63
AGC	1/32	250*	.65	.54
AGC	1/16, ⅛, 15/100, 175/1000, 3/16, 1/10, 2/10	250*	.34	.28
AGC	¼, 3/10, ⅜, 45/100, ½, 6/10, ¾	250*	.19	.16
AGC	1, 1¼, 1½, 1-6/10, 2	250*	.14	.12
AGC	2½, 3	250*	.14	.12
AGC	4	32‡	.14	.12
MTH	4, 5, 6	250*	.17	.14
AGC	5, 6, 7½, 8, 10, 15	32‡	.10	.08
AGC	20, 25, 30	32‡	.10	.08
AGC	35	32‡	.14	.12

*UL Listed. ‡UL Recognized.

1/4 x 1-1/4 inch FUSES

CERAMIC TUBE FUSES

High interrupting capacity for use on circuit delivering as high as 25,000 amps at 125 V, or 10,000 amps at 250 V. ¼″ x 1¼″. Carry 110%, open at 135% in 1 hour. Up to 15 amp size UL Listed.

ABC	¼	250	$0.28	$0.23
ABC	1, 2, 3	250	.28	.23
ABC	5, 6, 8, 10	250	.24	.20
ABC	12, 15, 20	250	.24	.20
ABC	25, 30	125	.35	.30

1/4 x 1-1/4 inch FUSES

VISUAL INDICATING FUSES

For use with HLD fuseholder. Bright red dot on indicating pin extends from end of fuse when fuse is open even after power is off. Rated 125 V or less, carries 110%, opens at 135% in 1 hour or less. Only ¼″ x 1¼″. UL Listed to 5 amps.

Buss No.	Amperes	Net Each	
		♦	■
GBA	¾	$0.91	$0.75
GBA	1, 1½, 2, 3, 4, 5	.67	.56
GBA	6, 8, 10, 12, 15, 20	.89	.74

Fiber tube with silver plated indicating pin which extends when fuse is blown. To 5 A may be used to actuate a signal when used in HKA fuseholder or Signal Fuse Block. Dual tube construction over 5 amps. Under 8 amps, 125 V; 8 amps up, 32 V. Size ¼″ x 1¼″. UL Listed to 5 amps.

GLD	¾	$0.81	$0.67
	1, 1½, 2, 3, 4, 5	.63	.53
	6, 8, 10, 12, 15, 20	.89	.74

1/4 x 1-1/4 inch FUSES

FUSETRON PIG-TAIL FUSES

Body ¼″ x 1¼″, #20 tinned leads, 1¼″. 1/100 to 2-8/10 same as MDL type; 3 to 7 amps same as MDX type. UL Listed.

Buss No.	Amperes	Volts	Net Each	
			♦	■
MDV	1/100, 1/32	250	$0.67	$0.56
MDV	1/16, 1/10, ⅛, 15/100, 175/1000, 3/16, 2/10, ¼, 3/10, ⅜, 4/10, ½, 6/10, ¾, 8/10, 1	250	.51	.43
MDV	1¼, 1½, 1-6/10, 1-8/10, 2, 2¼	125	.49	.41
MDV	2½, 2-8/10, 3, 3-2/10, 4, 5, 6¼, 7	125	.41	.34

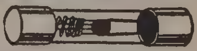
PIG-TAIL FUSES

Glass tube ¼″ x 1¼″ with 1¼″ leads of #20 tinned wire. Carry 110%, open 135% in 1 hour. 250 V. UL Listed.

Buss No.	Amperes	Net Each	
		♦	■
GJV	1/16	$0.51	$0.43
GJV	⅛	.51	.43
GJV	¼, 3/10, ⅜, ½, ¾	.34	.28
GJV	1, 1½, 1¾, 2, 3	.26	.21
GJV	4, 5, 6, 7	.28	.23

1/4 x 1-1/4 inch FUSES

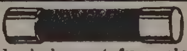
FUSETRON GLASS TUBE FUSES



Dual-element slow blowing ¼″ x 1¼″. Link opens only on high overloads; thermal cutout functions on low overloads (cannot operate fast on any load). Carry 110%, open at 135% in 1 hour. MDL to 2-8/10 A and MDX 3 to 7 A UL Listed; MDL 8 to 30 A UL Recognized. MDL type has longer time lag than MDX type.

Buss No.	Amperes	Volts	Net Each	
			♦	■
MDL	1/100, 1/32	250	$0.55	$0.46
MDL	1/16, 1/10, ⅛, 15/100, 175/1000, 3/16, 2/10, ¼, 3/10, ⅜, 4/10, ½, 6/10, 7/10, ¾, 8/10, 1		.41	.34
MDX	1¼, 1½, 1-6/10, 2	250	.43	.36
MDL	1-2/10, 1¼, 1½, 1-6/10, 1-8/10, 2	125	.39	.33
MDL	2½, 2-8/10	125	.34	.28
MDX	3, 3-2/10, 4, 5	125	.34	.28
MDX	6¼, 7	125	.38	.31
MDL	3, 3-2/10, 4, 5, 6¼, 8, 10, 15, 20, 25, 30	32	.34	.28

1/4 x 1-1/4 inch FUSES



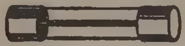
Fusetron dual-element fuse, slow-blowing type, ceramic tube. Carry 110%, open at 135% in 1 hour. UL Recognized to 20 A.

MDA	1/100, 1/32	250	$0.71	$0.59
MDA	1/16, 1/10, ⅛, 15/100, 175/1000, 3/16, 2/10, ¼, 3/10, ⅜, 4/10, ½, 6/10, ¾, 8/10, 1, 1¼, 1½, 1-6/10, 2	250	.57	.48
MDA	2½, 2-8/10, 3, 3-2/10, 4, 5, 6¼, 7, 8, 10, 15, 20	250	.41	.34
MDA	25, 30	125	.41	.34

Buss® and Fusetron® Fuses, Holders

9/32 x 1-1/4 inch FUSES

AGS GLASS TUBE FUSES



Test specification; carry, 110%, open at 135% within 1 hour except 35 and 40 amp units which open at 300% in 2 to 4 seconds when tested in standard 30-amp test circuit. **Note:** These units in sizes larger than 30 amps are not recommended for use in fuse clips or fuseholders as clips will not carry the high currents.

Buss No.	Amperes	Volts	Net Each	
			♦	■
AGS	1/16	250	$0.63	$0.53
AGS	⅛	250	.45	.38
AGS	¼, ½	250	.24	.20
AGS	1, 2, 2½, 3	250	.24	.20
AGS	5, 10, 15, 20, 25, 30	32	.18	.15
AGS	35, 40, 50	32	.22	.18

9/32 x 1-1/4 inch FUSES

CERAMIC TUBE FUSES

Carry at 110%, open at 135% in one hour; 30 and 40 amp units open at 300% in 2 to 4 seconds when tested in standard 30-amp test circuit.

ABS	1, 2, 3	250	$0.43	$0.36
ABS	5, 8, 10, 15, 20	250	.41	.35
ABS	25, 30	125	.41	.35
ABS	35, 40	32	.43	.36

9/32 x 1-1/4 inch FUSES

FUSETRON DUAL-ELEMENT FUSES

Glass tube, slow-blowing. Avoids needless blows from starting currents or surges, yet provides protection against short circuits or continuous overloads. Carry 110%, open at 135% in one hour. Approximate blowing time, 25 sec at 200% load, 8 sec at 300% load, 3 sec at 500% load.

MDM	1/10, 15/100, 2/10, ¼, 3/10, 4/10, ½, 6/10, ¾, 8/10, 1	250	$0.55	$0.46
MDM	1¼, 1-6/10, 2	125	.55	.46
MDM	2½, 2-8/10, 3	125	.43	.36
MDM	3-2/10, 4, 5, 6¼, 8, 10, 15, 20, 25, 30, 35, 40	32	.43	.36

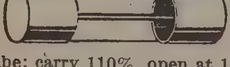
13/32 x 1-3/8 inch FUSES

"QUICK-BLOWING" 600 V FUSES

Designed to protect control circuits, fluorescent lighting circuits or similar uses where quick-blowing characteristics are desired. Use HPC-L fuseholder or 3845 fuse block. UL Listed. Fiber tube 13/32" x 1⅜".

Buss No.	Amperes	Net Each	
		♦	■
BBS	4/10, ¾, 8/10	$0.42	$0.35
BBS	1, 2, 3, 4, 5	.41	.34

13/32 x 1-1/2 inch FUSES



Glass tube; carry 110%, open at 135% in one hour. Below 4 amp sizes UL Listed.

Buss No.	Amperes	Volts	Net Each	
			♦	■
AGU	1, 2, 3, 4	250	$0.26	$0.21
AGU	5, 10, 15, 20, 25, 30, 35, 40, 50, 60	32	.26	.21

♦Less than $100 net. ■$100 net and over.

13/32 x 1-1/2 inch FUSES

MIDGET TYPE FUSES

Up to 15 amp size UL Listed.

Buss No.	Amperes	Volts	Net Each	
			♦	■
BAF	1, 3, 6, 10	250	$0.24	$0.20
BAF	15, 20, 25, 30	125	.24	.20

INDICATING, LAMINATED TUBE FUSES

Red button on indicating pin extends from end of fuse when fuse is blown. Units are built in accordance with Navy Specifications. These units may be used in Buss HPC-C fuseholders. Voltage, (1-15 amps), 250, others, 125 V.

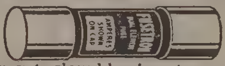
MIN	1, 2, 3, 5, 10, 15, 20, 25, 30	$0.69	$0.58

SIGNAL OR VISUAL INDICATING FUSES

MIC fuses: Silver-plated indicating pin may be used as visual indicator, or to actuate a signal. **MIJ** fuses: Similar to MIC type, specially designed for complex circuitry as in compuyers. Under 20 A, 250 V; 20 A up, 32 V. UL Listed to 15 amps.

MIC	1, 2, 3, 5, 10, 15, 20, 25, 30	$0.77	$0.64
MIJ	1, 2, 3, 5, 10, 15, 20, 25, 30	.91	.76

FUSETRON FIBER TUBE FUSES



Dual-element slow-blowing type, 13/32" x 1½" overall. Fuse link operates only on very high overloads or short circuits; thermal cutout functions on low overloads (cannot operate quickly on any overload, thus providing longer time lag). Carry 110%, open at 135% in 1 hour. 125 and 250 volt sizes UL Listed.

Buss No.	Amperes	Volts	Net Each	
			♦	■
FNM	1/10, 15/100, 2/10, 3/10, 4/10, ½, 6/10, 8/10, 1, 1⅛, 1¼, 1-4/10, 1-6/10, 1-8/10, 2, 2¼, 2½, 2-8/10, 3-2/10, 3½, 4, 4½, 5, 5-6/10, 6¼, 7, 8, 9, 10	250	$0.65	$0.54
FNM	12, 15	125	.65	.54
FNM	20, 25, 30	32	.65	.54

MDR same as series FNM above, except glass tube instead of fiber tube.

MDR	1/10, 15/100, 2/10, 3/10, 4/10, ½, 6/10, 8/10	250	$0.65	$0.54
MDR	1, 1½, 1-6/10, 2	125	.65	.54
MDR	2½, 3, 3-2/10, 4, 5, 6¼, 8, 10, 15, 20	32	.53	.44
MDR	25, 30, 35, 40	32	.57	.48

INDICATING FUSETRON FUSES

FNA
FUSETRON

Similar to FNM types. Indicating pin extends from fuse when fuse blows. Use in signal fuse block or HPC-C fuseholder (larger than 10 amps units cannot be used in HPC-C). UL Listed in 0–15 amp sizes.

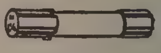
FNA	1/10, 15/100, 2/10, 3/10, 4/10, ½, 6/10, 8/10, 1, 1⅛, 1¼, 1-4/10, 1-6/10, 1-8/10, 2, 2¼, 2½, 2-8/10, 3, 3-2/10, 3½, 4, 4½, 5, 5-6/10, 6, 6¼, 7, 8, 10	$1.21	$1.00
FNA	12, 15, 20, 25, 30	1.36	1.13

13/32 x 1-1/2 inch FUSES

HIGH INTERRUPTING CAPACITY FUSE

Type KTK—For use on circuits as high a 100,000 amps at 600 volts or less, AC only Glass fiber melamine tubes and sand fille surrounding a silver fuse element. **Am peres:** 1/10, ⅛, 2/10, ¼, 3/10, ½, ¾, 1 1½, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 25, 30 Net Each, less than $100 net, **$1.75**; $10 net and over, **$1.45.** UL Listed.

TYPE C AND N FUSES, HOLDERS



C, N

HC, HN

Matched glass fuses and fuseholders fo specific size ranges. **Type N** fuses are dual element time-delay or slow-blowing type 0 to 1¼ amp sizes, ¼" x 1¼"; 1-3/10 to amp sizes, ¼" x 1 7/16". **Type C** fuses ar single-element quick-blowing type. 0 to 3 amp sizes, ¼" x 1 1/16"; 3-6/10 to 10 am sizes, ¼" x 1¼". Holders rated at 250 volts Fuses UL Listed, holders UL Recognized

TYPE N FUSES

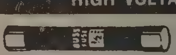
Amperes	Holder No. HN-	Volts	Net Each	
			♦	■
1/100, 1/32	0 to 3/10	250	$0.55	$0.46
1/16, 1/10, 15/100, 2/10, ¼, 3/10			.41	.34
4/10	3/10 to ½	250	.41	.34
½	3/10 to ½	250	.41	.34
6/10	½ to ¾	250	.41	.34
7/10, ¾	½ to ¾	250	.41	.34
8/10, 1	¾ to 1¼	250	.41	.34
1¼	¾ to 1¼	250	.39	.33
1-6/10	1-3/10 to	125	.39	.33
1¾	1¾	125	.39	.33
2	1¾ to 2½	125	.39	.33
2½	1¾ to 2½	125	.39	.33
2-8/10	2½ to 3½	125	.39	.33
3-2/10	2½ to 3½	125	.39	.33
3½	2½ to 3½	125	.39	.33
4	3½ to 5	125	.39	.33
5	3½ to 5	125	.39	.33
6¼	5 to 7	125	.39	.33
7	5 to 7	125	.39	.33

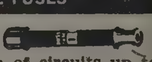
TYPE C FUSES

Amperes	Holder No. HC-	Volts	Net Each	
			♦	■
1/32	0 to 3/10	250	$0.63	$0.53
1/16	0 to 3/10	250	.41	.34
⅛, 3/16	0 to 3/10	250	.34	.28
¼	0 to 3/10	250	.26	.21
3/10	0 to 3/10	250	.26	.21
⅜	3/10 to ½	250	.26	.21
½	3/10 to ½	250	.26	.21
¾	½ to ¾	250	.26	.21
1	¾ to 1¼	250	.16	.13
1¼	¾ to 1¼	250	.16	.13
1½	1¼ to 1¾	250	.16	.13
1¾	1¼ to 1¾	250	.16	.13
2	1¾ to 2½	250	.16	.13
2½	1¾ to 2½	250	.16	.13
3	2½ to 3½	250	.16	.13
3½	2½ to 3½	250	.17	.14
4	3-6/10 to 5	250	.17	.14
5	3-6/10 to 5	250	.17	.14
6	5 to 7	250	.17	.14
7	5 to 7	250	.17	.14
8	7 to 10	250	.28	.23
10	7 to 10	250	.28	.23

Type HC and Type HN Fuseholders—All sizes (specify). Net Each, less than $100 net, **$0.32**; $100 net and over, **$0.26.**

HIGH VOLTAGE FUSES





Designed for protection of circuits up to 20 kW on DC and 30 kVA on AC.

Buss No.	Amperes	V	Net Each	
			♦	■
HVA	⅜, ½, ¾, 1, 1½, 2	1000	$0.50	$0.41
HVB	½, ¾, 1, 1½, 2	2500	.70	.58
HVJ	1/16, ⅛, ¼, ⅜, ½, ¾, 1, 1½, 2	5000	1.30	1.07
HVL	1/16, ⅛, ¼, ⅜, ½, ¾, 1, 1½, 2	10K	2.47	2.05

Buss® and Fusetron® Fuses, Holders

SFE STANDARD FUSES

Different amperages are different lengths, making it impossible to over-fuse. Glass ube, ¼" dia. Carry 110%, open at 135% n 1 hour. Made to SAE specifications and UL Listed, 32 volts or less.

Buss No.	Amperes	Lgth. In.	Net Each ♦	Net Each ■
SFE	4	⅝	$0.092	$0.077
SFE	6	¾	.092	.077
SFE	7½, 9	⅞	.092	.077
SFE	14	1 1/16	.092	.077
SFE	20	1¼	.092	.077
SFE	30	1 7/16	.12	.099

SIGNAL-INDICATING ALARM ACTIVATING TYPE UNIT

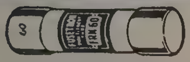
HLT
Holder
GMT
Fuse

Takes only ¼" x 1 15/32" space. Color indicator. Rated 300 V or less; 100% for 10 min.; open at 150% in 5 min. UL Recognized.

Buss No.	Amperes and Color of Indicator	Net Each ♦	Net Each ■
GMT	18/100*, ¼†, ½‡, 65/100§, ¾#, 1•, 1⅓▲, 2■, 3♦, 5X, 7½⁑, 10**	$0.73	$0.61
HLT	Holder, fits all GMT	.77	.64

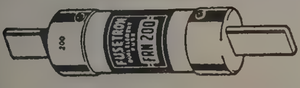
Color of Indicator: *Yellow; †violet; ‡red; §black; #brown; •gray; ▲white; ■orange; ♦blue; Xgreen; ⁑black-white; **red-white.

FUSETRON DUAL-ELEMENT FUSES



Long time-lag prevents useless shut-downs caused by ordinary fuses opening on starting currents or other harmless overloads, yet protects against short-circuits. On normal installations will guard motors against burnout from overloads or single phasing. UL Listed. For motor running and circuit protection up to 250 volts.

Buss No.	Amperes	Net Each ♦	Net Each ■
FRN	1/10, 15/100, 2/10, 3/10, 4/10, ½, 6/10, 8/10, 1, 1⅛, 1¼, 1-4/10, 1-6/10, 1-8/10, 2, 2¼, 2½, 2-8/10, 3-2/10, 3½, 4, 4½, 5, 5-6/10, 6¼, 7, 8, 9	$0.85	$0.71
FRN	10, 12, 15, 17½, 20, 25, 30	.82	.68
FRN	35, 40, 45, 50, 60	1.52	1.26



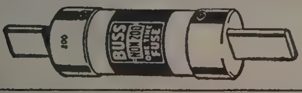
FRN	70, 80, 90, 100	$3.46	$2.87

BUSS ONE-TIME FUSES

FAST ACTING FUSE

Get same care in engineering and manufacture as other BUSS products. Each can be depended upon to operate as intended under all service conditions to 250 V. UL Listed.

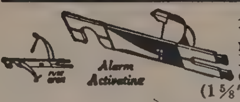
Buss No.	Amperes	Net Each ♦	Net Each ■
NON	1, 3, 6, 10, 15, 20, 25, 30	$0.24	$0.20
NON	35, 40, 45, 50, 60	.44	.37



NON	70, 80, 90, 100	$1.87	$1.55

♦Less than $100 net. ■$100 net and over.

GRASSHOPPER FUSES



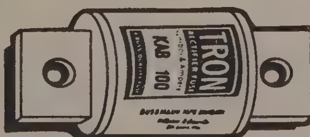
Alarm activating and signal indicating. Length: 1 43/64", except 35D (1⅝"), 35E (1 63/64").

Buss No.	Amps	Blowing Time Amp	Blowing Time Sec.	Net Each ♦	Net Each ■
35A*	1⅓#	2	90	$0.53	$0.44
35B*	1⅓**	2	90	.53	.44
35B*	2**	3	180	.53	.44
35C*	2#	3	180	.53	.44
35D*	1⅓**	2	90	.97	.80
35E*	3**	4	300	.53	.44
35F*	½#	¾	9	.53	.44
35G*	3**	4½	300	.53	.44
35H*	5**	6½	300	.53	.44
35J†	½#	¾	90	.73	.61
35K†	1⅓#	2	180	.97	.81
35L†	2#	3	180	.97	.81
35M†	3**	4½	300	.91	.76
35N†	5**	6½	300	.91	.76
35P†	¾#	1⅛	90	.69	.58
35R*	18/100#	.270	90	.69	.58
35S†	¼#	.375	90	.73	.61
35T*	65/100#	1.1	180	.73	.61

Volts: *90 or less. †160 or less. Mounting Screw: #No. 10. **No. 6.

TRON® RECTIFIER FUSES

For Protection of Semiconductor Rectifiers and Similar Applications



Especially designed for protection of semiconductor rectifiers, thyristors and other solid state devices. High interrupting capacity and very fast clearing to restrict let-through current and energy to very low values. Give safe short-circuit protection for systems with fault current to 200 kA at 600 volts or less. Carry 100%, open at 1000 secs between 150% and 180% of rating; open within 1 sec. at 250% of rating. **GBB** series UL Recognized.

GBB SERIES

Size, 1¼" lg. x ¼" dia.

Buss No.	Amperes	Max. Volts	Net Ea.♦
GBB	¼, 1, 1¼, 2, 3, 4, 5, 6, 7, 8, 9, 10	130	$1.16
GBB	12, 15, 20, 25, 30	65	1.16

KAA SERIES

Size, 1½" lg. x 13/32" dia. Also available up to 1000 amps; prices on request.

KAA	½, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 20, 25, 30	130	$1.67

KAW SERIES

Size, 1½" lg. x 13/32" dia.

KAW	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 20, 25, 30	130	$1.71

KAB SERIES

Size, 9/16" dia. x 2" lg., values to 30 amps; 1 7/32" dia. x 3⅛" lg., 70 amps to 200 amps. Also available up to 800 amps; prices on request.

KAB	½, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 17½, 20, 25, 30	250	$1.90
KAB	70, 80, 90, 100, 125, 150, 175, 200	250	8.53

KAC SERIES

Size, 2⅞" lg. x 9/16" dia. Also available up to 800 amps; prices on request.

KAC	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 17½, 20, 25, 30	600	$2.80

BLOCKS FOR TRON® RECTIFIER FUSES

Buss No.	No. Poles	For Fuse* No.	For Fuse* Amp	Base Size, In.	Net Ea.♦
4515	1	KAA or KAW	1–30	¾ x2 9/16	$0.97
4525	2			1 5/16 x2 9/16	1.89
4535	3			2 1/16 x2 9/16	2.78
4386	1	KAB	1–30	¾ x3¼	1.44
4287	2			2 x3½	2.78
3959	3			3 x3½	4.35
3556	1	KAB	70–100	1½ x3⅛	3.15
3521	3			5 23/32x3⅛	9.45
3595	1	KAC	1–30	1¼ x3½	2.33
3528	2			2½ x3½	4.59

*GBB series, use any BUSS block for ¼ x 1¼ in. fuses.

BLOCKS FOR 1/4 x 5/8 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
4511	1	Screw	$0.65
4521	2	Screw	1.26
4531	3	Screw	1.93

BLOCKS FOR 1/4 x 7/8 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
4393	1	None	$0.35
4398	1	Solder	.35
4399	1	Screw	.53
4401	2	Solder	.61
4402	2	Screw	1.02
4403	3	Solder	.95
4404	3	Screw	1.52
4485	2	Solder	.61
4517	1	Screw	.65
4520	1	Solder	.35
4537	3	Screw	1.93

BLOCKS FOR 1/4 x 1 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
3828-1	1	Solder	$0.34
3828-2	2	Solder	.55
3828-3	3	Solder	.91
3828-4	4	Solder	1.10
3828-5	5	Solder	1.36
3828-6	6	Solder	1.61
3828-7	7	Solder	1.81
3828-8	8	Solder	2.07
3828-9	9	Solder	2.34
3828-10	10	Solder	2.58
3828-11	11	Solder	2.85
3828-12	12	Solder	3.13
4393	1	None	.35
4398	1	Solder	.35
4399	1	Screw	.53
4401	2	Solder	.61
4402	2	Screw	1.02
4403	3	Solder	.95
4404	3	Screw	1.52
4485	2	Solder	.61
4514	1	Screw	.65
4520	1	Solder	.35
4524	2	Screw	1.26
4534	3	Screw	1.93

BLOCKS FOR 1/4 x 1-1/4 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
4405	1	Solder	$0.35
4408	2	Solder	.61
4411	3	Solder	.95
4512	1	Screw	.65
4522	2	Screw	1.26
4532	3	Screw	1.93

Buss® and Fusetron® Fuses, Holders

BLOCKS FOR ¼ x 1¼ INCH FUSES (CONT'D)

All have molded black phenolic bases with corrosion resistant Albaloy plated spring clips.

SOLDER TERMINAL TYPE ON SMALL BASE

Buss No.	No. of Poles	Base Size, Inches	Net Ea.♦
3823-1	1	½ x 1⅝	$0.34
3823-2	2	1⅛ x 1⅝	.55
3823-3	3	1¾ x 1⅝	.91
3823-4	4	2⅜ x 1⅝	1.10
3823-5	5	3 x 1⅝	1.36
3823-6	6	3⅝ x 1⅝	1.61
3823-7	7	4¼ x 1⅝	1.81
3823-8	8	4⅞ x 1⅝	2.07
3823-9	9	5½ x 1⅝	2.34
3823-10	10	6⅛ x 1⅝	2.58
3823-11	11	6¾ x 1⅝	2.85
3823-12	12	7⅜ x 1⅝	3.13

SCREW TERMINAL TYPE ON FULL BASE

Buss No.	No. of Poles	Base Size, Inches	Net Ea.♦
3833-1	1	25/32 x 2⅜	$0.57
3833-2	2	1 11/16 x 2⅜	1.20
3833-3	3	2 19/32 x 2⅜	1.97
3833-4	4	3⅓ x 2⅜	2.44
3833-5	5	4 13/16 x 2⅜	3.03
3833-6	6	5 11/16 x 2⅜	3.64
3833-7	7	6 7/32 x 2⅜	4.23
3833-8	8	7⅛ x 2⅜	4.84
3833-9	9	8 1/32 x 2⅜	5.47
3833-10	10	8 15/16 x 2⅜	6.10
3833-11	11	9 27/32 x 2⅜	6.68
3833-12	12	10¾ x 2⅜	7.28

BLOCKS FOR 9/32 x 1-1/4 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
4413	1	Solder	$0.53
4414	1	Solder	.53
4415	1	Screw	.91
4416	2	Solder	1.02
4417	2	Solder	1.02
4418	2	Screw	1.60
4419	3	Solder	1.52
4420	3	Screw	2.38
4481	1	Screw	.91
4482	2	Screw	1.60
4483	3	Screw	2.38

BLOCKS FOR 13/32 x 1-3/8 inch FUSES

UL Recognized.

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
3845	1	Screw	$1.13

BLOCKS FOR 13/32 x 1-1/2 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
2807	1	Screw	$0.98
2808	2	Screw	1.61
2809	3	Screw	2.23
2810	1	Pressure lug	2.07
2811	2	Pressure lug	4.05
2812	3	Pressure lug	6.12
3792	1	Screw	1.12
4421	1	Solder	.75
4422	1	Solder	.75
4423	1	Screw	.83
4424	2	Solder	1.52
4426	2	Solder	1.52
4427	2	Screw	1.60
4428	3	Solder	2.19
4429	3	Screw	2.38
4439	3	Screw	3.23
4415	1	Screw	.91
4525	2	Screw	1.89
4535	3	Screw	2.78
4575	2	Screw	1.99

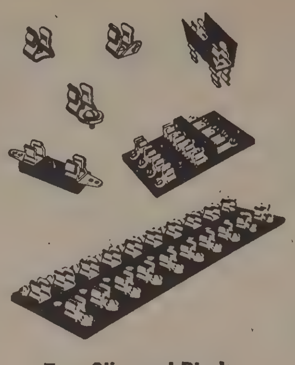
POLARIZED BLOCKS FOR SILICON RECTIFIERS

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
3794	1	Solder	$0.35
3795	2	Solder	.61

BLOCKS FOR HIGH VOLTAGE FUSES

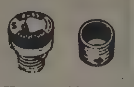
Buss No.	No. of Poles	For Fuse	Net Ea.♦
4528	1	Buss HVA	$1.75
4529	1	Buss HVB	2.58
4530	1	Buss HVJ	3.62

♦Less than $100 net. ■$100 net and over.



Fuse Clips and Blocks

Plug Fuses



Fustat Fuses

Add-on Fuse Block

BLOCKS FOR 13/32 x 1-1/2 inch FUSES

SIGNAL FUSE BLOCK

Base dimensions, 2.688" x 4.375". For use with BUSS FAN and FNJ indicating fuses.

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
3839	4	Screw	$7.19

ADD-ON FUSE BLOCKS

Make fuse block of any number of poles. Each single pole nests against next one; new poles can be added at any time. Order one end barrier plus any number of poles. Marking strip available to identify poles. Rated 30 A at 600 V. UL Recognized.

Buss No.	Description	Terminal Type	Net Ea.♦
3742	End barrier only	....	$0.22
3743	One pole block only	Screw	1.50
3723	Marking strip, 50"	....	.69

BUSS FUSE CLIPS

Buss No.	Description	For Fuse Dia., In.	Net Ea.♦
3434	Insul. twin clip	¼	$0.28
5681-15	Clip	¼	.053
5678-14	Clip and terminal	¼	.066
4431	Clip assembly	¼	.16
4432	Clip assembly	¼	.19
5682-01	Clip	¼	.098
5682-41	Clip	¼	.049
5682-44	Clip	¼	.049
4567	Clip assembly	¼	.16
4583	Clip assembly	¼	.18
5682-02	Clip	¼	.098
5672-11	Clip	9/32	.081
5674-41	Clip	9/32	.081
4560	Clip assembly	9/32	.26
4585	Clip assembly	9/32	.35
5674-01	Clip	9/32	.16
5956-16	Clip	13/32	.081
5960-61	Clip	13/32	.099
5960-07	Clip	13/32	.26
5960-63	Clip	13/32	.099
4561	Clip assembly	13/32	.26
4586	Clip assembly	13/32	.43
5960-09	Clip	13/32	.26

CLEAR WINDOW PLUG FUSE

Shockproof fuses are insulated with porcelain-like high voltage power lines. Top cap protects fingers from shock and cuts. Always fit fuseholders. UL Listed.

Buss No.	Amperes	Net Each	
		♦	■
W	1, 2, 3, 5, 6, 8, 10	$0.19	$0.16
W	15, 20, 25, 30	.18	.15

FUSETRON DUAL-ELEMENT PLUG FUSE

Time-delay fuses recommended by N.
Code. Will not blow under motor-startin
or other current surges, yet provides fu
protection against heavy currents or sho
circuits. Rated up to 125 V. UL Liste

Buss No.	Amperes	Net Each	
		♦	■
T	3/10, 4/10, ½, 6/10, 8/10, 1, 1-⅛, 1-¼, 1-4/10, 1-6/10, 1-8/10, 2, 2-¼	$0.63	$0.5
T	2½, 2-8/10, 3-2/10, 3½, 4, 4½, 5, 5-6/10, 6¼, 7, 8, 9, 10, 12, 14	.44	.37
T	15, 20, 25, 30	.36	.30

FUSTAT FUSES AND ADAPTERS

Time-delay fuses with type S base recom
mended by N.E. Code. Prevents overfusin
when used with proper size adapter. Rate
up to 125 V. UL Listed. Adapters not in
cluded with Fustat fuses; order separatel
and specify size.

Fustat Fuses, Amps	Adapter	Fustat Fuses, Amps	Adapter
S3/10	SA1*	S3½	SA4
S4/10	SA1*	S4	SA4
S½	SA1*	S4½	SA5§
S6/10	SA1*	S5	SA5§
S8/10	SA1*	S5-6/10	SA6¼#
S1	SA1*	S6¼	SA6¼#
S1⅛	SA1¼*	S7	SA8
S1¼	SA1¼*	S8	SA8
S1-4/10	SA1-6/10*	S9	SA10•
S1-6/10	SA1-6/10*	S10	SA10•
S1-8/10	SA2	S12	SA15▲
S2	SA2	S14	SA15▲
S2¼	SA2½†	S15	SA15▲
S2½	SA2½†	S20	SA20
S2-8/10	SA3-2/10‡	S25	SA30■
S3-2/10	SA3-2/10‡	S30	SA30■

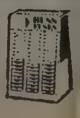
*Adapter also takes all smaller sizes. †Als
takes 2, 1-8/10 sizes. ‡Also takes 2½, 2¼
2, 1-8/10 sizes. §Also takes 4, 3½ sizes
#Also takes 5, 4½, 4, 3½ sizes. •Also take
8, 7 sizes. ▲Also takes 10, 9, 8, 7 sizes
■Also takes 20 size.

Buss Fustats—3/10 through 2¼ amp sizes
Net Each, less than $100 net...... **$0.63**

Buss Fustats—2½ through 14 amp sizes
Net Each, less than $100 net..... **$0.44**

Fustat Adapters—SA1 through SA30. Ne
Each, less than $100 net.......... **$0.29**

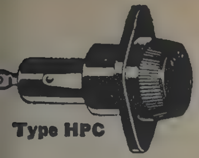
FUSE ASSORTMENT

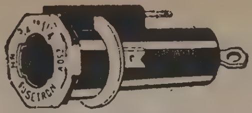


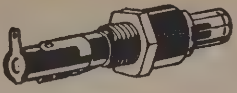
Sturdy metal stand holds 130 fuses (5 fuses per box, 26 sizes in individual 5" boxes). Inventory feature shows what fuses need reordering.

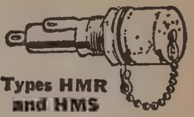
Buss No. 130—Net... **$30.80**

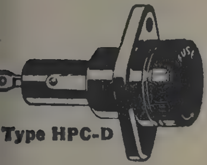
Buss® Fuseholders

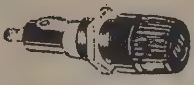

Type HPC

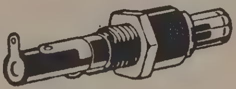

Types HC and HN


Type HKL


Types HMR and HMS


Type HPC-D


Series HJ and HK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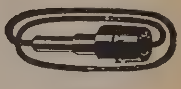
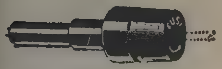
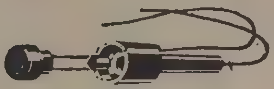
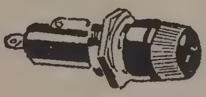
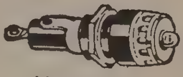

Series HR


Series HH and HI


Types HLQ and HLR


Series HCM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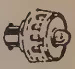
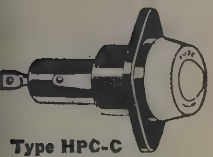
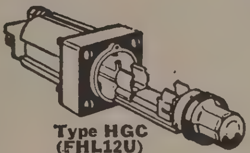

No. 5487


Type HPC-C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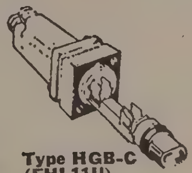
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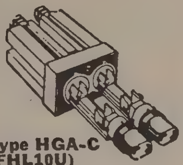
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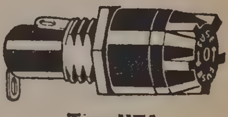
(FHL10U)


Type HTA

Fuse voltage on lamp indicating holders shows operating range for lamp indication.

Fuse voltage on non-indicating holders shows maximum voltage of fuses commercially available that will fit holders.

LAMP-INDICATING FOR 1/4 x 1 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.♦
HJL	Panel	100–250	20 A	$2.96

SIGNAL ACTIVATING-LAMP INDICATING FOR 1/4 x 1-1/4 inch INDICATING FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.♦
HKA	Panel	125 or less	5 A	$6.41

LAMP INDICATING FOR 1/4 x 1-1/4 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.♦
HGA	Panel	100–250	30 A	$8.83
HGA-C	Panel	100–250	30 A	9.19
HGB*	Panel	100–250	30 A	7.03
HGB-C	Panel	100–250	30 A	7.73
HKL	Panel	100–250	20 A	2.87
HKL-X	Panel	100–250	20 A	2.87
HKR	Panel	24–32	20 A	4.63
HKT	Panel	10–14	20 A	4.63
HKU	Panel	4–6	20 A	4.63
HKX	Panel	24–32	20 A	4.63

*UL Recognized.

VISUAL INDICATING FOR 1/4 x 1-1/4 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.♦
HLD*	Panel	125 or less	30 A	$0.77
5487	Knob assembly for HLD			.39

*UL Recognized.

SHIELDED NON-INDICATING FOR 1/4 x 1 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.♦
HMS	Panel	250 or less	30 A	$7.71

♦Less than $100 net. ■$100 net and over.

NON-INDICATING FOR 1/4 x 1 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.♦
HDI	Inline	250 or less	15 A	$0.28
HHI	Inline	250 or less	15 A	.41
HJM*	Panel	125 or less	30 A	.65
HJM-CC	Panel	125 or less	30 A	.65
HJM-H	Panel	125 or less	30 A	.71
9969	Spring nut for panel mounting inline holder			.053

*UL Recognized.

SHIELDED NON-INDICATING FOR 1/4 x 1-1/4 INCH FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.♦
HMR	Panel	250 or less	30 A	$7.71

NON-INDICATING FOR 1/4 x 1-1/4 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.♦
HCM	Panel	250 or less	18 A	$1.02
HCM-H	Panel	250 or less	18 A	1.08
HDJ	Inline	250 or less	15 A	.28
HHJ	Inline	250 or less	15 A	.41
HKP*	Panel	250 or less	30 A	.65
HKP-CC	Panel	250 or less	30 A	.65
HKP-H	Panel	250 or less	30 A	.75
HLF*	Panel	250 or less	30 A	.65
HMB*	Panel	250 or less	30 A	.65
HTA*	Panel	250 or less	15 A	.65
9969	Spring nut for panel mounting inline holders			.053
HMJ	HDJ holder†			.53
HRJ	HHJ holder†			.67

*UL Recognized. †w/SFE-20 fuse, wire leads.

NON-INDICATING FOR 9/32 x 1-1/4 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.♦
HCM	Panel	250 or less	18 A	$1.02
HCM-H	Panel	250 or less	18 A	1.08

VISUAL INDICATING FOR 13/32 x 1-1/2 inch FUSES

UL Recognized.

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.♦
HPC-C	Panel	250 or less	30 A	$1.36

LAMP INDICATING FOR 13/32 x 1-1/2 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.♦
HGC	Panel	200–500	30 A	$8.83

NON-INDICATING FOR 13/32 x 1-3/8 inch FUSES

UL Recognized.

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.♦
HPC-L	Panel	600 or less	5 A	$1.10

NON-INDICATING FOR 13/32 x 1-1/2 inch FUSES

UL Recognized.

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.♦
HPC	Panel	250 or less	30 A	$1.10
HPC-D	Panel	250 or less	30 A	2.23

OTHER STANDARD AND SPECIAL FUSES, BLOCKS AND HOLDERS

If the fuses, fuse blocks and holders shown do not fit your requirements ask for information on other types. Fuses and fuse mountings to meet JAN and Military specifications also available. If you have a special problem in protection, send description or sketch giving number of circuits, type of fuse, terminals, etc., desired. We welcome such inquiries.

LITTELFUSE CIRCUIT BREAKERS, MOUNTINGS AND CLIPS

MOUNTINGS, FUSE CLIPS AND FUSE HOLDERS

MOUNTINGS FOR RECTIFIERS

L.F. No.	Description	Net Each, Lots of 5	Net per 100	
			100	500
099062	Single pole, 3/16″ base	$.35	$29.50	$23.60
099063	Double pole, 3/16″ base	.61	51.00	40.80
099065	Double pole, 1/16″ base	.41	34.50	27.60
099065-3	1/16″ Bakelite insulator	.04	3.30	2.64
099067	Single pole 1/16″ base	.20	17.00	13.60
099067-3	1/16″ Bakelite insulator	.028	2.30	1.84

3AG MOUNTINGS

351009	Hinged can cover, 2 pole	$2.62	$218.00	$174.40
351010	Spare, 1 pole	.35	29.50	23.60
352001	Through panel, 1 pole	.53	44.50	35.60
353001	Panel, 1 pole	.92	76.50	61.20

3AG MOUNTINGS WITH SCREW TERMINALS—TYPE T

L.F. No.	Description	Net Ea. Lots of 5	Net per 100	
			100	500
356001	1 pole	$0.58	$ 48.00	$ 38.40
356002	2 pole	1.21	100.00	80.40
356003	3 pole	1.97	164.50	131.60
356004	4 pole	2.44	203.50	162.80
356005	5 pole	3.03	252.50	202.00
356006	6 pole	3.64	303.50	242.80
356007	7 pole	4.24	353.00	282.40
356008	8 pole	4.84	403.50	322.80
356009	9 pole	5.47	456.00	364.80
356010	10 pole	6.10	508.50	406.80
356011	11 pole	6.68	556.50	445.20
356012	12 pole	7.28	607.00	485.60

3AG MOUNTINGS WITH SOLDER TERMINALS—TYPE S

357001	1 pole	$0.35	$ 29.50	$ 23.60
357002	2 pole	.61	51.00	40.80
357003	3 pole	.95	79.00	63.20
357004	4 pole	1.10	92.00	73.60
357005	5 pole	1.36	113.50	90.80
357006	6 pole	1.61	134.50	107.60
357007	7 pole	1.81	151.00	120.80
357008	8 pole	2.06	172.00	137.60
357009	9 pole	2.35	195.50	156.40
357010	10 pole	2.57	214.50	171.60
357011	11 pole	2.86	238.00	190.40
357012	12 pole	3.14	262.00	209.60

8AG MOUNTINGS

383001	1 pole*	$0.92	$ 76.50	$ 61.20
383002	1 pole†	.62	51.50	41.20

*Thru-panel. †Meter back.

8AG MOUNTINGS WITH SOLDER TERMINALS—TYPE S

L.F. No.	Description	Net Ea. Lots of 5	Net per 100	
			100	500
387001	1 pole	$0.35	$ 29.50	$ 23.60
387002	2 pole	.61	51.00	40.80
387003	3 pole	.91	75.50	60.40
387004	4 pole	1.10	92.00	73.60
387005	5 pole	1.36	113.50	90.80
387006	6 pole	1.61	134.50	107.60
387007	7 pole	1.81	151.00	120.80
387008	8 pole	2.06	172.00	137.60
387009	9 pole	2.35	195.50	156.40
387010	10 pole	2.57	214.50	171.60
387011	11 pole	2.86	238.00	190.40
387012	12 pole	3.14	262.00	209.60

4AG FUSE MOUNTINGS WITH SCREW TERMINALS—TYPE T

L.F. No.	Description	Net Ea. Lots of 5	Net per 100	
			100	500
456001	1 pole	$0.91	$ 75.50	$ 60.40
456002	2 pole	1.84	153.00	122.40
456003	3 pole	2.62	218.50	174.80
456004	4 pole	3.47	289.00	231.20
456005	5 pole	4.39	366.00	292.80
456006	6 pole	5.26	438.00	350.40
456007	7 pole	6.11	509.00	407.20
456008	8 pole	6.95	579.50	463.60
456009	9 pole	7.88	656.50	525.20
456010	10 pole	8.68	723.50	578.80
456011	11 pole	9.57	797.50	638.00
456012	12 pole	10.42	868.00	694.40

5AG MOUNTINGS WITH SCREW TERMINALS—TYPE T

556001	1 pole	$0.97	$ 80.50	$ 64.40
556002	2 pole	1.90	158.00	126.40
556003	3 pole	2.78	231.50	185.20
556004	4 pole	3.82	318.00	254.40
556005	5 pole	4.67	389.00	311.20
556006	6 pole	5.63	470.00	375.60
556007	7 pole	6.67	556.00	444.80
556008	8 pole	7.58	632.00	505.20
556009	9 pole	8.53	711.00	568.40
556010	10 pole	9.49	791.00	632.40
556011	11 pole	10.42	868.00	694.40
556012	12 pole	11.42	952.00	761.60

HIGH VOLTAGE FUSE HOLDERS

For 701000 Series Fuses.

L.F. No.	Size, In. L. x H.	Net Each	Net per 100	
			100	500
711001	2½ x 1⅝	$3.54	$295.00	$236.00
For 702000 Series Fuses.				
711002	6½ x 1⅝	3.62	302.00	241.60
For 703000 Series Fuses.				
711003	12 x 3	9.48	790.00	632.00
For 621000 Series Fuses.				
631001	4 x 1 9/64	1.75	146.00	116.80
For 622000 Series Fuses.				
631002	5¼ x 1 9/64	2.58	215.00	172.00
For 623000 Series Fuses.				
631003	6¼ x 1 9/64	3.06	255.00	204.00

TV SNAP-ON FUSE HOLDERS

094025	10 holders*	....	....	363.00
350130	Holders†	....	....	28.00

*In plastic box of 10. †Bulk.

STANDARD FUSE CLIPS (PHOSPHOR BRONZE, NICKEL PLATED)

L.F. No.	Fuse Adaptation	Type	Net Each, Lots of 5	Net per 100	
				100	500
101001	SFE, 3AG, 8AG, 3AB	Ear	$0.049	$ 4.05	$ 3.24
101002	SFE, 3AG, 8AG, 3AB	Earless	.053	4.40	3.52
101003*	SFE, 3AG, 8AG, 3AB	Lug	.066	5.50	4.40
103001	4AG, 4AB	Ear	.084	7.00	5.60
104002	4AG, 4AB	Earless	.084	7.00	5.60
105001	5AG	Ear	.10	8.50	6.80
105002	5AG	Earless	.10	8.50	6.80
107001	9/16″ dia.	Ear	.14	11.50	9.20
107002	9/16″ dia.	Earless	.14	11.50	9.20
109001	13/16″ dia.	Ear	.49	41.00	32.80
109002	13/16″ dia.	Earless	.49	41.00	32.80

*Unplated, bright dip.

STANDARD FUSE CLIPS (BERYLLIUM COPPER, SILVER PLATED)

121001	SFE, 3AG, 8AG, 3AB	Ear	$0.096	$ 8.00	$ 6.40
121002	SFE, 3AG, 8AG, 3AB	Earless	.096	8.00	6.40
121004	SFE, 3AG, 8AG, 3AB	Lug	.28	23.00	18.40
123001	4AG, 4AB	Ear	.16	13.50	10.80
123002	4AG, 4AB	Earless	.16	13.50	10.80
125001	5AG, hi-volt	Ear	.26	21.50	17.20
125002	5AG, hi-volt	Earless	.26	21.50	17.20
127001	9/16″ dia.	Ear	.60	50.00	40.00
127002	9/16″ dia.	Earless	.60	50.00	40.00
129001	13/16″ dia.	Ear	1.42	118.50	94.80
129002	13/16″ dia.	Earless	1.42	118.50	94.80

PC BOARD FUSE CLIPS (SPRING BRONZE)

102068	1AG, 3AG, 8AG	Ear	$0.066	$5.50	$4.40
102069	1AG, 3AG, 8AG	Earless	.066	5.50	4.40

HEAVY DUTY MANUAL RESET CIRCUIT BREAKERS

Exact replacement protector for TV circuits. Ideal for current overload protectio for model railroads, toy transformers, hai dryers, small appliances, tools, wiring, etc For 125 VAC. Size, 1¾″ x 13/16″ x ½″ Standard circuit breakers also availabl Suffix **C** indicates individually carded.

815.650C thru 81501.5C—Net Ea.. **$1.43**
815.650 thru 81501.5—Box of 5 . . . **1.39**
8151.75C thru 815007C—Net Ea.. **1.03**
8151.75 thru 815007—Box of 5. . . . **1.00**

L.F. No.	Nom. Trip Rating Amps	L.F. No.	Nom. Trip Rating Amps
815.650*	.650	815003	3
815.800*	.800	8153.25	3.25
815001 *	1	81503.5	3.5
8151.25*	1.25	8153.75	3.75
81501.5*	1.5	815004	4
8151.75	1.75	81504.5	4.5
815002	2	815005	5
8152.25	2.25	815006	6
81502.5	2.5	815007	7
8152.75	2.75		

*Add prefix **R** for std. circuit breakers

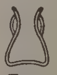
R815.650C thru R81501.5C—Net . **$1.03**
R815.650 thru R81501.5—
Box of 5. . . . . **1.00**

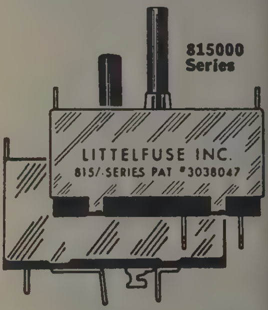
L.F. No. 815(000)PA-Circuit Breaker Adapter Plate—Net Each **$0.234**; 100 Net; **$19.50** ($100 lots): **$15.60** ($500 lots).

DUAL CIRCUIT BREAKERS

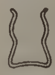
Exact replacements for RCA.
Net per bubble packed card. **$2.06**

L.F. No.	RCA No.	Term. 1 and 2	Term. 3 and 4
		Hold	Hold
816100	120784	1.30 A	.375 A
816101	121719	.900 A	.325 A
816102	1471912-4	.950 A	.400 A
816103	130077	.175 A	.400 A


Fuse Clips


815000 Series

81600 Series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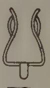
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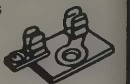
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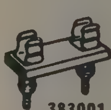
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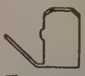
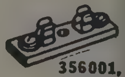

Terminal Clip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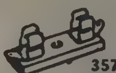
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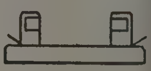
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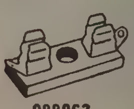
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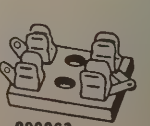
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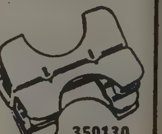
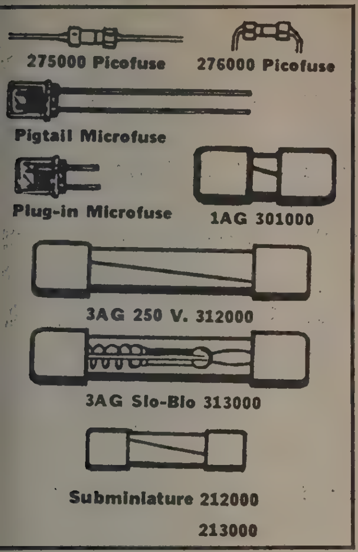

350130 Snap-On Holder

LITTELFUSE Quality Fuses



SUBMINIATURE FUSES

must for servicing European electronic quipment. **Size:** 20 mm x 5 mm (.8" x .2").

FAST ACTING (250 V) TYPE F

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
12.100	1/10	$2.67	$44.50	$35.60
12.125	1/8	2.67	44.50	35.60
12.200	2/10	2.07	34.50	27.60
12.250	1/4	2.07	34.50	27.60
12.300	3/10	2.07	34.50	27.60
12.400	4/10	2.07	34.50	27.60
12.500	1/2	2.07	34.50	27.60
12.600	6/10	2.07	34.50	27.60
12.700	7/10	2.07	34.50	27.60
12.800	8/10	2.07	34.50	27.60
12001	1	1.77	29.50	23.60
121.25	1-1/4	1.77	29.50	23.60
1201.6	1-6/10	1.77	29.50	23.60
12002	2	1.77	29.50	23.60
1202.5	2-1/2	1.77	29.50	23.60
12003	3	1.77	29.50	23.60
12004	4	1.77	29.50	23.60
12005	5	1.77	29.50	23.60
12006	6	1.77	29.50	23.60

MEDIUM ACTING (250 V) TYPE M

Net per 5..............................$ 2.10
Net per 100: 100...**$35.00**; 500... 28.00

L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
11.020	1/50	211.500	1/2	211003	3
11.031	1/32	211.600	6/10	211004	4
11.100	1/10	211.800	8/10	211005	5
11.200	2/10	211001	1		
11.250	1/4	2111.25	1-1/4		
11.300	3/10	21101.6	1-6/10		
11.400	4/10	211002	2		

SLO BLO FUSES (250 V) TYPE T

Net per 5..............................$ 2.07
Net per 100: 100...**$34.50**; 500... 27.60

L.F. No	Amp Rtg.	L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
13.100	1/10	213.600	6/10	21302.5	2-1/2
13.125	1/8	213.700	7/10	213003	3
13.200	2/10	213.800	8/10	213004	4
13.250	1/4	213001	1	213005	5
13.300	3/10	2131.25	1-1/4	213006	6
13.400	4/10	21301.6	1-6/10		
13.500	1/2	213002	2		

SUBMINIATURE (125 V MAX.)

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
71.500	1/2	$2.07	$34.50	$27.60
7101.5	1-1/2	1.77	29.50	23.60

SUBMINIATURE PICOFUSES (125 V)

Blow time 4 hours minimum at 100% of rating; 5 secs. max. at 200%. Amperage printed on body; can be color-coded at additional cost. Ceramic body only 7/32" lg. x 5/64" dia.; tin-coated copper leads .025" dia. Order **275** (prefix) for axial leads 1 9/16" long for diode clip or in-circuit mounting; **276** for radial leads 1 3/8" long for use in printed circuits or receptacles. UL Recognized thru 10 amps.

275.062 thru 275.500—Net per 5...$ 3.27
Net per 100: 100...**$54.50**; 500... 43.60
275.750 thru 275010—Net per 5.... 2.85
Net per 100: 100...**$47.50**; 500... 38.00
275015—Net per 5.............. 3.39
Net per 100: 100...**$56.50**; 500... 45.20

L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
275.062	1/16	275001	1	275004	4
275.125	1/8	27501.5	1-1/2	275005	5
275.250	1/4	275002	2	275007	7
275.375	3/8	27502.5	2-1/2	275010	10
275.500	1/2	275003	3	275015	15
275.750	3/4	27503.5	3-1/2		

MICROFUSE SUBMINIATURE FUSES

For PC and other min. space uses. Plug-in types use holder; pigtail types for soldering. Short circuit interrupting capacity 125 V, 10,000 amps DC. **Blow Specs:** 100%, 4-hour min.; 200%, 5-sec. max. **Size:** 1/4" dia. x 1 1/32" (fuse body). Plug-in, transparent cap type listed. Use prefix **272** for plug-in, metal cap; prefix **279** for pigtail, transparent cap; prefix **278** for pigtail, metal cap. UL Recognized.

Plug-In L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
273.002	1/500	$7.89	$131.50	$105.20
273.005	1/200	7.89	131.50	105.20
273.010	1/100	7.89	131.50	105.20
273.015	1/64	7.89	131.50	105.20
273.031	1/32	7.89	131.50	105.20
273.050	1/20	6.72	112.00	89.60
273.062	1/16	6.72	112.00	89.60
273.100	1/10	6.72	112.00	89.60
273.125	1/8	6.72	112.00	89.60
273.200	2/10	6.72	112.00	89.60
273.250	1/4	6.72	112.00	89.60
273.300	3/10	6.72	112.00	89.60
273.400	4/10	6.72	112.00	89.60
273.500	1/2	6.72	112.00	89.60
273.600	6/10	6.72	112.00	89.60
273.700	7/10	6.72	112.00	89.60
273.750	3/4	6.72	112.00	89.60
273.800	8/10	6.72	112.00	89.60
273001	1	6.72	112.00	89.60
27301.5	1-1/2	6.72	112.00	89.60
273002	2	6.72	112.00	89.60
273003	3	6.72	112.00	89.60
273004	4	6.72	112.00	89.60
273005	5	6.72	112.00	89.60

1AG FUSES (32 V OR LESS)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 10-sec. max. Lg. 7/8", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
301001	1	$0.69	$12.00	$ 9.20
30101.5	1-1/2	.69	12.00	9.20
301002	2	.69	12.00	9.20
30102.5	2-1/2	.69	12.00	9.20
301003	3	.69	12.00	9.20
301005	5	.51	8.50	6.80
301006	6	.51	8.50	6.80
30107.5	7-1/2	.51	8.50	6.80
301010	10	.51	8.50	6.80
301015	15	.51	8.50	6.80
301020	20	.51	8.50	6.80
301025	25	.51	8.50	6.80
301030	30	.51	8.50	6.80

7AG FUSES (32 V OR LESS)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 10-sec. max. Lg. 7/8", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
303001	1	$0.69	$12.00	$ 9.20
30302.5	2-1/2	.69	12.00	9.20
303003	3	.69	12.00	9.20
303004	4	.69	12.00	9.20
303005	5	.51	8.50	6.80
303006	6	.51	8.50	6.80
303015	15	.51	8.50	6.80
303020	20	.51	8.50	6.80
303030	30	.51	8.50	6.80

3AG FUSES (32 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1 1/4", dia. 1/4".

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
311004	4	$0.69	$12.00	$9.20
311005	5	.51	8.50	6.80
311006	6	.51	8.50	6.80
31107.5	7-1/2	.51	8.50	6.80
311008	8	.51	8.50	6.80
311010	10	.51	8.50	6.80
311015	15	.51	8.50	6.80
311025	25	.51	8.50	6.80
311030	30	.51	8.50	6.80
311035	35	.69	12.00	9.20

3AG FUSES (250 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. max. Length 1 1/4", dia. 1/4". UL Listed thru 8 amps.

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
312.010	1/100	$3.75	$62.50	$50.00
312.031	1/32	3.24	54.00	43.20
312.062	1/16	1.68	28.00	22.40
312.100	1/10	1.68	28.00	22.40
312.125	1/8	1.68	28.00	22.40
312.150	15/100	1.68	28.00	22.40
312.175	.175	1.68	28.00	22.40
312.187	3/16	1.68	28.00	22.40
312.200	2/10	1.68	28.00	22.40
312.250	1/4	.96	16.00	12.80
312.300	3/10	.96	16.00	12.80
312.375	3/8	.96	16.00	12.80
312.500	1/2	.96	16.00	12.80
312.600	6/10	.96	16.00	12.80
312.750	3/4	.96	16.00	12.80
312001	1	.69	12.00	9.20
3121.25	1-1/4	.69	12.00	9.20
31201.5	1-1/2	.69	12.00	9.20
31201.6	1-6/10	.69	12.00	9.20
312002	2	.69	12.00	9.20
31202.5	2-1/2	.69	12.00	9.20
312003	3	.69	12.00	9.20
312004	4	.84	14.00	11.20
312005	5	.84	14.00	11.20
312006	6	.84	14.00	11.20
312007	7	.84	14.00	11.20
312008	8	1.17	19.50	15.60
312010	10	1.17	19.50	15.60

3AG SLO BLO FUSES (250 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. min. Length 1 1/4", dia. 1/4". UL Listed thru 7 amps.

L.F. No.	Amp Rating	Net per 5	Net per 100	
			100	500
313.010	1/100	$2.76	$46.00	$36.80
313.031	1/32	2.76	46.00	36.80
313.040	4/100	2.76	46.00	36.80
313.062	1/16	2.07	35.50	27.60
313.100	1/10	2.07	35.50	27.60
313.125	1/8	2.07	35.50	27.60
313.150	15/100	2.07	35.50	27.60
313.175	.175	2.07	35.50	27.60
313.187	3/16	2.07	35.50	27.60
313.200	2/10	2.07	35.50	27.60
313.250	1/4	2.07	35.50	27.60
313.300	3/10	2.07	35.50	27.60
313.375	3/8	2.07	35.50	27.60
313.400	4/10	2.07	35.50	27.60
313.500	1/2	2.07	35.50	27.60
313.600	6/10	2.07	35.50	27.60
313.700	7/10	2.07	35.50	27.60
313.750	3/4	2.07	35.50	27.60
313.800	8/10	2.07	35.50	27.60
313001	1	2.07	35.50	27.60
31301.2	1-2/10	1.98	33.00	26.40
3131.25	1-1/4	1.98	33.00	26.40
31301.5	1-1/2	1.98	33.00	26.40
31301.6	1-6/10	1.98	33.00	26.40
313002	2	1.98	33.00	26.40
31302.5	2-1/2	1.68	28.00	22.40
31302.8	2-8/10	1.68	28.00	22.40
313003	3	1.68	28.00	22.40
31303.2	3-2/10	1.68	28.00	22.40
313004	4	1.68	28.00	22.40
313005	5	1.68	28.00	22.40
3136.25	6-1/4	1.68	28.00	22.40
313007	7	1.68	28.00	22.40
313008	8	1.68	28.00	22.40
313010	10	1.68	28.00	22.40
313015	15	1.68	28.00	22.40
313020	20	1.68	28.00	22.40
313025	25	1.68	28.00	22.40
313030	30	1.68	28.00	22.40

LITTELFUSE Quality Fuses

3AG SLO BLO PIGTAIL FUSES (250 V)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 5-sec. min. Lg. 1¼", dia. ¼", 1½" pigtails. UL Listed thru 7 amps.

L.F. No.	Amp Rating	Net per 5	Net per 100: 100	Net per 100: 500
315.010	1/100	$3.36	$56.00	$44.80
315.031	1/25	3.36	56.00	44.80
315.062	1/16	2.55	42.50	34.00
315.100	1/10	2.55	42.50	34.00
315.125	1/8	2.55	42.50	34.00
315.150	15/100	2.55	42.50	34.00
315.175	.175	2.55	42.50	34.00
315.187	3/16	2.55	42.50	34.00
315.200	2/10	2.55	42.50	34.00
315.250	1/4	2.55	42.50	34.00
315.300	3/10	2.55	42.50	34.00
315.375	3/8	2.55	42.50	34.00
315.400	4/10	2.55	42.50	34.00
315.500	1/2	2.55	42.50	34.00
315.600	6/10	2.55	42.50	34.00
315.700	7/10	2.55	42.50	34.00
315.750	3/4	2.55	42.50	34.00
315.800	8/10	2.55	42.50	34.00
315001	1	2.55	42.50	34.00
31501.2	1-2/10	2.46	41.00	32.80
3151.25	1-1/4	2.46	41.00	32.80
31501.5	1-1/2	2.46	41.00	32.80
31501.6	1-6/10	2.46	41.00	32.80
315002	2	2.46	41.00	32.80
31502.5	2-1/2	2.07	34.50	27.60
31502.8	2-8/10	2.07	34.50	27.60
315003	3	2.07	34.50	27.60
31503.2	3-2/10	2.07	34.50	27.60
315004	4	2.07	34.50	27.60
315005	5	2.07	34.50	27.60
3156.25	6¼	2.07	34.50	27.60
315007	7	2.07	34.50	27.60

3AG PIGTAIL FUSES (250 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. max. Length 1¼", dia. ¼", 1½" pigtails. UL Listed.

318.062	1/16	$2.55	$42.50	$34.00
318.100	1/10	2.55	42.50	34.00
318.125	1/8	2.55	42.50	34.00
318.150	15/100	2.55	42.50	34.00
318.175	.175	2.55	42.50	34.00
318.187	3/16	2.55	42.50	34.00
318.200	2/10	2.55	42.50	34.00
318.250	1/4	1.68	28.00	22.40
318.300	3/10	1.68	28.00	22.40
318.375	3/8	1.68	28.00	22.40
318.500	1/2	1.68	28.00	22.40
318.750	3/4	1.68	28.00	22.40
318001	1	1.29	21.50	17.20
3181.25	1-1/4	1.29	21.50	17.20
31801.5	1-1/2	1.29	21.50	17.20
31801.6	1-6/10	1.29	21.50	17.20
318002	2	1.29	21.50	17.20
31802.5	2-1/2	1.29	21.50	17.20
318003	3	1.29	21.50	17.20
318004	4	1.38	23.50	18.40
318005	5	1.38	23.50	18.40
318006	6	1.38	23.50	18.40
318007	7†	1.38	23.50	18.40
318008	8†	1.77	29.50	23.60

3AG INDICATING FUSES (125 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max. Length 1¼", dia. ¼".

334.750	3/4‡	$4.05	$67.50	$54.00
334001	1‡	3.15	52.50	42.00
33401.5	1-1/2‡	3.15	52.50	42.00
334002	2‡	3.15	52.50	42.00
334003	3‡	3.15	52.50	42.00
334004	4‡	3.15	52.50	42.00
334005	5‡	3.15	52.50	42.00
334006	6*	4.44	74.00	59.20
334008	8*	4.44	74.00	59.20
334010	10*	4.44	74.00	59.20
334012	12*	4.44	74.00	59.20
334015	15*	4.44	74.00	59.20
334020	20*	4.44	74.00	59.20

*32 volt. †125 volt. ‡UL Listed.

3AB TINY MIGHTY (250 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 15-sec. max. Length 1¼", dia. ¼". UL Listed thru 15 A.

314.125	1/8	$1.38	$23.00	$18.40
314.250	1/4	1.38	23.00	18.40
314.375	3/8	1.38	23.00	18.40
314.500	1/2	1.38	23.00	18.40
314.750	3/4	1.38	23.00	18.40
314001	1	1.38	23.00	18.40
314002	2	1.38	23.00	18.40
314003	3	1.38	23.00	18.40
314004	4	1.38	23.00	18.40
314005	5	1.17	19.50	15.60
314006	6	1.17	19.50	15.60
314007	7	1.17	19.50	15.60
314008	8	1.17	19.50	15.60
314010	10	1.17	19.50	15.60
314012	12	1.17	19.50	15.60
314015	15	1.17	19.50	15.60
314020	20	1.17	19.50	15.60
314025	25	1.77	29.50	23.60
314030	30	1.77	29.50	23.60

3AB SLO BLO FUSES (250 V) CERAMIC

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 5-sec. min. Lg., 1¼", dia., ¼".

L.F. No.	Amp Rating	Net per 5	Net per 100: 100	Net per 100: 500
323.010	1/100	$3.54	$59.00	$47.20
323.031	1/32	3.54	59.00	47.20
323.062	1/16	2.85	47.50	38.00
323.100	1/10	2.85	47.50	38.00
323.125	1/8	2.85	47.50	38.00
323.150	15/100	2.85	47.50	38.00
323.175	.175	2.85	47.50	38.00
323.187	3/16	2.85	47.50	38.00
323.200	2/10	2.85	47.50	38.00
323.250	1/4	2.85	47.50	38.00
323.300	3/10	2.85	47.50	38.00
323.375	3/8	2.85	47.50	38.00
323.400	4/10	2.85	47.50	38.00
323.500	1/2	2.85	47.50	38.00
323.600	6/10	2.85	47.50	38.00
323.700	7/10	2.85	47.50	38.00
323.750	3/4	2.85	47.50	38.00
323.800	8/10	2.85	47.50	38.00
323.001	1	2.85	47.50	38.00
32301.2	1-2/10	2.85	47.50	38.00
3231.25	1-1/4	2.85	47.50	38.00
32301.5	1-1/2	2.85	47.50	38.00
32301.6	1-6/10	2.85	47.50	38.00
323002	2	2.85	47.50	38.00
32302.8	2-8/10	2.07	34.50	27.60
323003	3	2.07	34.50	27.60
32303.2	3-2/10*	2.07	34.50	27.60
323004	4*	2.07	34.50	27.60
323005	5*	2.07	34.50	27.60
3236.25	6-1/4*	2.07	34.50	27.60
323007	7*	2.07	34.50	27.60
323008	8†	2.07	34.50	27.60
323010	10†	2.07	34.50	27.60
323015	15†	2.07	34.50	27.60
323020	20†	2.07	34.50	27.60
323025	25†	2.07	34.50	27.60
323030	30†	2.07	34.50	27.60

*125 volt; †32 volt.

LIMITED CURRENT (250 V) TYPE C

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. max. UL Listed thru 6 amps.

332.031	1/32	$3.15	$52.50	$42.00
332.062	1/16	2.07	34.50	27.60
332.125	1/8	1.68	28.00	22.40
332.187	3/16	1.68	28.00	22.40
332.250	1/4	1.29	21.50	17.20
332.300	3/10	1.29	21.50	17.20
332.375	3/8	1.29	21.50	17.20
332.400	4/10	1.29	21.50	17.20
332.500	1/2	1.29	21.50	17.20
332.700	7/10	1.29	21.50	17.20
332.750	3/4	1.29	21.50	17.20
332001	1	.78	13.00	10.40
3321.25	1-1/4	.78	13.00	10.40
33201.5	1-1/2	.78	13.00	10.40
3321.75	1-3/4	.78	13.00	10.40
332002	2	.78	13.00	10.40
33202.5	2-1/2	.78	13.00	10.40
332003	3	.78	13.00	10.40
33203.5	3-1/2	.84	14.00	11.20
332004	4	.84	14.00	11.20
332005	5	.84	14.00	11.20
332006	6	.84	14.00	11.20
332007	7*	.84	14.00	11.20
332008	8*	1.38	23.00	18.40
332010	10*	1.38	23.00	18.40

*125 volt.

LC SLO BLO (125 V) TYPE N

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. min. UL Listed thru 5 amps.

333.010	1/100	$2.76	$46.00	$36.80
333.031	1/32	2.76	46.00	36.80
333.062	1/16	2.07	34.50	27.60
333.100	1/10	2.07	34.50	27.60
333.150	15/100	2.07	34.50	27.60
333.200	2/10	2.07	34.50	27.60
333.250	1/4	2.07	34.50	27.60
333.300	3/10	2.07	34.50	27.60
333.400	4/10	2.07	34.50	27.60
333.500	1/2	2.07	34.50	27.60
333.600	6/10	2.07	34.50	27.60
333.700	7/10	2.07	34.50	27.60
333.750	3/4	2.07	34.50	27.60
333.800	8/10	2.07	34.50	27.60
333001	1	2.07	34.50	27.60
3331.25	1-1/4	1.98	33.00	26.40
33301.6	1-6/10	1.98	33.00	26.40
3331.75	1-3/4	1.98	33.00	26.40
333002	2	1.98	33.00	26.40
33302.5	2-1/2	1.98	33.00	26.40
33302.8	2-8/10	1.98	33.00	26.40
333003	3	1.98	33.00	26.40
33303.2	3-2/10	1.98	33.00	26.40
33303.5	3-1/2	1.98	33.00	26.40
333004	4	1.98	33.00	26.40
333005	5	1.98	33.00	26.40
3336.25	6-1/4	1.98	33.00	26.40
333007	7	1.98	33.00	26.40

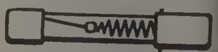
3AG Slo-Blo Pigtail 315000

3AG Pigtail 318000

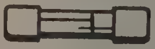
3AG Pin-Indicating 334000

3AB Steatite 314000

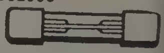
Limited Current Type C 332000



Limited Current Type N 333000



8AG Instrument 361000



SFE Series

SFE AUTO FUSES (32 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 0–1 hour; 150%, 20 amps or less 0–15 sec., 30 amps 0–30 sec. Dia. ¼".

L.F. No.	Amp Rating	Lgth. In.	Net per 5	Net per 100: 100	Net per 100: 500
307004	4	⅝	$0.48	$ 7.70	$6.40
307006	6	¾	.48	7.70	6.40
30707.5	7-1/2	⅞	.48	7.70	6.40
307009	9	⅞	.48	7.70	6.40
307014	14	1 1/16	.48	7.70	6.40
307020	20	1¼	.48	7.70	6.40
307030	30	1 7/16	.60	10.00	8.00

8AG FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1", dia. ¼". UL Listed thru 5 amps.

L.F. No.	Amp Rating	Net per 5	Net per 100: 100	Net per 100: 500
362.125	1/8	$1.68	$28.00	$22.40
362.250	1/4	.96	16.00	12.80
362.375	3/8	.96	16.00	12.80
362.500	1/2	.96	16.00	12.80
362.750	3/4	.96	16.00	12.80
362001	1	.69	11.50	9.20
36201.5	1-1/2	.69	11.50	9.20
362002	2	.69	11.50	9.20
36202.5	2-1/2	.69	11.50	9.20
362003	3	.69	11.50	9.20
362005	5	.51	8.50	6.80
362006	6	.51	8.50	6.80
362008	8	.51	8.50	6.80
362010	10	.51	8.50	6.80
362012	12	.51	8.50	6.80
362015	15	.51	8.50	6.80
362020	20	.51	8.50	6.80
362025	25	.51	8.50	6.80
362030	30	.51	8.50	6.80

8AG INSTRUMENT FUSES

Blow Time: 100%, 4-hour min.; 200%, 5-sec. max. Length 1", dia. ¼".

361.002	1/500	$10.02	$167.00	$133.60
361.005	1/200	4.44	74.00	59.20
361.010	1/100	3.75	62.50	50.00
361.031	1/32	3.24	54.00	42.20
361.062	1/16	2.07	34.50	27.60
361.100	1/10	1.68	28.00	22.40
361.125	1/8	1.68	28.00	22.40
361.187	3/16	1.68	28.00	22.40
361.200	2/10	1.68	28.00	22.40
361.250	1/4	.96	16.00	12.80
361.375	3/8	.96	16.00	12.80
361.400	4/10	.96	16.00	12.80
361.500	1/2	.96	16.00	12.80
361.750	3/4	.96	16.00	12.80
361001	1	.69	11.50	9.20
36101.5	1-1/2	.69	11.50	9.20
361002	2	.69	11.50	9.20
361003	3	.69	11.50	9.20
361004	4	.69	11.50	9.20
361005	5	.69	11.50	9.20

9AG FUSE (32 V OR LESS)

Blow Time: 100%, 4-hour min.; 125%, 0–1 hour; 200%, 0–25 seconds. Lg. 1 7/16", dia. ¼".

306050	50	$0.96	$16.00	$12.80

5AG AIRCRAFT FUSES

low Time: 110%, 4-hour min.; 135%, hour max.; 200%, 10-sec. max. Length ½″, dia. 13/32″.

L.F. No.	Amp Rating	Net per 5	Net per 100 100	 500
11010	10	$1.29	$21.50	$17.20
11015	15	1.29	21.50	17.20
11020	20	1.29	21.50	17.20
11025	25	1.29	21.50	17.20
11030	30	1.29	21.50	17.20
11035	35	1.29	21.50	17.20
11040	40	1.29	21.50	17.20
11050	50	1.29	21.50	17.20
11060	60	1.29	21.50	17.20

5AG QUICK-ACTING FUSES (250 V OR LESS)

low Time: 110%, 4-hour min.; 135%, 1 our max.; 200%, 5-sec. max. Length ½″, dia. 13/32″.

12001	1	$1.29	$21.50	$17.20
12002	2	1.29	21.50	17.20
12003	3	1.29	21.50	17.20
12004	4	1.29	21.50	17.20
12005	5	1.29	21.50	17.20
12008	8*	1.29	21.50	17.20

125 volt.

AG SLO BLO FUSES (250 V OR LESS)

low Time: 110%, 4-hour min.; 135%, hour max.; 200%, 5-sec. min. Length ½″, dia. 13/32″.

13.500	1/2	$3.24	$54.00	$43.20
13001	1	3.24	54.00	43.20
13002	2	3.24	54.00	43.20
13003	3	2.67	44.50	35.60
13004	4	2.67	44.50	35.60
13005	5	2.67	44.50	35.60
13010	10	2.67	44.50	35.60
13015	15	2.67	44.50	35.60
13020	20	2.67	44.50	35.60
13025	25	2.85	47.50	38.00
13030	30	2.85	47.50	38.00

5AB AIRCRAFT FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 15-sec. max. Length 1½″, dia. 13/32″. UL Listed thru 15 amps.
Net per 5.......................... **$ 1.59**
Net per 100: 100 . . . **$26.50**; 500 . . . **$21.20**

L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
514001	1	514007	7
514002	2	514008	8
514003	3	514010	10
51403.5	3-1/2	514015	15
514005	5	514020	20
514006	6	514025	25
5146.25	6-1/4	514030	30

5AB SLO BLO FUSES (CERAMIC)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%; 5 sec. min. Lg. 1½″, dia. 13/32″. Voltage rating 250 V except as noted.
Net per 5.......................... **$ 3.75**
Net per 100: 100 . . . **$62.50**; 500 . . . **50.00**

523.100	1/10	523003	3
523.150	15/100	52303.2	3-2/10
523.200	2/10	52303.5	3-1/2
523.300	3/10	523004	4
523.400	4/10	52304.5	4-1/2
523.500	1/2	523005	5
523.600	6/10	52305.6	5-6/10
523.800	8/10	5236.25	6-1/4
523001	1	523007	7
5231.12	1-1/8	523008	8
5231.25	1-1/4	523009	9
52301.4	1-4/10	523010	10
52301.6	1-6/10	523012	12*
52301.8	1-8/10	523015	15*
523002	2	523020	20†
5232.25	2-1/4	523025	25†
52302.5	2-1/2	523030	30†
52302.8	2-8/10		

*125 volt. †32 volt.

HIGH VOLTAGE FUSES

1000-VOLT (3″ x 13/32″)

L.F. No.	Amp Rating	L.F. No.	Amp Rating
621.375	3/8	621001	1
621.500	1/2	62101.5	1-1/2
621.750	3/4	621002	2

2500-VOLT (4½″ x 13/32″)

622.500	1/2	62201.5	1-1/2
622.750	3/4	622002	2
622001	1		

3000-VOLT (5½″ x 13/32″)

623.500	1/2	62301.5	1-1/2
623.750	3/4	623002	2
623001	1		

1000-VOLT (3″ x 13/16″)

701.062	1/16	701.750	3/4
701.125	1/8	701001	1
701.250	1/4	70101.5	1-1/2
701.375	3/8	701002	2
701.500	1/2		

5000-VOLT (5″ x 13/16″)

702.062	1/16	702001	1
702.125	1/8	70201.5	1-1/2
702.250	1/4	702002	2
702.375	3/8	70202.5	2-1/2
702.500	1/2	702003	3
702.750	3/4		

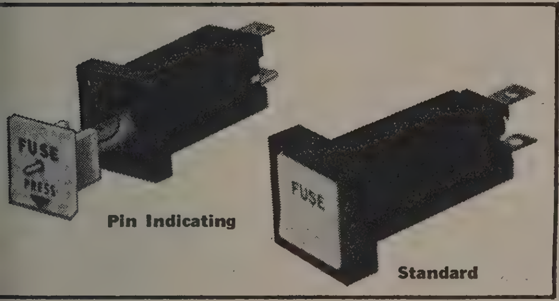
10,000-VOLT (10″ x 13/16″)

703.062	1/16	703.750	3/4
703.125	1/8	703001	1
703.250	1/4	70301.5	1-1/2
703.375	3/8	703002	2
703.500	1/2	703003	3

HIGH VOLTAGE FUSE PRICING

L.F. No.	Net Each	Net per 100 100	 500
621000 Series	$0.58	$ 48.50	$ 38.80
622000 Series	.80	67.00	53.60
623000 Series	1.21	100.50	80.40
701000 Series	1.47	122.50	98.00
702000 Series	1.50	125.00	100.00
703000 Series	2.85	237.50	190.00

LOW PROFILE FUSEHOLDERS



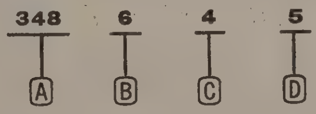
ow profile fuseholders ideal for front or rear panel installation n computers, photocopying and business equipment, aircraft and arine equipment. No mounting hardware required, snap-on the erminals and snap-in the holder. Available for 3AG Standard or in Indicating fuses. Molded phenolic resin body with high temerature thermo-plastic color-coded caps. Quick-connect solder ype terminals are one piece brass electrotin plated; available in wo widths. Dielectric withstanding voltage between terminals nd terminals to ground at room temperature and 90% R.H. xceeds 1500 volts. Withstands 10–55 Hz at 0.06″ double amplitude vibrations; withstands 60G for 11 millisec vibration. Rated 5 amps at any voltage to 250 volts. **Size:** 1 57/64″ lg. x 39/64″ sq. ody; 27/32″ sq. x 9/32″ d. cap. Mounts in 0.625″ sq. hole in 1/32″–1/8″ hick chassis panel.

LOW PROFILE ASSEMBLIES AND CAPS— BULK 50 PER PACK

L.F. umber	Description	Net Each	Net per 100 100	 500
348--0	3AG Body Assembly	$0.58	$48.50	$38.80
34700–	3AG Pin Indicating Cap Assembly	.25	20.50	16.40
34800–	3AG Assembly Cap	.21	17.50	14.00

HOW TO ORDER LOW PROFILE FUSEHOLDERS

Six digit number is a coded description of fuseholder.



Ⓐ **Series Number: 348** for 3AG Standard fuses; **347** for Pin Indicating.

Ⓑ **Terminal Style: 6,** 3/16″ w. quick-connect and solder type; **8,** ¼″ w. quick-connect and solder type.

Ⓒ **Bezel Color:** Specify **1,** red; **2,** green; **3,** yellow; **4,** blue; **5,** white; **7,** black; **9,** gray.

Ⓓ **Cap Color:** Specify **1,** red; **2,** green; **3,** yellow; **4,** blue; **5,** white; **7,** black; **9,** gray.

NOTE: To order a cap assembly **only** for 3AG Standard fuses, use 348 series number and insert a **0** in the terminal style and bezel color locations (348 **0 0** 1). To order a cap assembly for 3AG Pin Indicating fuses, use 347 series number and insert a **0** in the terminal style and bezel color locations (347 **0 0** 1). To order a body assembly **only**, use 348 for 3AG fuses series number and insert a **0** in the cap color location (348 8 5 **0**). The body assembly only for 3AG Pin Indicating fuses is identical to 348 series.

LOW PROFILE FUSEHOLDERS— INDIVIDUALLY CARDED

L.F. Number	Description	Net Each	Net per 100 100	 500
347 Series	3AG Pin Indicating	$1.02	$85.50	$68.40
348 Series	3AG Standard	1.01	84.00	67.20

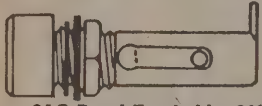
LITTELFUSE Fuses, Holders

PLUG FUSES

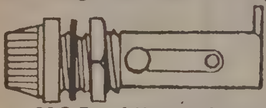
ECON TIME-DELAY PLUG FUSES

Dual-element plug type fuses provide additional protection against blowing during motor starting cycle. UL Recognized. For 125-volt operation.

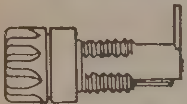
L.F. No.	Amp Rating	Net per Box of 4	Net per 100
TE3/10	3/10	$2.00	$50.00
TE4/10	4/10	2.00	50.00
TE8/10	8/10	2.00	50.00
TE1	1	2.00	50.00
TE1-1/8	1-1/8	2.00	50.00
TE1-1/4	1-1/4	2.00	50.00
TE1-4/10	1-4/10	2.00	50.00
TE1-6/10	1-6/10	2.00	50.00
TE1-8/10	1-8/10	2.00	50.00
TE2	2	2.00	50.00
TE2-1/4	2-1/4	2.00	50.00
TE2-1/2	2-1/2	1.40	35.00
TE3-2/10	3-2/10	1.40	35.00
TE3-1/2	3-1/2	1.40	35.00
TE4	4	1.40	35.00
TE4-1/2	4-1/2	1.40	35.00
TE5	5	1.40	35.00
TE5-6/10	5-6/10	1.40	35.00
TE6-1/4	6-1/4	1.40	35.00
TE7	7	1.40	35.00
TE8	8	1.40	35.00
TE9	9	1.40	35.00
TE10	10	1.40	35.00
TE12	12	1.40	35.00
TE14	14	1.40	35.00
TE15	15	1.12	28.00
TE20	20	1.12	28.00
TE25	25	1.12	28.00
TE30	30	1.12	28.00



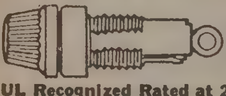
3AG Panel Fuseholder 341001
UL Recognized Rated at 15 A/250 V



3AG Panel Fuseholder 342001
UL Recognized Rated at 15 A/250 V

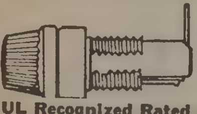


3AG Panel Fuseholder 342004
UL Recognized Rated at 20 A/250 V



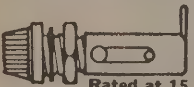
3AG Panel Fuseholder 342012
UL Recognized Rated at 20 A/250 V

3AG Panel Fuseholder 342014
UL Recognized Rated at 20 A/250 V

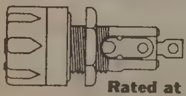


3AG Panel Fuseholder 342022
UL Recognized Rated at 20 A/250 V

8AG Panel Fuseholder 371001
Rated at 15 A/250 V



8AG Panel Fuseholder 372001
Rated at 15 A/250 V



4AG Panel Fuseholder 442006
Rated at 20 A/250 V

CLEARSITE ONE-TIME PLUG HOUSE FUSES

For 125 VAC or DC. UL Listed. Use with standard Edison base fuse holders.

L.F. No.	Amp Rating	Net per Box of 5	Net per 100
CP15	15	$0.70	$14.00
CP20	20	.70	14.00
CP25	25	.70	14.00
CP30	30	.70	14.00

FUSE HOLDERS, RETAINERS

MICROFUSE HOLDERS

For mounting of 273000 Series Microfuse. Type 281006 is front panel mounting; 281005 ideal PC board mtg.; 284000 Series front panel mtg. with indicator bulb.

L.F. No.	Voltage Range	Net Each	Net per 100 100	 500
280021	....	$1.68	$134.00	$107.20
281001	....	.47	39.00	31.20
281005	....	.42	35.00	28.00
281006	....	1.26	105.00	84.00
281007	....	.42	35.00	28.00
282001	....	2.13	177.50	142.00
282002	....	2.01	167.50	134.00
282007	....	3.70	308.00	246.40
282008	....	3.62	302.00	241.60
284004	2½–7	3.40	283.00	226.40
284005	7–16	3.40	283.00	226.40
284006	16–32	3.40	283.00	226.40
284003	100–125	2.52	210.00	168.00

MICROFUSE INDICATING HOLDERS— RF SHIELDED

284121	2½–7 V	$16.88	1406.50	1125.20
284122	7–16 V	12.74	1062.00	849.60
284107	12–22 V	14.00	1167.00	933.60
284108	23–33 V	14.36	1197.00	957.60
284109	34–45 V	14.36	1197.00	957.60
284110	46–60 V	14.36	1197.00	957.60
284111	61–80 V	14.36	1197.00	957.60
284112	81–90 V	14.36	1197.00	957.60
284113	91–125 V	9.87	822.50	658.00

3AG PANEL FUSEHOLDERS

L.F. No.	Type	Net Ea.	Net per 100 100	 500
340255A	R/F shld'd (FHN26G2)	$7.70	642.00	513.60
340256A	R/F shld'd (FHN20G)	7.70	642.00	513.60
340276A	Hi V knob	1.09	95.00	72.40
341001A	Screw	.91	76.00	60.80
342004A	Miniature	.65	54.00	43.20
342004PA	Miniature*	.76	63.50	50.80
342006	Watertight	3.72	310.00	248.00
342012A	Miniature	.65	54.00	43.20
342012PA	Miniature*	.76	63.50	50.80
342014A	Miniature	.65	54.00	43.20
342014PA	Miniature*	.76	63.50	50.80
342021A	FHN 26W	4.81	401.00	320.80
342022A	Miniature	.65	54.00	43.20
342022PA	Miniature*	.76	63.50	50.80
342024A	FHN 26G2	1.90	158.00	125.40
342025A	FHN 20G	1.96	163.50	130.80

*Drip-proof. All holders include hardware.

8AG PANEL FUSEHOLDERS

370011	R/F shld'd	$8.63	719.50	575.60
371001A	Screw	.91	76.00	60.80
372001A	Finger	.91	76.00	60.80

All holders include hardware.

4AG PANEL FUSEHOLDERS

442006	Watertight	$3.99	332.50	266.00
442008A	Watertight	5.16	430.00	344.00

5AG PANEL FUSEHOLDERS

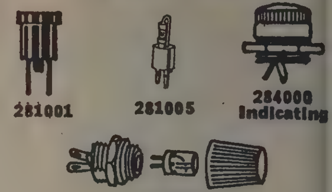
571006	Non-watertight	$2.05	171.00	136.80
571004	Watertight	2.23	186.00	148.80

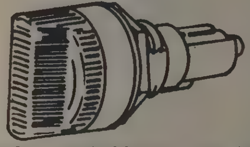
3AG QUICK-CONNECT FUSEHOLDERS

L.F. No.	Description	Net Each	Net per 100 100	 500
342028A	3/16″ terminals	$0.75	$62.50	$50.00
342038A	3/16″ terminals	.75	62.50	50.00
342048A	3/16″ terminals	.75	62.50	50.00
342058A	3/16″ terminals	.75	62.50	50.00
342828A	¼″ terminals	.75	62.50	50.00
342838A	¼″ terminals	.75	62.50	50.00
342848A	¼″ terminals	.75	62.50	50.00
342858A	¼″ terminals	.75	62.50	50.00

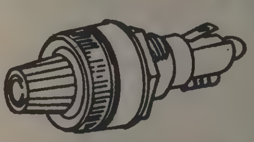
All holders include hardware.

Microfuse Holders

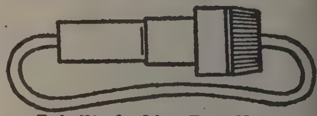




Indicating Fuseholder 344(000) Series



Indicating Fuseholder 344(400) Series



Bakelite In-Line Fuse Holder Assembled with Lead

Designed to meet IEC Standards. Electcal insulating shield prevents any posbility of electrical shock. Rated at 20 am to 300 volts. UL recognized. Certified CSA. For use with 5X20 mm fuses, ord #345400 adapter.

L.F. No.	Type	Net Each	Net per 10 100	 50
345001	Right-angle Terminals	$1.05	$87.50	$70.
345002	Straight Terminals	1.05	87.50	70.
345400	Adapter	.71	58.80	47.

3AG INDICATING FUSEHOLDERS 344(000) SERIES

L.F. No.	Voltage	Net Each	Net per 10 100	 500
344006A	2½–7 V.	$4.63	$386.00	$308.
344012A	7–16 V	4.63	386.00	308.
344024A	16–32 V	4.63	386.00	308.
344125A	100–125 V	2.87	239.00	191.
344250A	200–250 V	2.87	239.00	191.

All holders include hardware.

3AG INDICATING FUSEHOLDERS 344(400) SERIES

Same as 344(000) Series but with differe lens style.

L.F. No.	Voltage	Net Each	Net per 10 100	 500
344401A	2½–7 V	$4.63	$386.00	$308.
344402A	7–16 V	4.63	386.00	308.
344403A	16–32 V	4.63	386.00	308.
344404A	100–125 V	2.87	239.00	191.
344405A	200–250 V	2.87	239.00	191.

All holders include hardware.

UNIVERSAL FUSE RETAINER

Comes with three different length sprin for fuse sizes 7½ SFE thru 3AG.
L.F. No. 150145—Net Each . . . . $ 0.
Net 100 . . $56.00; Lots 500, Net 100 . $44.

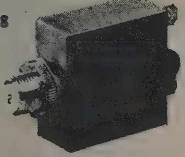
BAKELITE® IN-LINE FUSE HOLDERS ASSEMBLED WITH 19″ LEAD

L.F. No.	Use with Fuses	Net Ea., Lots of 5	Net per 1 100	 500
155004A	SFE 4, 1AG	$0.67	$56.00	$44.
155006A	SFE 6	.67	56.00	44.
15507.5A	SFE 7½	.67	56.00	44.
155009A	SFE 9, 7AG	.67	56.00	44.
155014A	SFE 14	.67	56.00	44.
155020A	SFE 20, 3AG	.67	56.00	44.

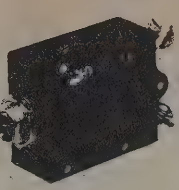
®Bakelite Corp.

THERMAL CIRCUIT BREAKERS

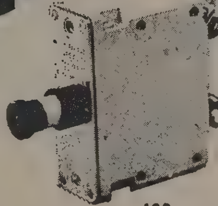
109, 110, 842, 449, 498



374, 375, 431, 435



112, 113, 548



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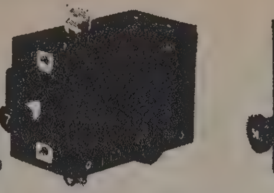
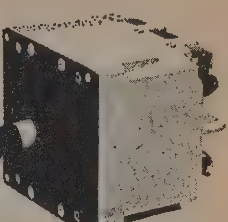


114



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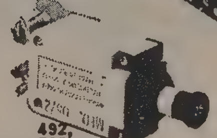


492, 507

MODELS 109, 110, 449 AND 498

odels 109 and 110 thermal circuit breakers feature a white band n the body of the reset button which becomes visible upon reaker trip. Maximum operating voltages are 50 VDC and 250 AC (to 400 Hz). Interruption capacities are 3000 amps at 250 AC and 5000 amps at 32 VDC, except for Model 111 which is ated at 100 amps at 250 VAC and 150 amps at 32 VDC. Use #8-32 crew terminals and mount with two 3/8-24 dress nuts. Model 109 as screw terminals situated at 90° to each other. Model 110 has crew terminals situated parallel to each other. Model 449 is the me as Model 110 except rating is stamped 180° to that of Model 10. Model 498 is the same as Model 449 except has .500″ long ushing. Size, .690″ w. x 1.600″ d. x 1.375″ h. Weight, less than 2 oz.

odel 109—Net Each........**$6.00**
odel 110—Net Each........**5.70**
odel 449—Net Each........**5.80**
odel 498—Net Each........**5.95**

P & B Model	Rating, Amps	P & B Model	Rating, Amps	P & B Model	Rating, Amps
09-205-101	5	109-250-101	50	449-210-101	10
09-507-101	7.5	109-260-101	60	449-215-101	15
09-210-101	10	110-205-101	5	449-220-101	20
09-215-101	15	110-507-101	7.5	498-205-101	5
09-220-101	20	110-210-101	10	498-507-101	7.5
09-225-101	25	110-215-101	15	498-210-101	10
09-230-101	30	110-220-101	20	498-215-101	15
09-235-101	35	449-205-101	5	498-220-101	20
09-240-101	40	449-507-101	7.5		

MODEL 842

odel 842 thermal circuit breaker insures fast trip by employing heater wire in close proximity to the thermal contact arm. Heat enerated by overload currents flowing through the wire quickly ctivates the thermal contact and opens the circuit. Maximum perating voltages are 32 VDC and 250 VAC (to 400 Hz). Interruption capacity is over 100 amps at 250 VAC, and 150 amps at 2 VDC. Has #8-32 screw terminals and mounts with a single -24 dress nut. Size, .690″ w. x 1.600″ d. x 1.375″ h. Weight, less han 2 oz.

odel 842—Net Each........**$10.70**

P & B Model	Rating, Amps	P & B Model	Rating, Amps
842-201-101	1	842-203-101	3
842-202-101	2	842-204-101	4

MODELS 112, 113 AND 548

odels 112, 113 and 548 thermal circuit breakers feature toggle rip. Model 112 has a plain steel toggle with rating marked on the nd. Model 113 has a chrome-plated toggle with rating marked n the end. Model 548 has a silver toggle with no rate marking. aximum operating voltages are 32 VDC and 250 VAC (to 400 z). Interruption capacity is over 3000 amps at 250 VAC and 000 amps at 50 VDC. Use #8-32 screw terminals and mount with single dress nut. Size, .690″ w. x 1.600″ d. x 1.375″ h. Weight, ss than 2 oz.

odel 112—Net Each........**$6.30**
odel 113—Net Each........**7.60**
odel 548—Net Each........**7.50**

P & B Model	Rating, Amps	P & B Model	Rating, Amps	P & B Model	Rating, Amps
12-205-101	5	112-230-101	30	113-210-101	10
12-507-101	7.5	112-235-101	35	113-215-101	15
12-210-101	10	112-240-101	40	113-220-101	20
12-215-101	15	112-250-101	50	548-205-107	5
12-220-101	20	113-205-101	5	548-210-107	10
12-225-101	25	113-507-101	7.5		

MODEL 114

odel 114 thermal circuit breaker features auxiliary SPDT switch ectrically isolated but mechanically connected to the breaker rcuit. SPDT contacts rated 5 amps at 125 VAC or 1 amp at 50 DC. Maximum operating voltages are 32 VDC and 250 VAC (to 0 Hz). Interruption capacity is over 200 amps at 250 VAC and 0 amps at 32 VDC. Mounts with two #6-32 panel-mount screws. ermination of breaker contacts is to two #6-32 screw terminals; the auxiliary switch, to three #53 taper receptacles. Size, .930″ . x 1.875″ d. x 1.344″ h. Weight, less than 3 oz. UL Recognized.

odel 114—Net Each........**$13.50**

P & B Model	Rating, Amps	P & B Model	Rating, Amps	P & B Model	Rating, Amps
14-201-101	1	114-206-101	6	114-215-101	15
14-202-101	2	114-207-101	7	114-220-101	20
14-203-101	3	114-209-101	9	114-225-101	25
14-205-101	5	114-210-101	10		

MODELS 374, 375, 431 AND 435

Thermal circuit breakers feature recessed reset button which cannot be manually pulled out to disconnect the circuit. The button has a red band around it for visible trip indication. Maximum voltage ratings are 32 VAC and 250 VAC (to 400 Hz). Interruption capacity: Models 374 and 431, over 1000% of rated load; Models 375 and 435, 1,000 amps, minimum. Quick-connect terminals on Models 374 and 375; #6-32 screw terminals on Models 431 and 435. Mounting is with knurled thumb nut on bushing. Size, .660″ w. x 1.375″ d. x 1.375″ h. Weight, less than 1.5 oz. Models 374 and 375 (except 8, 12, 20, 30 and 35 amp units) are UL Recognized under File E39205 and listed under CSA File 30671.

Model 374—Net Each........**$3.00**
Model 375—Net Each........**1.95**
Model 431—Net Each........**4.35**
Model 435—Net Each........**3.10**

P & B Model	Rating, Amps	P & B Model	Rating, Amps	P & B Model	Rating, Amps
374-201-101	1	375-215-101	15	435-206-101	6
374-202-101	2	375-220-101	20	435-207-101	7
374-203-101	3	375-225-101	25	435-208-101	8
374-204-101	4	375-230-101	30	435-210-101	10
375-205-101	5	375-235-101	35	435-212-101	12
375-206-101	6	431-201-101	1	435-215-101	15
375-207-101	7	431-202-101	2	435-220-101	20
375-208-101	8	431-203-101	3	435-225-101	25
375-210-101	10	431-204-101	4	435-230-101	30
375-212-101	12	435-205-101	5	435-235-101	35

MODEL 436

Model 436 thermal circuit breaker has a special magnet which assists during millisecond tripping of heavy overloads. Reset button has white band around it for visible trip indication. Meets MIL-C-5809 and MIL drawing MS-25017 (ASG). Maximum voltage ratings are 28 VDC and 120 VAC (to 400 Hz). Will safely interrupt over 3500 amps at 120 VAC, and 6000 amps at 28 VDC. Termination to #8-32 screw terminals; mounting is with #6-32 screws. Size, .750″ w. x 1.66″ d. x 2.189″ h. Weight, less than 3 oz.

Model 436—Net Each........**$13.20**

P & B Model	Rating, Amps	P & B Model	Rating, Amps	P & B Model	Rating, Amps
436-205-101	5	436-220-101	20	436-240-101	40
436-507-101	7.5	436-225-101	25	436-250-101	50
436-210-101	10	436-230-101	30		
436-215-101	15	436-235-101	35		

MODEL 437

Model 437 thermal circuit breaker is a 3-phase, magnetic assist breaker with a white band around the reset button for visible trip indication. Excessive current flow in any of the three lines causes all contacts to open. Meets MIL-C-5809 and military drawing MS-21984. Maximum voltage rating: Single phase, 120 VAC; three phase, 208 VAC. Will safely interrupt over 1,000 amps at 208 VAC. 3 phase, to 400 Hz; or 2,500 amps at 120 VAC, single phase, to 400 Hz. Six 8-32 screw terminals, four 6-32 mounting screws. Size, 2.250″ w. x 2.125″ d. x 2.203″ h. Weight, less than 8 oz.

Model 437—Net Each........**$88.20**

P & B Model	Rating, Amps	P & B Model	Rating, Amps
437-205-101	5	437-210-101	10
437-507-101	7.5	437-215-101	15

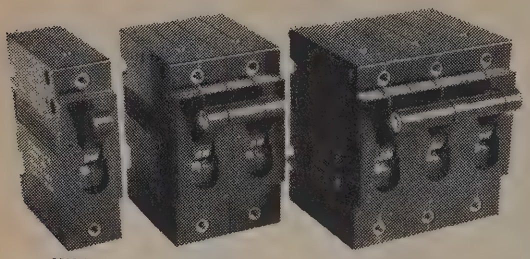
MODELS 492 AND 507

Models 492 and 507 thermal circuit breakers have a white band around the base of the reset button which becomes visible upon breaker trip. Model 507 meets MS MIL-C-5809 and MIL drawing MS25244. Model 492 has a glass melamine barrier on one side of its housing. Maximum operating voltages are 28 VDC and 120 VAC (to 400 Hz). Will safely interrupt over 3500 amps at 120 VAC and and 6000 amps at 28 VDC. Size, .750″ w. x 1.490″ d. x 1.094″ h. Weight, 2 oz.

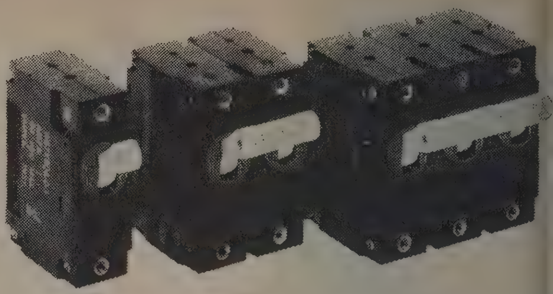
Model 492—Net Each........**$10.95**
Model 507—Net Each........**10.05**

P & B Model	Rating, Amps	P & B Model	Rating, Amps	P & B Model	Rating, Amps
492-205-102	5	492-235-102	35	507-225-101	25
492-507-102	7.5	507-205-101	5	507-230-101	30
492-210-102	10	507-507-101	7.5	507-235-101	35
492-215-102	15	507-210-101	10	507-240-101	40
492-220-102	20	507-215-101	15	507-250-101	50
492-225-102	25	507-220-101	20		

SEE NEXT PAGE FOR TRIP TIME VALUES



W91 W92 W93



W67 W68 W69

MAGNETIC/HYDRAULIC CIRCUIT BREAKERS SERIES W67, W68, W69, W91, W92, W93

Magnetic-hydraulic circuit breakers designed to pass safe surge currents and momentary overloads but to trip on dangerous overloads. Trip times range from instantaneous on loads of approximately 800% of rating and higher to .16 second or more at 200% of load. Between the must-trip values of 101%–125% of rating from DC to 400 Hz, these breakers are temperature stable from −40° C to +85° C. All models feature wipe on make and break and have a trip-free mechanism which allows the contacts to open even if manually held in the reset position. On 2- and 3-pole models, an overload in any circuit will open all circuits. All models are UL recognized as circuit protectors, File 39205, and CSA recognized as appliance component protectors, File 30671. Models W91, W92 and W93 breakers mount with #6-32 screws and have #10-32 terminal studs. **Size:** W91, .750″ w. x 1.844″ d. x 2.500″ h.; W92, 1.500″ w. x 1.844″ d. x 2.500″ h.; W93, 2.250″ w. x 1.844″ d. x 2.500″ h. Models W67, W68 and W69 breakers offer an auxiliary SPDT switch electrically isolated, rated 5 amps at 125 VAC or 1 amp at 50 VDC, and has solder terminals. **Size:** W67, .750″ w. x 1.500″ d. x 2.000″ h.; W68, 1.500″ sq. x 2.000″ h.; W69, 2.250″ w. x 1.500″ d. x 2.000″ h. **Maximum Operating Voltages:** Models from 1 to 30 amps, 250 VAC, 50/60/400 Hz; models from 1 to 50 amps, 65 VDC. **Auxiliary Switch Rating:** SPDT common, 5 amps at 125 VAC, 1 amp at 50 VDC. **Interrupt Capacity:** 65 VDC, 1000 amps; 250 VAC, 60 Hz, 1000 amps; 250 VAC, 400 Hz, 1000 amps.

W	91	X1	1	2	15
A	B	C	D	E	F

A Circuit breaker designator
W

B Series number
91—single pole
92—double pole
93—triple pole

C Circuit function
X1—Series trip

D Voltage
1—AC
5—DC

E Trip curve
2—Standard time delay
3—Short time delay

F Standard ampere rating

1	5	15	30
2	7	20	40§
3	10	25	50§

P & B Model	Net Each, Lots of					
	1-9	10-49	50-99	100-249	250-499	500-Up
W91	$10.00	$ 6.50	$ 5.90	$ 5.30	$ 4.70	$ 4.40
W92	26.55	17.26	15.66	14.07	12.48	11.68
W93	41.60	27.04	24.54	22.05	19.55	18.30

§Not UL or CSA in AC models.

Curve	Trip Time In Seconds at % Overload				
	200%	400%	600%	800%	1000%
0*	.03‡	.015‡	.012‡	.012‡	....
2 AC†	2.2–20	.3–2	.05–.75	.007–.15	.005–.04
2 DC	.6–8	.15–1.5	.03–.5	.004–.05	.004–.02
3 AC†	.15–1.5	.035–.25	.01–.15	.003–.08	.003–.04
3 DC	.16–1.5	.035–.25	.012–.13	.004–.05	.003–.01

*Ratings for 50/60/400 Hz and DC. †Ratings for 50/60 Hz
‡Maximum value.

ORDERING INFORMATION

W	67	A2Q	1	2,	20
A	B	C	D	E	F

A Circuit breaker designator
W

B Series number
67—single pole
68—double pole
69—triple pole

C Circuit function
A2Q—series trip with auxiliary switch
X2Q—series trip

D Voltage
1—AC
6—DC

E Trip curve
0—Instantaneous
2—Standard time delay
3—Short time delay

F Standard ampere rating

0.5	3	10	25
1	5	15	30
2	7	20	

P & B Model	Net Each, Lots of					
	1-9	10-49	50-99	100-249	250-499	500-Up
W67A ½A	$11.20	$ 7.28	$ 6.61	$ 5.94	$ 5.26	$ 4.93
W67A Others	9.55	6.21	5.63	5.06	4.49	4.20
W67X ½A	9.55	6.21	5.63	5.06	4.49	4.20
W67X Others	7.90	5.14	4.66	4.19	3.71	3.48
W68A ½A	25.40	16.51	14.99	13.46	11.94	11.18
W68A Others	22.20	14.43	13.10	11.77	10.43	9.77
W68X ½A	23.75	15.44	14.01	12.59	11.16	10.45
W68X Others	20.55	13.36	12.12	10.89	9.66	9.04
W69A ½A	38.80	25.22	22.89	20.56	18.24	17.07
W69A Others	33.95	22.07	20.03	17.99	15.96	14.94
W69X ½A	37.15	24.15	21.92	19.69	17.46	16.35
W69X Others	32.30	21.00	19.06	17.12	15.18	14.21

TRIP TIME vs. PERCENT OF LOAD

P & B Model	Trip Time In Sec. at 200% of Load	P & B Model	Trip Time In Sec. at 200% of Load	P & B Model	Trip Time In Sec. at 200% of Load	P & B Model	Trip Time In Sec. at 200% of Load
109-	8-20	374-	9-40	436-	15-55	498-	8-20
110-	8-20	375-	5.8-40	437-	15-75	507-	15-55
112-	8-20	431-	9-40	499-	8-20	548-	8-20
113-	8-20	435-	5.8-40	492-	15-55	842-	11-42
114-	13-30						

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CAMBRIDGE THERMIONIC CORPORATION

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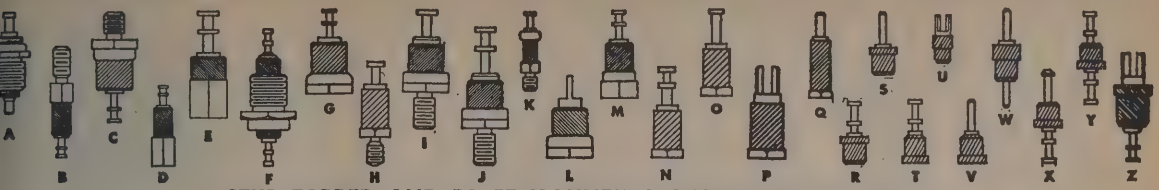
INSULATED TERMINALS, HANDLES AND BOARDS



STUD-TAPPED AND RIVET-MOUNTING INSULATED TERMINALS

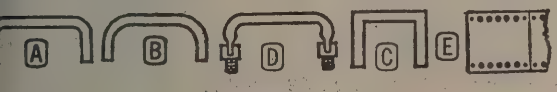
sulating Material: Teflon for Nos. 1502 thru 1511, 1945 and)47; phenolic for 1581 and 1795; diallyl for 4810 thru 4895; all hers ceramic.

Cambion Number*	MIL-T-55155 Number	Fig.	Net Each, Lots of§ 10-99	100-499	500-999	1000-2499
70-1502-01-05-19	FT20XA01	A	$0.97	$0.75	$0.69	$0.61
70-1503-01-05-19†	SE09(0/9)E01	B	.62	.48	.44	.39
70-1504-01-05-19†	SE09(0/9)E02	B	.62	.48	.44	.39
70-1510-01-05-19†	SE10(0/9)D01	D	.62	.48	.44	.39
70-1511-01-05-19†	SE10(0/9)D02	E	.62	.48	.44	.39
70-1581-01-01-00	....	C	.62	.48	.44	.39
70-1581-03-01-00	....	C	.62	.48	.44	.39
70-1581-05-01-00	....	C	.62	.48	.44	.39
70-1795-01-01-00	....	F	1.07	.82	.76	.67
70-1942-01/02-05‡#	SE21X03/05	C	.67	.52	.48	.42
70-1942-01/02-01‡#	....	C	.67	.52	.48	.42
70-1945-01-05-19	....	C	.89	.69	.63	.56
70-1945-02-05-19	....	C	.89	.69	.63	.56
70-1947-01-05-19	....	G	.97	.75	.69	.61
70-1947-02-05-19	....	G	.97	.75	.69	.61
70-1980-01-01-00	....	I	.64	.49	.45	.40
70-1980-05-01-00	....	I	.64	.49	.45	.40
70-1983-05-01-00	....	I	.64	.49	.45	.40
70-1990-01-01-00	....	F	1.29	.99	.92	.81
70-1990-01-05-00	FT01XA01	F	1.29	.99	.92	.81
70-1992-05-01-00	....	I	.64	.49	.45	.40
70-1994-01-01-00	....	J	.64	.49	.45	.40
70-1994-02-01-00	....	J	.64	.49	.45	.40
70-1995-01-01-00	....	I	.64	.49	.45	.40
70-2012-01-05-00	FT01XA02	F	2.28	1.76	1.62	1.44
70-2012-01-01-00	....	F	2.28	1.76	1.62	1.44
70-2045-01/02-05‡#	SE21XE01/2	C	.67	.52	.48	.42
70-2045-01/02-01‡#	....	C	.67	.52	.48	.42
70-2255-01/03-05‡#	SE22XE01/3	K	.67	.52	.48	.42
70-2255-01/03-03‡#	....	K	.81	.62	.58	.51
70-2384-02-01-00	....	L	.97	.75	.69	.61
70-2432-01/02-01‡#	....	L	.83	.64	.59	.52
70-3648-01/02-01‡#	....	M	.67	.52	.48	.42
70-3650-01/02-01‡#	....	M	.67	.52	.48	.42
72-4810-01-05-16	....	B	.47	.36	.33	.30
72-4814-01-05-16†	SE20(0/9)D01	N	.54	.42	.38	.34
72-4815-01-05-16	....	N	.54	.42	.38	.34
72-4820-01-05-16†	SE20(0/9)D02	N	.61	.47	.43	.38
72-4826-01-05-16	....	N	.54	.42	.38	.34
572-4827-01-05-16	....	N	$0.54	$0.42	$0.38	$0.34
572-4838-01-05-16†	SE19(0/9)E01	O	.54	.42	.38	.34
572-4862-01-05-16	....	P	.60	.46	.43	.38
572-4863-01-05-16	....	P	.90	.46	.43	.38
572-4870-01-05-16	....	H	.44	.34	.31	.28
572-4872-01-05-16	....	O	.47	.36	.33	.30
572-4878-01-05-16	....	O	.47	.36	.33	.30
572-4884-01-05-16	....	Q	.47	.36	.33	.30
572-4894-01-05-16†	SE18(0/9)E01	H	.44	.34	.31	.28
572-4895-01-05-16†	SE18(0/9)E02	H	.47	.36	.33	.30

TEFLON• PRESS-MOUNT INSULATED TERMINALS

Cambion Number* 571-	MIL-T-55155 Number	Fig.	Net Each, Lots of§ 10-99	100-499	500-999	1000-2499
4015-01-05-19	....	R	$0.35	$0.24	$0.22	$0.20
4025-01/03-05-19‡	....	R	.32	.22	.20	.18
4026-01/03-05-19‡	....	R	.35	.24	.22	.20
4027-01/03-05-19‡	....	R	.35	.24	.22	.20
4029-01-05-19†	SE08(0/9)B01	S	.29	.20	.18	.17
4033-01/02-05-19‡	....	T	.35	.24	.22	.20
4034-01/03-05-19‡	....	T	.35	.24	.22	.20
4051-01-05-19†	SE07(0/9)B01	R	.35	.24	.22	.20
4078-01-05-19	....	R	.37	.26	.24	.22
4115-01-05-19	....	R	.45	.31	.29	.26
4122-01-05-19	....	U	.68	.48	.43	.40
4132-01-05-19	....	U	.68	.48	.43	.40
4140-01-05-19†	SE07(0/9)B02	R	.29	.20	.18	.17
4152-01-05-19†	FT05(0/9)B01	S	.37	.26	.24	.22
4167-01-05-19†	FT06(0/9)B01	V	.35	.24	.22	.20
4168-01-05-19†	FT05(0/9)B02	S	.35	.24	.22	.20
4176-01-05-19†	FT03(0/9)B02	W	.35	.24	.22	.20
4182-01/03-05-19‡	....	X	.35	.24	.22	.20
4185-01-05-19†	FT04(0/9)B01	X	.35	.24	.22	.20
4188-01-05-19†	FT03(0/9)B01	W	.29	.20	.18	.17
4193-01-05-19†	FT05(0/9)B03	S	.29	.20	.18	.17
4194-01-05-19†	FT06(0/9)B02	V	.35	.24	.22	.20
4197-01-05-19†	FT04(0/9)B02	X	.35	.24	.22	.20
4263-01-05-19	....	Y	.56	.39	.35	.32
4267-01-05-19	....	Z	.68	.48	.43	.40
4281-01-05-19†	FT03(0/9)B03	W	.35	.24	.22	.20
4410-01-03-19	....	W	.41	.29	.26	.24

Suffix **-05** indicates electro-solder plating; **-01**, silver plating; **-03**, gold plating. †Suffix indicates standard color; **-16**, blue for diallyl nits; **-19**, white for Teflon• units. In MIL-T-55155 Nos., **(0/9)** indicates range of colors available. Colors other than standard made to rder in min. of 500 unit quantities; prices on request. To order nonstandard colors, replace suffix **-16** or **-19** with: **-11**, brown; **-12**, red; 3, orange; **-14**, yellow; **-15**, green; **-17**, violet; **-18**, gray. ‡Dash numbers **-01/05** (e.g., 570-1942-**01**-05) indicate varying stud lengths vailable; specify with order. §Min. std. pkg., 50 pcs. #Add suffix **-00** to Cambion Part No. •Reg. DuPont T.M.



HANDLES

Cambion No. 415-#	Fig.	Metal	Mtg. Ctrs., In.	Ht., In.	Net Each, Lots 10-99	100-499
1075-01-02	A	Brass*	4.562	1	$2.70	$2.36
1220-01-02	A	Brass*	1.25	1	2.59	2.27
1220-02-02	A	Brass*	2.0	1	2.70	2.36
1220-03-02	A	Brass*	3.0	1	2.81	2.46
1250-01-02	A	Brass*	2.0	1.312	2.27	1.98
1250-02-02	A	Brass*	3.0	1.312	2.41	2.11
1258-01-02	B	Brass*	.875	.520	1.14	1.00
1264-01-02	A	Brass*	3.0	1.312	2.41	2.11
1270-01-14	A	Alum.†	4.0	1.875	2.81	2.46
1278-01-14	C	Alum.†	2.0	1.500	2.01	1.76
1278-02-14	C	Alum.†	4.0	1.500	2.30	2.02
1280-03-02	A	Brass*	4.0	1.50	2.81	2.46
1290-02-14	A	Alum.†	3.0	1.50	1.79	1.57
1290-03-14	A	Brass†	4.0	1.50	2.11	1.85
1900-01-02	D	Brass*	4.0	1.85	6.50	5.70
1965-01-02	A	Brass*	6.437	1.75	2.81	2.46
2062-01-02	D	Brass*	4.0	1.85	8.05	7.05
2111-01-02	B	Brass*	3.0	1.281	3.80	3.35
2111-02-02	B	Brass*	4.562	1.50	4.30	3.75
2111-03-02	B	Brass*	6.438	1.75	4.80	4.20
2111-04-02	B	Brass*	9.0	1.75	5.25	4.60
2385-01-14	B	Alum.†	3.0	1.281	2.84	2.49
2385-02-14	B	Alum.†	4.562	1.50	3.10	2.71
2385-03-14	B	Alum.†	6.438	1.75	3.40	2.96
2720-01-22	D	‡	4.0	1.459	9.15	8.00

Nickel finish; for black oxide, order **-12** (prices on request). Black anodize; for semi-frost anodize at same price, order **-18**. Stainless steel. Add final suffix **-00** to Cambion Part No.

WRITE FOR FREE CAMBION CATALOG FOR COMPLETE LISTING OF ALL CAMBION PRODUCTS

ALL-SET TERMINAL BOARDS (FIG. E)

With terminals firmly mounted. Boards scribed into five sections. Each section has 10 terminals and 4 mounting holes in two rows except Nos. **1401-** which have only 5 terminals and two mounting holes in a single row. **Materials** are: **FBE,** cotton-fabric phenolic MIL-P-15035B; **GEE,** epoxy glass-cloth, MIL-P-18177B; **NPG,** nylon-fabric phenolic MIL-P-15047B. Min. order two.

Cambion No. 200-	Mat.	Size, Inches Th. x Width	Net Each, Lots of 1-9	10-99	100-499
1330-25-01-02	GEE	1/16 x 1 1/8	$ 9.15	$ 6.60	$ 5.75
1401-35-01-01	FBE	3/32 x 1/2	3.50	2.52	2.21
1401-35-01-02	GEE	3/32 x 1/2	5.50	3.95	3.45
1402-35-01-01	FBE	3/32 x 2	7.75	5.60	4.90
1402-35-01-02	GEE	3/32 x 2	12.80	9.20	8.05
1402-35-01-03	NPG	3/32 x 2	9.25	6.65	5.85
1402-45-01-01	FBE	1/8 x 2	7.75	5.60	4.90
1402-45-01-02	GEE	1/8 x 2	16.10	11.60	10.10
1402-45-01-03	NPG	1/8 x 2	9.25	6.65	5.85
1403-35-01-01	FBE	3/32 x 2 1/2	8.20	5.90	5.15
1403-45-01-01	FBE	1/8 x 2 1/2	8.20	5.90	5.15
1404-35-01-01	FBE	3/32 x 3	8.45	6.10	5.30
1404-45-01-01	FBE	1/8 x 3	8.45	6.10	5.30
1405-35-01-01	FBE	3/32 x 1 1/16	7.15	5.15	4.50
1405-25-01-01	FBE	1/16 x 1 1/16	7.15	5.15	4.50
1405-25-01-02	GEE	1/16 x 1 1/16	11.10	8.00	7.00
1406-35-01-01	FBE	3/32 x 1 1/2	7.45	5.35	4.70
1406-45-01-01	FBE	1/8 x 1 1/2	7.45	5.35	4.70

FERRULES

Cambion No. 416-#	Metal	For Handle	Net Each, Lots of 10-99	100-499	500-999
1211-01*	Brass	1280 Series	$0.25	$0.22	$0.21
1212-01†	Alum.	1290 Series	.50	.45	.42
1952-01*	Brass	1220 Series	.26	.23	.22
1953-01†	Alum.	1230 Series	.50	.45	.42
1954-01*	Brass	1075, 1965, 1250, 1252, 1254	.26	.23	.22
1988-01*	Brass		.36	.32	.30
1989-01†	Alum.	1270, 71 Series	.50	.45	.42

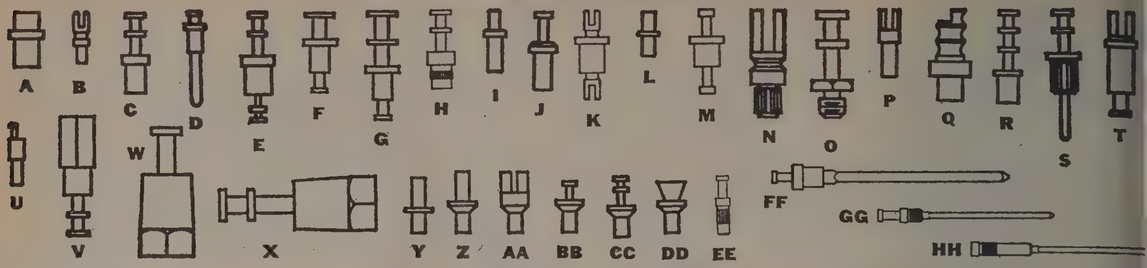
*Add suffix **-02** for nickel finish; **-12** for black oxide. †Add suffix **-14** for black anodize; **-18** for semi-frost anodize. Add final suffix **-00** to Cambion Part No.

CAMBRIDGE THERMIONIC CORPORATION

CAMBION®

Solder Terminals, Wire-Wrap Pins and Swagging Tool

SOLDER TERMINALS, WIRE-WRAP† PINS



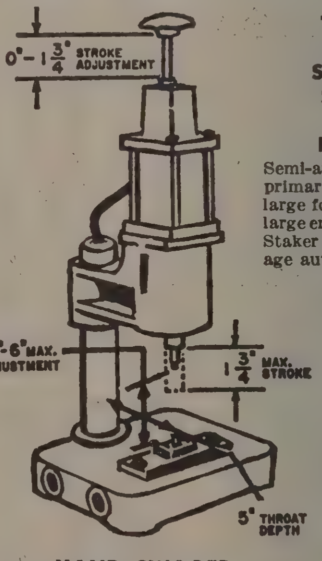
CAMBION offers a full line of all styles and sizes of standard solder terminals: Single and double turret, slotted, castellated, forked and others. The most popular types are listed. Prices shown are for the following standard platings: Plating code suffix **01-**, silver; **-04**, electro-tin; **-05**, electro-solder. Other platings available; prices on request. Order by Cambion Part No. with correct dash number for desired board thickness, followed by plating code suffix and **-00.**

Dash No. Suffix	Board Thickness	Dash No. Suffix	Board Thickness	Dash No. Suffix	Board Thickness
-01 -02	1/32" 1/16"	-03 -04	3/32" 1/8"	-05	3/16"

Cambion Part No.§§	Plating Code Suffix	Fig.	Mtg. Dia., In.	Description	Net/1000, Lots 1000-4999	5000-9999
465-1015-02/04	-04	A	.053	Taper recep.	$ 73.40	$ 68.60
140-1018-10/02	-01	B	.047	Thru hole	41.90	39.20
140-1019-01/03	-01	B	.047	Thru hole	46.50	43.50
140-1025-02	-01	B	.112	Slotted	145.70	136.20
160-1026-01/04	-01	C	.090	Turret	33.60	31.40
120-1031-02	-01	D	.072	Turret	66.60	62.30
120-1032-01/02	-01	D	.062	Turret	41.90	39.20
160-1035-02/03	-01	E	.125	Feed thru	56.80	53.10
160-1041-02/03	-01	F	.090	Turret	48.40	45.20
160-1042-02/03	-01	G	.090	Turret	61.20	57.20
160-1043-02/04	-01	E	.090	Turret	61.20	57.20
160-1092-01	-05	H	.099 self-	Knurled tur., piercing	31.00	28.90
120-1131-02	-04	I	.060	Pin	41.00	38.30
120-1132-02/03	-04	I	.060	Pin	41.00	38.30
120-1136-02	-04	I	.060	Pin	55.10	51.50
160-1245-02/03	-01	J	.112	Turret	46.20	43.20
140-1384-01/04	-05	K	.116	Dbl. slot ends thru-hole	98.70	92.30
160-1457-01/04	-01	J	.078	Turret	29.60	27.70
180-1459-02	-05	L	.039	PC eyelet thru hole	36.00	33.60
180-1460-02	-05	L	.046		36.00	33.60
180-1461-02	-05	L	.050		36.00	33.60
180-1462-02	-05	L	.059		36.00	33.60
160-1463-01/02	-01	M	.116	Domed Turret	41.00	38.30
160-1464-02/04	-05	M	.116	Tur. MIL-T-55155, SE13-XC04, 5, 6	36.70	34.30
160-1548-01/05	-01	C	.112	Turret	41.70	39.00
160-1558-01/05	-01	C	.090	Turret	30.40	28.40
140-1578-02/04	-01	N	.150	Knurled	79.80	74.60
160-1579-02/04	-01	G	.202	Feed thru	88.80	83.00
160-1582-02	-01	O	4-40	Round base	87.20	81.50
160-1597-01/05	-01	C	.090	Turret	33.60	31.40
160-1604-02	-01	J	.062	Turret	35.70	33.30
160-1724-01/04	-01	C	.112	Turret	47.10	44.10
140-1783-04	-01	N	.135	Knurled	126.40	118.20
140-1784-02/04	-01	N	.112	Knurled	72.20	67.50
140-1785-01/04	-01	P	.062	Forked	39.90	37.30
160-1797-01/04	-01	J	.110	Turret	45.30	42.30
160-1798-02	-01	C	.135	Turret	67.00	62.60
140-1941-02	-01	P	.071	Thru hole	40.70	38.00
140-1969-01/05	-01	P	.112	Thru hole	58.40	54.60
140-1979-02/04	-01	Q	.112	Half slot	67.80	63.40
160-2000-01/04	-01	G	.090	Feed thru	44.80	41.90
160-2004-01/04	-01	E	.090	Feed thru	44.00	41.20
160-2027-01/04	-01	J	.071	Thru hole	39.90	37.30
160-2034-01/04	-01	C	.090	Turret	47.00	43.90
160-2040-01/04	-01	E	.072	Turret	48.00	44.90
160-2041-01/03	-01	J	.072	Turret	30.40	28.40
160-2042-01/02	-01	F	.072	Turret	32.80	30.70
160-2043-01/04	-01	C	.072	Turret	31.30	29.30
160-2044-01/04	-01	G	.072	Turret	34.60	32.30
160-2051-01/02	-01	O	4-40	Hex base	97.40	91.10
160-2080-01/04	-01	R	.090	Turret	41.70	39.00
160-2081-01/04	-01	S	.120	Knurled	61.40	57.50
160-2084-02/04	-01	R	.112	Turret	78.80	73.70
160-2085-01/04	-01	J	.047	Turret	26.00	24.30
140-2086-02/03	-01	T	.122	Thru hole	76.70	71.70
140-2089-01/04	-01	B	.047	Thru hole	50.60	47.30
160-2100-01/03	-01	J	.062	Thru hole	39.90	37.30
465-2113-04	-04	C	.053	.061 top taper receptacle	78.50	73.40
465-2114-03	-04	C	.053		100.50	94.00
465-2115-02/03	-04	F	.053		130.80	122.30
160-2141-02/04	-01	F	.116	Thru hole	81.20	76.00
140-2154-01	-01	U	.047	Half turret	82.80	77.40
465-2186-02/04	-04	J	.053	Taper recep.	97.40	91.10
140-2187-01/02	-05	B	.032	Slotted	42.70	39.90
170-2345-03	-01	V	.125	Term.-spacer	129.00	120.60
160-2380-01	-05	W	4-40	Tapped mt.	154.50	144.40
160-2381-01	-05	X	4-40	Tapped mt.	152.30	142.40

Cambion Part No.§§	Plating Code Suffix	Fig.	Mtg. Dia., In.	Description	Net/1000, Lot 1000-4999	5000-9999
180-2750-02/04	-05	Y	.060	PC pin	$ 36.70	$ 34.3
180-2751-02/04	-05	Z	.060	PC pin	36.70	34.3
180-2752-02/04	-05	AA	.060	PC thru hole	54.30	50.8
180-2753-02/03	-05	BB	.060	PC turret	36.70	34.3
180-2754-01/04	-05	CC	.060	PC turret	36.70	34.3
180-2755-02/03	-05	DD	.060	PC thru hole	36.70	34.3
180-2926-02	-05	AA	.060	PC flared	91.50	85.5
160-3653-01/03	-01	C	.062	Turret	33.00	30.8
155-3748-02	-04	FF	.090	.045 sq. swage mt.†	109.80	102.7
155-3848-01	-03*	GG	.056	.025 sq. feed-thru†	139.40	130.3
155-3848-01	-04	GG	.056		94.10	88.0
155-3854-01	-03*	HH	.058	.025 sq. press mt.†	143.50	134.1
155-3854-01	-04	HH	.058		98.20	91.8
155-3866-01	-03*	GG	.058		140.20	131.1
180-7336-01/04	-05	BB	.060	PC flared; red lead brass/ ASTMB-140	36.40	34.1
180-7337-01/04	-05	CC	.060		37.30	34.9
180-7338-01/04	-05	AA	.060		59.80	55.9

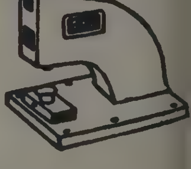
*Gold plating. †Wire-Wrap (Reg. Gardner-Denver TM). ‡Knurle mt. Additional quantities available on request. **Minimum standard package is 100 pieces.**



TYPE 3804-7 SOLENOID SWAGER WITH SWEEPGUARD AND FOOT SWITCH

Semi-automatic staker designe primarily for requirements to large for hand swaging, yet no large enough to require a Hoppe Staker machine. A variable volt age autotransformer of at leas 5 ampere size, 50–60 H 115 volts AC, require but not furnished o included in price. Siz 25" H. (approximate) 10" square base.

Cambion Part No. 435 3804-07-00-00 Solenoi Swager with Sweep guard and Foot Switc Net Each. . **$841.0**

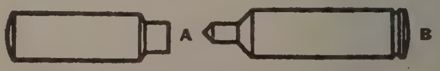


HAND SWAGER

Designed for quick, uniform swaging of solder terminals on terminal boards. Adjustable to a wide range of terminal board thicknesses. Swaging in place as far as 1 7/8" from board edge. Less tooling.

Cambion Part No. 435-3802-01-00-00—
2½" throat. Net Each. **$72.10**

Cambion Part No. 435-3803-01-00-00—
5" throat. Net Each. **$115.00**



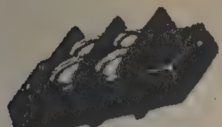
SWAGING TOOLS

Cambion Part No. 435-64XX-01/05-00-00—
Anvil (Fig. A). Net Each. **$11.0**

Cambion Part No. 435-66XX-01/04-00-00—
Punch (Fig. B). Net Each. **$11.0**

Cambion Part No. 435-6098-01/06, 08-00-00—
Adapter for converting to hand set use. Net Each. **$11.0**

SEND FOR COMPLETE CAMBION CATALOG FOR FULL DATA ON ALL CAMBION PRODUCTS



Barrier design for high voltage rating and protection against frayed wires. Molded phenolic base, nickel plated brass eyelets and screws and solder dipped brass terminals. Marker strips and fanning strips for terminal blocks are listed on other pages. Terminals available: **¾W** for soldered wires on one side of block; **Y** for soldered wires underneath block; **W** for soldered wires on both sides of block (available as standard on 172 series—special order on others); **E** for Sems screws; no suffix for standard binder-head screws.

	Type 140	Type 141	Type 142	Type 150*	Type 151*	Type 152*
Size, W. x H.	7/8″x13/32″	1 1/8″x1/2″	15/16″x5/8″	113/16″x3/4″	2″x15/16″	2 1/2″x1 1/8″
Barrier spacing	3/8″	7/16″	9/16″	11/16″	7/8″	1 1/8″
Mtg. centers	5/16″	27/64″	1/2″	5/8″	3/4″	7/8″
Mtg. hole dia.	.160″	.175″/.180″	.209″	.160″	.180″	.209″
Screw size	5-40	6-32	8-32	10-32	12-32	1/4″-28
Max. wire size	#14	#12	#12	#10	#8	#6
Max. V rms†	1100	1100	1600	1700	1800	2100

*Have .136″ hole centered between mounting holes. †Without marker strip.

SERIES 140 (UL RECOGNIZED)

	TYPE 140 Net Each, Lots of				TYPE 140-E Net Each, Lots of				TYPE 140-¾W Net Each, Lots of				TYPE 140-Y Net Each, Lots of			
on- acts	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99
1	1-140	$0.30	$0.23	$0.20	1-140-E	......	......	......	1-140-¾W	$0.34	$0.29	$0.25	1-140-Y	$0.34	$0.29	$0.25
2	2-140	.34	.30	.25	2-140-E	$0.45	$0.36	$0.32	2-140-¾W	.41	.34	.31	2-140-Y	.41	.34	.31
3	3-140	.38	.33	.29	3-140-E	.58	.47	.38	3-140-¾W	.53	.41	.35	3-140-Y	.53	.41	.35
4	4-140	.51	.38	.34	4-140-E	.69	.57	.48	4-140-¾W	.73	.58	.51	4-140-Y	.69	.57	.50
5	5-140	.60	.50	.39	5-140-E	.88	.70	.59	5-140-¾W	.89	.70	.60	5-140-Y	.84	.67	.58
6	6-140	.70	.57	.50	6-140-E	1.02	.81	.69	6-140-¾W	1.04	.83	.69	6-140-Y	1.04	.83	.69
7	7-140	.81	.63	.56	7-140-E	1.10	.89	.75	7-140-¾W	1.17	.97	.81	7-140-Y	1.13	.92	.79
8	8-140	.92	.75	.61	8-140-E	1.22	.99	.82	8-140-¾W	1.37	1.09	.92	8-140-Y	1.31	1.04	.88
9	9-140	1.03	.82	.66	9-140-E	1.44	1.15	.97	9-140-¾W	1.51	1.19	1.03	9-140-Y	1.44	1.14	.98
10	10-140	1.11	.91	.78	10-140-E	1.57	1.25	1.05	10-140-¾W	1.65	1.35	1.11	10-140-Y	1.59	1.31	1.08
11	11-140	1.19	.97	.82	11-140-E	1.67	1.36	1.13	11-140-¾W	1.83	1.45	1.22	11-140-Y	1.72	1.39	1.15
12	12-140	1.35	1.07	.89	12-140-E	1.85	1.47	1.23	12-140-¾W	1.96	1.58	1.35	12-140-Y	1.89	1.51	1.30
13	13-140	1.42	1.13	.97	13-140-E	2.02	1.61	1.36	13-140-¾W	2.14	1.71	1.43	13-140-Y	2.03	1.62	1.38
14	14-140	1.53	1.22	1.04	14-140-E	2.16	1.74	1.44	14-140-¾W	2.30	1.85	1.53	14-140-Y	2.19	1.77	1.47
15	15-140	1.62	1.33	1.09	15-140-E	2.28	1.83	1.53	15-140-¾W	2.43	1.95	1.62	15-140-Y	2.35	1.88	1.57
16	16-140	1.72	1.39	1.15	16-140-E	2.42	1.95	1.62	16-140-¾W	2.60	2.06	1.76	16-140-Y	2.47	1.98	1.65
17	17-140	1.84	1.45	1.22	17-140-E	2.58	2.05	1.72	17-140-¾W	2.76	2.20	1.85	17-140-Y	2.62	2.09	1.79
18	18-140	1.93	1.55	1.32	18-140-E	2.72	2.18	1.84	18-140-¾W	2.90	2.33	1.94	18-140-Y	2.79	2.24	1.86
19	19-140	2.03	1.61	1.37	19-140-E	2.87	2.30	1.92	19-140-¾W	3.06	2.45	2.04	19-140-Y	2.90	2.35	1.95
20	20-140	2.13	1.71	1.43	20-140-E	3.02	2.41	2.02	20-140-¾W	3.22	2.56	2.15	20-140-Y	3.06	2.45	2.04

eries 140 terminal blocks are available with up to 25 positions; price on request.

SERIES 141 (UL RECOGNIZED)

	TYPE 141 Net Each, Lots of				TYPE 141-E Net Each, Lots of				TYPE 141-¾W Net Each, Lots of				TYPE 141-Y Net Each, Lots of			
on- acts	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99
1	1-141	$0.34	$0.29	$0.25	....	......	......	......	1-141-¾W	$0.39	$0.33	$0.30	1-141-Y	$0.39	$0.33	$0.30
2	2-141	.37	.31	.27	2-141-E	$0.48	$0.38	$0.33	2-141-¾W	.53	.39	.34	2-141-Y	.53	.39	.34
3	3-141	.51	.38	.34	3-141-E	.69	.56	.47	3-141-¾W	.73	.58	.51	3-141-Y	.70	.57	.50
4	4-141	.63	.54	.45	4-141-E	.88	.70	.59	4-141-¾W	.94	.78	.62	4-141-Y	.92	.75	.61
5	5-141	.81	.61	.58	5-141-E	1.03	.82	.69	5-141-¾W	1.14	.92	.79	5-141-Y	1.10	.89	.74
6	6-141	.89	.70	.60	6-141-E	1.14	.92	.78	6-141-¾W	1.35	1.07	.89	6-141-Y	1.28	1.03	.87
7	7-141	1.05	.83	.70	7-141-E	1.35	1.08	.91	7-141-¾W	1.55	1.21	1.05	7-141-Y	1.50	1.17	1.02
8	8-141	1.15	.93	.80	8-141-E	1.53	1.22	1.03	8-141-¾W	1.77	1.40	1.16	8-141-Y	1.65	1.35	1.11
9	9-141	1.31	1.04	.88	9-141-E	1.66	1.35	1.13	9-141-¾W	1.94	1.55	1.32	9-141-Y	1.85	1.47	1.23
10	10-141	1.43	1.14	.97	10-141-E	1.91	1.53	1.28	10-141-¾W	2.17	1.72	1.44	10-141-Y	2.04	1.62	1.38
11	11-141	1.55	1.23	1.07	11-141-E	2.05	1.65	1.38	11-141-¾W	2.35	1.89	1.58	11-141-Y	2.25	1.81	1.51
12	12-141	1.66	1.36	1.11	12-141-E	2.20	1.77	1.47	12-141-¾W	2.55	2.03	1.71	12-141-Y	2.42	1.94	1.61
13	13-141	1.83	1.44	1.19	13-141-E	2.38	1.91	1.59	13-141-¾W	2.75	2.19	1.85	13-141-Y	2.62	2.09	1.79
14	14-141	1.94	1.55	1.32	14-141-E	2.65	2.14	1.71	14-141-¾W	2.97	2.38	1.96	14-141-Y	2.83	2.28	1.91
15	15-141	2.05	1.63	1.39	15-141-E	2.79	2.25	1.84	15-141-¾W	3.13	2.50	2.09	15-141-Y	3.01	2.41	2.02

eries 141 terminal blocks are available with up to 20 positions; prices on request.

SERIES 142 (UL RECOGNIZED)

	TYPE 142 Net Each, Lots of				TYPE 142-E Net Each, Lots of				TYPE 142-¾W Net Each, Lots of				TYPE 142-Y Net Each, Lots of			
on- acts	Cinch No.	1-24	25-50	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99
1	1-142	$0.37	$0.31	$0.27	....	......	......	......	1-142-¾W	$0.50	$0.37	$0.33	1-142-Y	$0.47	$0.36	$0.32
2	2-142	.45	.35	.31	2-142-E	$0.59	$0.48	$0.39	2-142-¾W	.62	.53	.42	2-142-Y	.60	.51	.39
3	3-142	.59	.48	.38	3-142-E	.77	.61	.53	3-142-¾W	.91	.74	.61	3-142-Y	.83	.66	.57
4	4-142	.79	.61	.54	4-142-E	.97	.78	.65	4-142-¾W	1.17	.97	.81	4-142-Y	1.10	.89	.75
5	5-142	.93	.75	.61	5-142-E	1.14	.92	.78	5-142-¾W	1.44	1.14	.98	5-142-Y	1.35	1.07	.91
6	6-142	1.09	.88	.75	6-142-E	1.33	1.07	.91	6-142-¾W	1.71	1.38	1.14	6-142-Y	1.59	1.30	1.07
7	7-142	1.28	1.02	.84	7-142-E	1.59	1.28	1.13	7-142-¾W	1.96	1.58	1.35	7-142-Y	1.84	1.45	1.22
8	8-142	1.42	1.13	.96	8-142-E	1.79	1.43	1.23	8-142-¾W	2.24	1.80	1.50	8-142-Y	2.05	1.63	1.39
9	9-142	1.57	1.28	1.05	9-142-E	1.96	1.58	1.36	9-142-¾W	2.47	1.98	1.65	9-142-Y	2.30	1.85	1.53
10	10-142	1.76	1.40	1.15	10-142-E	2.19	1.77	1.45	10-142-¾W	2.77	2.20	1.86	10-142-Y	2.56	2.04	1.71
11	11-142	1.91	1.52	1.30	11-142-E	2.33	1.86	1.59	11-142-¾W	3.01	2.41	2.02	11-142-Y	2.79	2.25	1.88
12	12-142	2.05	1.63	1.39	12-142-E	2.45	1.96	1.76	12-142-¾W	3.28	2.62	2.19	12-142-Y	3.02	2.42	2.03
13	13-142	2.24	1.80	1.50	13-142-E	2.59	2.06	1.88	13-142-¾W	3.53	2.84	2.38	13-142-Y	3.28	2.62	2.19
14	14-142	2.39	1.92	1.60	14-142-E	2.75	2.19	2.02	14-142-¾W	3.82	2.59	2.55	14-142-Y	3.51	2.82	2.36
15	15-142	2.56	2.04	1.71	15-142-E	3.21	2.58	2.15	15-142-¾W	4.08	3.27	2.75	15-142-Y	3.78	3.01	2.50
16	16-142	2.73	2.18	1.84	16-142-E	3.44	2.75	2.30	16-142-¾W	4.34	3.48	2.89	16-142-Y	4.01	3.23	2.69
17	17-142	2.87	2.31	1.93	17-142-E	3.63	2.90	2.42	17-142-¾W	4.59	3.69	3.08	17-142-Y	4.26	3.40	2.84

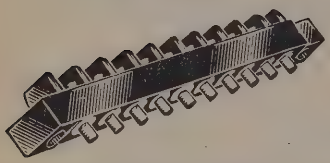
SERIES 150, 151 AND 152 (UL RECOGNIZED)

	TYPE 150 Net Each, Lots of				TYPE 150-Y Net Each, Lots of				TYPE 151 Net Each, Lots of				TYPE 152 Net Each, Lots of			
on- acts	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99
1	1-150	$0.82	$0.65	$0.57	1-150-Y	$1.04	$0.82	$0.69	1-151	$1.19	$0.97	$0.81	1-152	$2.28	$1.83	$1.52
2	2-150	1.11	.91	.78	2-150-Y	1.47	1.16	1.01	2-151	2.01	1.60	1.36	2-152	3.33	2.67	2.24
3	3-150	1.57	1.28	1.05	3-150-Y	2.01	1.65	1.40	3-151	2.87	2.31	1.93	3-152	4.53	3.63	3.02
4	4-150	2.02	1.61	1.37	4-150-Y	2.69	2.17	1.83	4-151	3.77	3.01	2.50	4-152	5.74	4.58	3.85
5	5-150	2.47	1.96	1.63	5-150-Y	3.31	2.65	2.24	5-151	4.67	3.71	3.09	5-152	6.95	5.56	4.67
6	6-150	2.90	2.35	1.95	6-150-Y	3.92	3.13	2.62	6-151	5.52	4.44	3.69	6-152	8.15	6.54	5.44
7	7-150	3.38	2.69	2.27	7-150-Y	4.53	3.64	3.04	7-151	6.39	5.11	4.28	....	......	......	......
8	8-150	3.83	3.06	2.56	8-150-Y	5.19	4.13	3.45	8-151	7.27	5.82	4.85	....	......	......	......
9	9-150	4.28	3.42	2.85	9-150-Y	5.78	4.62	3.87	....	......	......	......	....	......	......	......
10	10-150	4.73	3.78	3.15	10-150-Y	6.39	5.11	4.28	....	......	......	......	....	......	......	......

	Type 164	Type 171	Type 172	Type 173	Type 174	Type 540	Type 541	Type 542
Size, W. x H.	⅞″ x 13⁄32″	13⁄32″ x 5⁄16″	⅝″ x 5⁄16″	⅜″ x ½″	⅜″ x ½″	1 ⅛″ x 39⁄64″	1 ⅜″ x 11⁄16″	1 ⅝″ x ⅞″
Barrier spacing	⅜″	¼″	¼″	⅜″	⅜″	⅜″	7⁄16″	9⁄16″
Mtg. centers	5⁄16″	....	.250″	....	....	5⁄16″	27⁄64″	½″
Mtg. hole dia.	.171/.175″	.125″	.125″	.156″	.156″	.160″	.175/.185″	.209″
Screw size	6–32	2–56	2–56	4–40*	4–40	5–40	6–32	8–32
Max. wire size	#6	#18	#16	#16	#16	....	....	....
Max. Vrms.	1100	1000	1000	1000	1000	2300	2800	4000

*With lockwasher.

SERIES 176



Barrier terminal strips designed for flow solder termination to P.C. board conductor paths. Block listed are for 1⁄16″ P.C. boards. To order blocks for ⅛″ P.C. boards, change last digit to **3** (e.g., 2-176-3); same prices apply.

Cinch No.	Contacts	Net Each, Lots of 1-24	25-49	50-99
2-176-2	2	$1.10	$0.88	$0.74
3-176-2	3	1.25	1.01	.83
4-176-2	4	1.40	1.13	.96
5-176-2	5	1.53	1.22	1.03
6-176-2	6	1.68	1.36	1.14
7-176-2	7	1.82	1.45	1.21
8-176-2	8	1.96	1.58	1.33
9-176-2	9	2.14	1.71	1.43
10-176-2	10	2.30	1.85	1.55

ACCESSORIES FOR BARRIER TERMINALS

JUMPERS

Cinch No.	For Series	Net Each, Lots of 1-24	25-49	50-99
95B	142	$0.351	$0.268	$0.227
140J-1	140	.182	.161	.139
141J	141	.182	.161	.139
141J-1	141	.23	.182	.161
142J-1	142*	.23	.182	.161
142J-2	142*	.183	.161	.139
540J	540	.60	.55	.46
541J	541	.75	.58	.49
542J	542	.79	.62	.55

*Also fits 542 series.

SOLDER TERMINALS

Cinch Number		Net Each, Lots of		
W-Type	¾W-Type	1-24	25-49	50-99
W-140†	¾W-140	$0.214	$0.198	$0.18
W-141†	¾W-141	.214	.198	.18
W-142†	¾W-142	.25	.214	.198
W-150	....	.393	.338	.27
W-151	....	.552	.446	.376
W-152	....	1.02	.81	.66

†Change prefix **W** to **Y** for Y-type terminals; same price as W-142.

QUICK-CLAMP TERMINALS

Simplifies engaging of wires to barrier blocks. Set includes two mating clamps and one screw. No. QC-1 accommodates wire sizes 14 thru 22. No. QC-2 accommodates wires sizes 8 thru 16.

Cinch No.	For Series	Net Each, Lots of 1-24	25-49	50-99
QC-1	141/541	$0.26	$0.19	$0.18
QC-2	142/542	.26	.19	.18

CABLE CLAMPS

For use with series 160, 161 and 162 fanning strips. Nickel plated brass. Screw Furnished.

Cinch No.	I.D.	Net Each, Lots of 1-24	25-49	50-99
CC-161-4	¼″	$0.53	$0.42	$0.34
CC-161-6	⅜″	.63	.53	.45
CC-161-8	½″	.78	.61	.53
CC-161-10	⅝″	.86	.69	.61
CC-161-12	¾″	.98	.79	.68
CC-161-14	⅞″	1.03	.86	.73

SERIES 164 (UL RECOGNIZED)

	TYPE 164				TYPE 164-¾W				TYPE 164-Y		
		Net Each, Lots of				Net Each, Lots of				Net Each, Lots	
Contacts	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	50-49
1	1-164	$0.32	$0.27	$0.21	1-164-¾W	$0.34	$0.30	$0.25	1-164-Y	$0.34	$0.30
2	2-164	.37	.31	.27	2-164-¾W	.45	.35	.31	2-164-Y	.45	.35
3	3-164	.48	.36	.32	3-164-¾W	.59	.48	.38	3-164-Y	.59	.48
4	4-164	.59	.50	.39	4-164-¾W	.80	.61	.55	4-164-Y	.80	.61
5	5-164	.70	.58	.51	5-164-¾W	.93	.78	.62	5-164-Y	.93	.78
6	6-164	.84	.65	.57	6-164-¾W	1.10	.89	.77	6-164-Y	1.10	.89
7	7-164	.96	.78	.62	7-164-¾W	1.28	1.02	.84	7-164-Y	1.28	1.02
8	8-164	1.07	.87	.73	8-164-¾W	1.42	1.13	.96	8-164-Y	1.42	1.13
9	9-164	1.13	.94	.79	9-164-¾W	1.54	1.28	1.04	9-164-Y	1.54	1.28
10	10-164	1.32	1.05	.88	10-164-¾W	1.76	1.40	1.15	10-164-Y	1.76	1.40
11	11-164	1.42	1.13	.96	11-164-¾W	1.91	1.53	1.31	11-164-Y	1.91	1.53
12	12-164	1.53	1.22	1.04	12-164-¾W	2.01	1.63	1.39	12-164-Y	2.01	1.63
13	13-164	1.63	1.35	1.10	13-164-¾W	2.25	1.81	1.51	13-164-Y	2.25	1.81
14	14-164	1.80	1.43	1.17	14-164-¾W	2.40	1.93	1.60	14-164-Y	2.40	1.93
15	15-164	1.92	1.52	1.30	15-164-¾W	2.56	2.05	1.72	15-164-Y	2.56	2.05

Series 164 terminal blocks are available with up to 21 positions; prices on request.

SERIES 172 (UL RECOGNIZED)

	TYPE 172				TYPE 172-¾W*				TYPE 172-Y		
		Net Each, Lots of				Net Each, Lots of				Net Each, Lots	
Contacts	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49
2	2-172	$0.70	$0.57	$0.50	2-172-¾W	$0.81	$0.63	$0.55	2-172-Y	$0.81	$0.63
3	3-172	.89	.70	.60	3-172-¾W	1.04	.83	.69	3-172-Y	1.04	.83
4	4-172	1.08	.88	.73	4-172-¾W	1.28	1.02	.84	4-172-Y	1.28	1.02
5	5-172	1.28	1.02	.84	5-172-¾W	1.50	1.17	1.02	5-172-Y	1.50	1.17
6	6-172	1.44	1.14	.98	6-172-¾W	1.72	1.38	1.14	6-172-Y	1.72	1.38
7	7-172	1.62	1.33	1.09	7-172-¾W	1.98	1.57	1.33	7-172-Y	1.98	1.57
8	8-172	1.83	1.44	1.19	8-172-¾W	2.18	1.77	1.45	8-172-Y	2.18	1.77
9	9-172	1.98	1.59	1.36	9-172-¾W	2.39	1.93	1.60	9-172-Y	2.39	1.93
10	10-172	2.18	1.77	1.45	10-172-¾W	2.62	2.09	1.79	10-172-Y	2.62	2.09
11	11-172	2.36	1.89	1.58	11-172-¾W	2.86	2.30	1.92	11-172-Y	2.86	2.30
12	12-172	2.55	2.03	1.71	12-172-¾W	3.08	2.47	2.06	12-172-Y	3.08	2.47
13	13-172	2.73	2.18	1.84	13-172-¾W	3.33	2.67	2.24	13-172-Y	3.33	2.67
14	14-172	2.90	2.33	1.94	14-172-¾W	3.53	2.84	2.38	14-172-Y	3.53	2.84

*For two-sided W series, change ¾W to W; same prices.

SERIES 171, 173 AND 174 (UL RECOGNIZED)

	TYPE 171				TYPE 173				TYPE 174		
		Net Each, Lots of				Net Each, Lots of				Net Each, Lots	
Contacts	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49
2	2-171	$0.38	$0.33	$0.29	2-173	$0.39	$0.33	$0.30	2-174	$0.34	$0.29
3	3-171	.51	.38	.34	3-173	.56	.45	.36	3-174	.45	.35
4	4-171	.59	.50	.39	4-173	.70	.58	.51	4-174	.57	.47
5	5-171	.69	.57	.50	5-173	.87	.69	.58	5-174	.65	.55
6	6-171	.81	.62	.55	6-173	1.02	.81	.66	6-174	.80	.61
7	7-171	.89	.70	.59	7-173	1.14	.92	.79	7-174	.89	.70
8	8-171	.97	.80	.63	8-173	1.31	1.03	.87	8-174	1.02	.81
9	......	.....	.....	.....	9-173	1.42	1.13	.97	9-174	1.10	.89
10	......	.....	.....	.....	10-173	1.57	1.28	1.04	10-174	1.19	.97

SERIES 540, 541 AND 542 (UL RECOGNIZED)

	TYPE 540				TYPE 541				TYPE 542		
		Net Each, Lots of				Net Each, Lots of				Net Each, Lots	
Contacts	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49
2	2-540	$0.78	$0.60	$0.54	2-541	$0.93	$0.78	$0.62	2-542	$1.02	$0.81
3	3-540	1.04	.83	.69	3-541	1.11	.91	.77	3-542	1.23	1.02
4	4-540	1.28	1.02	.84	4-541	1.33	1.05	.89	4-542	1.50	1.17
5	5-540	1.33	1.05	.89	5-541	1.50	1.17	1.02	5-542	1.72	1.39
6	6-540	1.79	1.42	1.19	6-541	1.79	1.42	1.19	6-542	1.96	1.58
7	7-540	1.62	1.36	1.11	7-541	1.91	1.52	1.30	7-542	2.24	1.80
8	8-540	1.86	1.50	1.28	8-541	2.06	1.65	1.39	8-542	2.47	1.96
9	9-540	2.03	1.62	1.38	9-541	2.27	1.83	1.52	9-542	2.71	2.17
10	10-540	2.24	1.80	1.50	10-541	2.43	1.95	1.62	10-542	2.97	2.38
11	11-540	2.41	1.93	1.61	11-541	2.61	2.09	1.77	11-542	3.22	2.56
12	12-540	2.59	2.06	1.76	12-541	2.86	2.29	1.91	12-542	3.44	2.76
13	13-540	2.79	2.24	1.86	13-541	3.01	2.41	2.02	13-542	3.69	2.97
14	14-540	2.97	2.38	1.98	14-541	3.22	2.56	2.15	14-542	3.92	3.14
15	15-540	3.13	2.50	2.09	15-541	3.40	2.73	2.28	15-542	4.20	3.34
16	16-540	3.33	2.67	2.24	16-541	3.56	2.85	2.39	16-542	4.44	3.53
17	17-540	3.51	2.82	2.36	17-541	3.81	3.02	2.52	17-542	4.70	3.73
18	18-540	3.69	2.97	2.47	18-541	3.94	3.15	2.65	18-542	4.92	3.92
19	19-540	3.88	3.09	2.59	19-541	4.13	3.33	2.79	19-542	5.18	4.12
20	20-540	4.05	3.25	2.73	20-541	4.33	3.46	2.89	20-542	5.39	4.32
21	21-540	4.25	3.40	2.83	21-541	4.50	3.62	3.01	21-542	5.63	4.51
22	22-540	4.44	3.53	2.97	22-541	4.74	3.78	3.15	22-542	5.88	4.73
23	23-540	4.59	3.69	3.08	23-541	4.93	3.93	3.29	23-542	6.12	4.92
24	24-540	4.78	3.85	3.22	24-541	5.08	4.08	3.41	24-542	6.37	5.08
25	25-540	4.97	3.97	3.33	25-541	5.28	4.25	3.52	25-542	6.62	5.29
26	26-540	5.18	4.12	3.45	26-541	5.46	4.37	3.65	26-542	6.87	5.50

Series 540 terminal blocks are available with up to 31 positions, Series 541 up to
positions; prices on request.

MARKER STRIPS FOR BARRIER TERMINAL BLOCKS

140 SERIES MARKER STRIPS

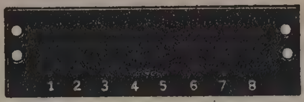
For labelling terminal positions on barrier terminal blocks and insulating exposed portions of terminals from metallic mounting surface. Mounting holes correspond with those on appropriate barrier terminal block. Made of 1/32″ NEMA Grade XPC and numbered sequentially from 1 with legible white numerals.

No. of Terms.*	For Plain, -W or -¾W Terminals Net Each, Lots of			For -Y Terminals Net Each, Lots of		
	1-24	25-49	50-99	1-24	25-49	50-99
FOR ALL SERIES 140						
2	$0.183	$0.141	$0.126	$0.212	$0.17	$0.141
3	.183	.141	.126	.212	.17	.141
4	.183	.141	.126	.212	.17	.141
5	.183	.141	.126	.212	.17	.141
6	.183	.141	.126	.212	.17	.141
7	.212	.17	.141	.239	.183	.156
8	.212	.17	.141	.239	.183	.156
9	.212	.17	.141	.239	.183	.156
10	.239	.183	.156	.266	.212	.183
11	.239	.183	.156	.266	.212	.183
12	.239	.183	.156	.266	.212	.183
13	.266	.212	.183	.296	.239	.197
14	.266	.212	.183	.296	.239	.197
15	.266	.212	.183	.296	.239	.197
16	.296	.239	.197	.323	.266	.225
17	.296	.239	.197	.323	.266	.225
18	.296	.239	.197	.323	.266	.225
19	.323	.266	.225	.365	.281	.239
20	.323	.266	.225	.365	.281	.239
21	.323	.266	.225	.365	.281	.239
22	.784	.63	.532	.839	.672	.56
23	.784	.63	.532	.839	.672	.56
24	.952	.756	.63	.979	.784	.658
25	.952	.756	.63	.979	.784	.658
FOR ALL SERIES 141						
2	$0.183	$0.141	$0.126	$0.212	$0.17	$0.141
3	.183	.141	.126	.212	.17	.141
4	.183	.141	.126	.212	.17	.141
5	.212	.17	.141	.239	.183	.156
6	.212	.17	.141	.239	.183	.156
7	.212	.17	.141	.239	.183	.156
8	.239	.183	.156	.266	.212	.183
9	.239	.183	.156	.266	.212	.183
10	.239	.183	.156	.266	.212	.183
11	.266	.212	.183	.296	.239	.197
12	.266	.212	.183	.296	.239	.197
13	.296	.239	.197	.323	.266	.225
14	.296	.239	.197	.323	.266	.225
15	.323	.266	.225	.365	.281	.239
16	.323	.266	.225	.365	.281	.239
17	.365	.281	.239	.378	.309	.252
18	.365	.281	.239	.378	.309	.281
19	.378	.309	.252	.407	.323	.281
20	.378	.309	.252	.407	.323	.281
FOR ALL SERIES 142						
2	$0.183	$0.141	$0.126	$0.212	$0.17	$0.141
3	.183	.141	.126	.212	.17	.141
4	.212	.17	.141	.239	.183	.156
5	.212	.17	.141	.239	.183	.156
6	.212	.17	.141	.239	.212	.183
7	.239	.183	.156	.266	.212	.183
8	.239	.183	.156	.296	.239	.197
9	.266	.212	.183	.296	.239	.197
10	.296	.239	.197	.323	.266	.225
11	.296	.239	.197	.323	.266	.225
12	.323	.266	.225	.365	.281	.239
13	.323	.266	.225	.365	.281	.239
14	.365	.281	.239	.378	.309	.252
15	.365	.281	.239	.407	.323	.281
16	.407	.323	.281	.477	.378	.323
17	.449	.351	.296	.477	.378	.323
FOR ALL SERIES 150						
2	$0.239	$0.183	$0.156	$0.296	$0.239	$0.197
3	.239	.183	.156	.296	.239	.197
4	.266	.212	.183	.239	.183	.156
5	.266	.212	.183	.323	.266	.225
6	.266	.212	.183	.323	.266	.225
7	.296	.239	.197	.365	.281	.239
8	.296	.239	.197	.365	.281	.239
9	.323	.266	.225	.365	.281	.239
10	.365	.281	.239	.378	.309	.252

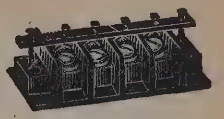
MARKER STRIPS FOR SERIES 151 AND 152

No. of Terms.*	For Series 151 Net Each, Lots of			For Series 152 Net Each, Lots of		
	1-24	25-49	50-99	1-24	25-49	50-99
2	$0.266	$0.212	$0.183	$0.266	$0.212	$0.183
3	.266	.212	.183	.323	.266	.225
4	.296	.239	.197	.378	.309	.252
5	.323	.266	.225	.449	.351	.296
6	.378	.309	.252	.491	.392	.338
7	.407	.323	.281	....	....	....
8	.449	.351	.296	....	....	....

*The proper Cinch Number is constructed by prefixing the No. of Terminals with **MS-**; also add a suffix defining the proper series and another suffix defining the type of terminal: e.g. **MS-10-140-¾W**, for a marker strip to fit a block in the 140 Series with 10 terminals of the ¾W type.



MS-8-140



MSX-4-540 (Installed)

500 SERIES MARKER STRIPS

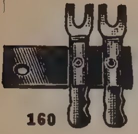
For labelling terminal positions on "500" series barrier terminal blocks. Made of 1/16″ XP phenolic, ¼″ wide. Numbered sequentially from 1 with ⅛″ legible white numerals. Mounted on top of terminal block as illustrated. Mounting screws furnished.

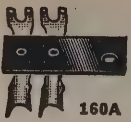
MARKER STRIPS FOR 540

Cinch No.	Term.	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
MSX-2-540	2	$0.239	$0.183	$0.156	$0.141	$0.126
MSX-3-540	3	.239	.183	.156	.141	.126
MSX-4-540	4	.239	.183	.156	.141	.126
MSX-5-540	5	.239	.183	.156	.141	.126
MSX-6-540	6	.239	.183	.156	.141	.126
MSX-7-540	7	.239	.183	.156	.141	.126
MSX-8-540	8	.239	.183	.156	.141	.126
MSX-9-540	9	.239	.183	.156	.141	.126
MSX-10-540	10	.239	.183	.156	.141	.126
MSX-11-540	11	.266	.212	.183	.156	.141
MSX-12-540	12	.266	.212	.183	.156	.141
MSX-13-540	13	.266	.212	.183	.156	.141
MSX-14-540	14	.266	.212	.183	.156	.141
MSX-15-540	15	.266	.212	.183	.156	.141
MSX-16-540	16	.266	.212	.183	.156	.141
MSX-17-540	17	.296	.239	.197	.17	.156
MSX-18-540	18	.296	.239	.197	.17	.156
MSX-19-540	19	.296	.239	.197	.17	.156
MSX-20-540	20	.296	.239	.197	.17	.156
MSX-21-540	21	.296	.239	.197	.17	.156
MSX-22-540	22	.323	.266	.225	.183	.17
MSX-23-540	23	.323	.266	.225	.183	.17
MSX-24-540	24	.378	.309	.252	.212	.197
MSX-25-540	25	.378	.309	.252	.212	.197
MSX-26-540	26	.378	.309	.252	.212	.197
MSX-27-540	27	.378	.309	.252	.212	.197
MSX-28-540	28	.378	.309	.252	.212	.197
MSX-29-540	29	.407	.323	.281	.225	.212
MSX-30-540	30	.407	.323	.281	.225	.212
MSX-31-540	31	.407	.323	.281	.225	.212
MARKER STRIPS FOR 541						
MSX-2-541	2	$0.239	$0.183	$0.156	$0.141	$0.126
MSX-3-541	3	.239	.183	.156	.141	.126
MSX-4-541	4	.239	.183	.156	.141	.126
MSX-5-541	5	.239	.183	.156	.141	.126
MSX-6-541	6	.239	.183	.156	.141	.126
MSX-7-541	7	.239	.183	.156	.141	.126
MSX-8-541	8	.239	.183	.156	.141	.126
MSX-9-541	9	.239	.183	.156	.141	.126
MSX-10-541	10	.239	.183	.156	.141	.126
MSX-11-541	11	.266	.212	.183	.156	.141
MSX-12-541	12	.266	.212	.183	.156	.141
MSX-13-541	13	.266	.212	.183	.156	.141
MSX-14-541	14	.266	.212	.183	.156	.141
MSX-15-541	15	.266	.212	.183	.156	.141
MSX-16-541	16	.296	.239	.197	.17	.156
MSX-17-541	17	.296	.239	.197	.17	.156
MSX-18-541	18	.296	.239	.197	.17	.156
MSX-19-541	19	.296	.239	.197	.17	.156
MSX-20-541	20	.296	.239	.197	.17	.156
MSX-21-541	21	.365	.281	.239	.197	.183
MSX-22-541	22	.365	.281	.239	.197	.183
MSX-23-541	23	.378	.309	.252	.212	.197
MSX-24-541	24	.378	.309	.252	.212	.197
MSX-25-541	25	.378	.309	.252	.212	.197
MSX-26-541	26	.378	.309	.252	.212	.197
MSX-27-541	27	.378	.309	.252	.212	.197
MSX-28-541	28	.407	.323	.281	.225	.212
MSX-29-541	29	.407	.323	.281	.225	.212
MSX-30-541	30	.407	.323	.281	.225	.212
MARKER STRIPS FOR 542						
MSX-2-542	2	$0.239	$0.183	$0.156	$0.141	$0.126
MSX-3-542	3	.239	.183	.156	.141	.126
MSX-4-542	4	.239	.183	.156	.141	.126
MSX-5-542	5	.239	.183	.156	.141	.126
MSX-6-542	6	.239	.183	.156	.141	.126
MSX-7-542	7	.266	.212	.183	.156	.141
MSX-8-542	8	.266	.212	.183	.156	.141
MSX-9-542	9	.266	.212	.183	.156	.141
MSX-10-542	10	.266	.212	.183	.156	.141
MSX-11-542	11	.266	.212	.183	.156	.141
MSX-12-542	12	.296	.239	.197	.17	.156
MSX-13-542	13	.296	.239	.197	.17	.156
MSX-14-542	14	.296	.239	.197	.17	.156
MSX-15-542	15	.296	.239	.197	.17	.156
MSX-16-542	16	.365	.281	.239	.197	.183
MSX-17-542	17	.365	.281	.239	.197	.183
MSX-18-542	18	.365	.281	.239	.197	.183
MSX-19-542	19	.378	.309	.252	.212	.197
MSX-20-542	20	.378	.309	.252	.212	.197
MSX-21-542	21	.378	.309	.252	.212	.197
MSX-22-542	22	.378	.309	.252	.212	.197
MSX-23-542	23	.378	.309	.252	.212	.197
MSX-24-542	24	.407	.323	.281	.225	.212
MSX-25-542	25	.407	.323	.281	.225	.212
MSX-26-542	26	.407	.323	.281	.225	.212

TRW® CINCH CONNECTORS
AN ELECTRONIC COMPONENTS DIVISION OF TRW INC.

BARRIER BLOCK FANNING STRIPS


160


160A

160B

160BA

161, 162

Convenient means for rapidly connecting or disconnecting wiring from barrier terminal blocks. Facilitate cable or harness wiring and minimize the possibility of subsequent wiring errors. Available in both straight and angle types. Black XP phenolic mount, 3/32" thick x 1/2" wide, is supplied with hole in either right or left side; secures cable with lacing twine. For larger sizes, use of a cable clamp is recommended. Terminals are .032" cadmium-plated brass. **All 160 Series** fit barrier block 140 Series, 3/8" terminal centers. **Series 162** fit barrier block 142 Series, 9/16" terminal centers; 5/8" wide. **Series 161** fit barrier block 141 Series, 7/16" terminal centers.

STRAIGHT TYPE—160 SERIES

Cinch Number	No. of Term.	Net Each, Lots of				
		1-24	25-49	50-99	100-499	500-499
2-160-*	2	$0.46	$0.38	$0.33	$0.29	$0.27
3-160-*	3	.56	.46	.39	.33	.30
4-160-*	4	.69	.56	.47	.39	.38
5-160-*	5	.79	.67	.56	.44	.42
6-160-*	6	.92	.74	.62	.47	.46
7-160-*	7	1.04	.84	.69	.56	.55
8-160-*	8	1.13	.92	.76	.63	.61
9-160-*	9	1.32	1.04	.90	.69	.68
10-160-*	10	1.44	1.18	.98	.76	.70
11-160-*	11	1.60	1.24	1.08	.86	.79
12-160-*	12	1.77	1.39	1.20	.97	.92
13-160-*	13	1.92	1.56	1.32	1.04	.99
14-160-*	14	2.02	1.61	1.36	1.09	1.02
15-160-*	15	2.10	1.68	1.39	1.13	1.09
16-160-*	16	2.28	1.82	1.56	1.23	1.18
17-160-*	17	2.36	1.87	1.60	1.24	1.22
18-160-*	18	2.46	1.95	1.65	1.33	1.24
19-160-*	19	2.60	2.06	1.76	1.38	1.35
20-160-*	20	2.70	2.16	1.82	1.44	1.37
21-160-*	21	2.84	2.28	1.91	1.50	1.44

STRAIGHT TYPE—160B SERIES

2-160B-*	2	$0.56	$0.46	$0.39	$0.33	$0.30
3-160B-*	3	.69	.56	.47	.39	.38
4-160B-*	4	.92	.74	.62	.47	.46
5-160B-*	5	1.09	.89	.75	.60	.56
6-160B-*	6	1.32	1.04	.90	.69	.68
7-160B-*	7	1.44	1.18	.98	.76	.75
8-160B-*	8	1.77	1.39	1.20	.97	.92
9-160B-*	9	1.95	1.60	1.33	1.04	.99
10-160B-*	10	2.10	1.68	1.39	1.13	1.09
11-160B-*	11	2.36	1.87	1.60	1.24	1.22
12-160B-*	12	2.46	1.95	1.65	1.33	1.24
13-160B-*	13	2.70	2.16	1.82	1.44	1.37
14-160B-*	14	2.92	2.36	2.00	1.60	1.50
15-160B-*	15	3.14	2.50	2.07	1.66	1.60
16-160B-*	16	3.30	2.63	2.24	1.78	1.68
17-160B-*	17	3.50	2.81	2.36	1.87	1.78
18-160B-*	18	3.76	3.00	2.50	2.02	1.91
19-160B-*	19	3.99	3.21	2.66	2.15	2.02
20-160B-*	20	4.13	3.30	2.77	2.22	2.08
21-160B-*	21	4.31	3.46	2.91	2.31	2.22

STRAIGHT TYPE—161 SERIES

Cinch Number	No. of Term.	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
2-161-*	2	$0.49	$0.42	$0.35	$0.30	$0.29
3-161-*	3	.63	.49	.42	.35	.33
4-161-*	4	.69	.56	.47	.39	.38
5-161-*	5	.84	.68	.60	.46	.44
6-161-*	6	.97	.76	.67	.49	.47
7-161-*	7	1.09	.90	.75	.60	.56
8-161-*	8	1.20	.97	.79	.68	.67
9-161-*	9	1.32	1.04	.90	.69	.68
10-161-*	10	1.46	1.20	.99	.79	.75
11-161-*	11	1.66	1.36	1.13	.92	.86
12-161-*	12	1.82	1.45	1.23	.98	.95
13-161-*	13	1.95	1.60	1.33	1.04	1.01
14-161-*	14	2.06	1.65	1.38	1.10	1.08
15-161-*	15	2.16	1.70	1.44	1.18	1.10
16-161-*	16	2.69	1.85	1.59	1.23	1.19
17-161-*	17	2.38	1.92	1.61	1.26	1.23
18-161-*	18	2.60	2.06	1.70	1.37	1.26
19-161-*	19	2.63	2.10	1.77	1.39	1.36
20-161-*	20	2.78	2.24	1.85	1.46	1.39

STRAIGHT TYPE—162 SERIES

2-162-*	2	$0.56	$0.46	$0.39	$0.33	$0.30
3-162-*	3	.67	.55	.44	.38	.35
4-162-*	4	.79	.67	.56	.44	.42
5-162-*	5	.92	.74	.62	.47	.46
6-162-*	6	1.04	.92	.76	.63	.61
7-162-*	7	1.07	.92	.76	.63	.60
8-162-*	8	1.32	1.04	.90	.69	.68
9-162-*	9	1.38	1.10	.92	.75	.74
10-162-*	10	1.56	1.23	1.04	.84	.79
11-162-*	11	1.70	1.37	1.18	.95	.90
12-162-*	12	1.92	1.56	1.32	1.04	.99
13-162-*	13	2.02	1.61	1.36	1.09	1.02
14-162-*	14	2.10	1.68	1.39	1.13	1.09
15-162-*	15	2.25	1.82	1.50	1.22	1.19
16-162-*	16	2.36	1.87	1.60	1.24	1.22
17-162-*	17	2.46	1.95	1.65	1.33	1.24

ANGLE TYPE—160A SERIES

Cinch Number	No. of Term.	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
2-160A-*	2	$0.56	$0.46	$0.39	$0.33	$0.30
3-160A-*	3	.69	.56	.47	.39	.38
4-160A-*	4	.92	.74	.62	.47	.46
5-160A-*	5	1.09	.89	.75	.60	....
6-160A-*	6	1.32	1.04	.90	.69	.68
7-160A-*	7	1.44	1.18	.98	.76	.75
8-160A-*	8	1.77	1.39	1.20	.97	.92
9-160A-*	9	1.95	1.60	1.33	1.04	.99
10-160A-*	10	2.10	1.68	1.39	1.13	1.09
11-160A-*	11	2.36	1.87	1.60	1.24	1.22
12-160A-*	12	2.46	1.95	1.65	1.33	1.24
13-160A-*	13	2.70	2.16	1.82	1.44	1.37
14-160A-*	14	2.92	2.36	2.00	1.60	1.50
15-160A-*	15	3.14	2.50	2.07	1.66	1.60
16-160A-*	16	3.30	2.63	2.24	1.78	1.68
17-160A-*	17	3.50	2.81	2.36	1.87	1.78
18-160A-*	18	3.76	3.00	2.50	2.02	1.91
19-160A-*	19	3.99	3.21	2.66	2.15	2.02
20-160A-*	20	4.13	3.30	2.77	2.22	2.08
21-160A-*	21	4.31	3.46	2.91	2.31	2.22

ANGLE TYPE—160BA SERIES

2-160BA-*	2	$0.56	$0.46	$0.39	$0.33	$0.30
3-160BA-*	3	.69	.56	.47	.39	.38
4-160BA-*	4	.92	.74	.62	.47	.46
5-160BA-*	5	1.09	.89	.75	.60	.56
6-160BA-*	6	1.32	1.04	.90	.69	.68
7-160BA-*	7	1.44	1.18	.98	.76	.75
8-160BA-*	8	1.77	1.39	1.20	.97	.92
9-160BA-*	9	1.95	1.60	1.33	1.04	.99
10-160BA-*	10	2.10	1.68	1.39	1.13	1.09
11-160BA-*	11	2.36	1.87	1.60	1.24	1.22
12-160BA-*	12	2.46	1.95	1.65	1.33	1.24
13-160BA-*	13	2.70	2.16	1.82	1.44	1.37
14-160BA-*	14	2.92	2.36	2.00	1.60	1.50
15-160BA-*	15	3.14	2.50	2.07	1.66	1.60
16-160BA-*	16	3.30	2.63	2.24	1.78	1.68
17-160BA-*	17	3.50	2.81	2.36	1.87	1.78
18-160BA-*	18	3.76	3.00	2.50	2.02	1.91
19-160BA-*	19	3.99	3.21	2.66	2.15	2.02
20-160BA-*	20	4.13	3.30	2.77	2.22	2.08
21-160BA-*	21	4.31	3.46	2.91	2.31	2.22

ANGLE TYPE—161A SERIES

Cinch Number	No. of Term.	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
2-161A-*	2	$0.56	$0.46	$0.39	$0.33	$0.30
3-161A-*	3	.69	.56	.47	.39	.38
4-161A-*	4	.92	.74	.62	.47	.46
5-161A-*	5	1.09	.89	.75	.60	.56
6-161A-*	6	1.32	1.04	.90	.69	.68
7-161A-*	7	1.44	1.18	.98	.76	.75
8-161A-*	8	1.77	1.39	1.20	.97	.92
9-161A-*	9	1.95	1.60	1.33	1.04	.99
10-161A-*	10	2.10	1.68	1.39	1.13	1.09
11-161A-*	11	2.36	1.87	1.60	1.24	1.22
12-161A-*	12	2.46	1.95	1.65	1.33	1.24
13-161A-*	13	2.70	2.16	1.82	1.44	1.37
14-161A-*	14	2.92	2.36	2.00	1.60	1.50
15-161A-*	15	3.14	2.50	2.07	1.66	1.60
16-161A-*	16	3.30	2.63	2.24	1.78	1.68
17-161A-*	17	3.50	2.81	2.36	1.87	1.78
18-161A-*	18	3.76	3.00	2.50	2.02	1.91
19-161A-*	19	3.99	3.21	2.66	2.15	2.02
20-161A-*	20	4.13	3.30	3.08	2.22	2.08

ANGLE TYPE—162A SERIES

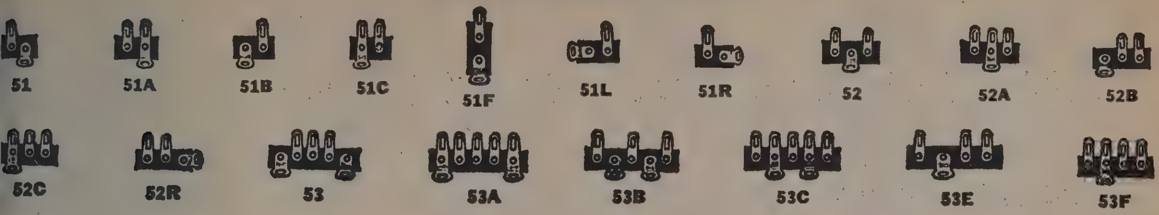
2-162A-*	2	$0.67	$0.55	$0.44	$0.38	$0.35
3-162A-*	3	.79	.67	.63	.44	.42
4-162A-*	4	1.04	.84	.69	.56	.55
5-162A-*	5	1.20	.97	.79	.67	.63
6-162A-*	6	1.38	1.10	.95	.76	.72
7-162A-*	7	1.56	1.23	1.04	.84	.77
8-162A-*	8	1.92	1.64	1.32	1.04	.98
9-162A-*	9	2.06	1.65	1.38	1.10	1.08
10-162A-*	10	2.25	1.82	1.50	1.22	1.18
11-162A-*	11	2.46	1.95	1.65	1.33	1.24
12-162A-*	12	2.70	2.16	1.82	1.44	1.37
13-162A-*	13	2.86	2.29	1.92	1.59	1.45
14-162A-*	14	3.01	2.39	2.02	1.62	1.59
15-162A-*	15	3.21	2.60	2.16	1.70	1.64
16-162A-*	16	3.46	2.77	2.31	1.85	1.77
17-162A-*	17	3.64	2.92	2.46	1.95	1.85

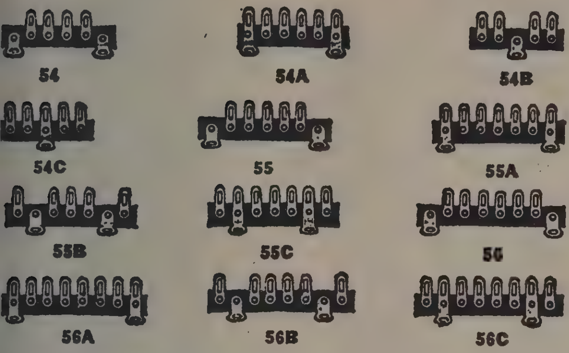
*Add suffix **L** for cable clamp hole on left side (e.g., 17-160-**L**); add suffix **R** for cable clamp hole on right side (e.g., 17-160-**R**).

TRW® CINCH CONNECTORS
AN ELECTRONIC COMPONENTS DIVISION OF TRW INC.

TERMINAL STRIPS AND SOCKETS

LUG-TYPE TERMINAL STRIPS

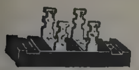




These terminal strips are handy for neatly supporting resistors, capacitors, etc. in circuit wiring. Cadmium-plated steel lugs are spaced on ⅜" centers with 0.140" dia. mounting holes. Chocolate-colored phenolic is used. Strips are 1/16" thick and ⅜" wide.

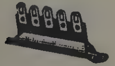
Cinch No.	Mtg. Ctrs.	Net Ea., Lots of		Cinch No.	Mtg. Ctrs.	Net Ea., Lots of	
		1-24	25-49*			1-24	25-49*
51	......	$0.157	$0.133	53C	¾"	$0.191	$0.164
51A	......	.157	.133	53E	......	.166	.142
51B	......	.158	.134	53F	......	.168	.144
51C	......	.157	.133	54	1⅞"	.215	.184
51F	......	.187	.16	54A	1⅞"	.218	.188
51L	......	.187	.16	54B	......	.187	.16
51R	......	.187	.16	54C	......	.191	.164
52	......	.177	.15	55	2¼"	.222	.192
52A	......	.183	.156	55A	2¼"	.224	.194
52B	......	.177	.15	55B	1½"	.222	.192
52C	......	.183	.156	55C	1½"	.224	.194
52R	......	.187	.16	56	2⅝"	.229	.199
53	1½"	.187	.16	56A	2⅝"	.231	.201
53A	1½"	.191	.164	56B	1⅞"	.229	.199
53B	¾"	.187	.16	56C	1⅞"	.231	.201

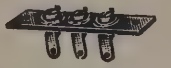
170 SERIES SOLDER TERMINAL STRIPS



Heavy solder terminals are made of .032" brass, hot solder coated; mounted on ⅜" centers. Black molded phenolic. Size, 5/16" w. x ¼" thick. Mounting holes, ⅜" from center of end terminals.

Cinch Number	Con-tacts	Net Each, Lots of					
		1-24	25-49	50-99	100-249	250-499	500-999
1-170	1	$0.39	$0.34	$0.28	$0.24	$0.23	$0.23
2-170	2	.46	.39	.35	.31	.29	.28
3-170	3	.63	.50	.41	.37	.35	.34
4-170	4	.73	.60	.46	.39	.38	.37
5-170	5	.80	.67	.56	.42	.41	.40
6-170	6	.91	.72	.62	.49	.45	.41
7-170	7	1.02	.80	.69	.56	.52	.51
8-170	8	1.04	.86	.72	.61	.57	.52
9-170	9	1.22	1.00	.80	.67	.66	.60
10-170	10	1.34	1.04	.89	.73	.69	.67


2000 Series


Screw Strips

SERIES 2000 TERMINAL STRIPS

Compact, sturdy terminal strips for wiring, etc. Phenolic insula-tion; cadmium-plated steel brackets with .140" dia. mounting holes centered 5/32" from bracket end. Terminals are tin-plated .019" brass spaced on 5/16" centers; last 2 digits of no. indicate no. of terminals (e.g., 2008 has 8 terminals).

Cinch No.	Mtg. Ctrs.	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
2002	1"	$0.20	$0.19	$0.18	$0.15	$0.14
2003	1 5/16"	.23	.20	.19	.18	.15
2004	1⅝"	.24	.23	.20	.19	.18
2005	1 15/16"	.24	.23	.20	.19	.18
2006	2¼"	.27	.24	.21	.20	.19
2007	2 9/16"	.27	.24	.21	.20	.19
2008	2⅞"	.31	.26	.23	.21	.20
2009	3 3/16"	.34	.27	.24	.23	.21
2010	3½"	.34	.27	.24	.23	.21
2011	3 13/16"	.37	.29	.27	.24	.23
2012	4⅛"	.37	.29	.27	.24	.23
2013	4 7/16"	.40	.35	.29	.26	.24

SCREW TYPE TERMINAL STRIPS

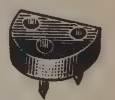
Ideal design for chassis or breadboard layouts. Strips with 1 to 6 lugs are 1/16" thick phenolic; those with 7 to 10 terminals are 3/32" thick. Ends of screws are captivated to prevent removal; made of cadmium-plated steel. Terminals are cadmium-plated brass, spaced on 7/16" centers. Mounting holes .136" dia.

Cinch No.*	Mtg. Ctrs.	Net Ea., Lots		Cinch No.*	Mtg. Ctrs.	Net Ea., Lots	
		1-24	25-49*			1-24	25-49*
17-1	⅞"	$0.18	$0.158	17-6	3 1/16"	$0.449	$0.37
17-2	1 5/16"	.20	.18	17-7	3½"	.548	.43
17-3	1¾"	.238	.20	17-8	3 15/16"	.61	.51
17-4	2 3/16"	.317	.258	17-9	4⅜"	.76	.57
17-5	2⅝"	.37	.287	17-10	4 13/16"	.90	.68

*Suffix indicates no. of terminals; e.g., 17-2 has 2 terminals.

★LARGER QUANTITY PRICES ON REQUEST.

TO-5 OR TO-18 LOW PROFILE TRANSISTOR SOCKETS

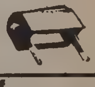


Mount directly to PC board with snug fit to prevent bleeding of solder and flux to opposite board surface. Chamfered socket holes minimize lead bending during insertion. Contact ends are watertight, formed so that solder and fluxes cannot enter barrelled contact to obstruct lead entry. TO-18 directly accepts TO-5. TO-5 accepts TO-18 if leads are left full length or formed to match TO-5 lead centers. Insulator molded from 20% glass filled nylon in black, natural, or green. Contacts are of beryllium copper gold plated. Maximum pin dia., 0.019". Max. pin depth, 0.200" ±0.010". Max. insertion force, 5 ounces; withdrawal force, ¼ ounce at 3 and 100 cycles. Voltage ratings at sea level, 1500 AC rms, 2000 VDC. Current rating, 2.5 amperes. Contact resistance, 0.005 ohms. Insulation resistance, 100,000 megs. Low profile, only .130" above PC board surface.

Cinch No.	Color	●Net Each, Lots of					
		1-24	25-49	50-99	100-249	250-499	500-999
3-LPS-B	Black	$0.276	$0.221	$0.185	$0.149	$0.141	$0.135
3-LPS-N	Natural	.276	.221	.185	.149	.141	.135
3-LPS-G	Green	.276	.221	.185	.149	.141	.135

● DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR SOCKETS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK US FOR THE LATEST QUOTATIONS.

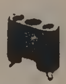
PRINTED CIRCUIT TEST JACKS



For 0.080" dia. probes. Terminals solder to P.C. holes 0.055" dia. on 0.4" centers. All nylon body tested to 3000 volts. Contacts are gold plated over silver.

Cinch No.	Color	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
119437A	White	$0.376	$0.338	$0.30	$0.281	$0.262
119437B	Red	.376	.338	.30	.281	.262
119437C	Black	.376	.338	.30	.281	.262
119437D	Brown	.376	.338	.30	.281	.262
119437E	Green	.376	.338	.30	.281	.262
119437F	Orange	.376	.338	.30	.281	.262
119437G	Blue	.376	.338	.30	.281	.262
119437H	Yellow	.376	.338	.30	.281	.262
119437J	Grey	.376	.338	.30	.281	.262
119437K	Purple	.376	.338	.30	.281	.262
119437L	Natural	.376	.338	.30	.281	.262

CRYSTAL SOCKETS



Molded from black bakelite or mica-filled low loss phenolic. Silver-plated beryllium copper contacts on 31/64" centers. Body is 25/32" l. x 5/16" th. For use with FT243 type crystal.

Cinch No.	Material	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
2KB	Bakelite	$0.31	$0.26	$0.23	$0.21	$0.19
2KM	Phenolic	.33	.28	.26	.23	.21

ETC®

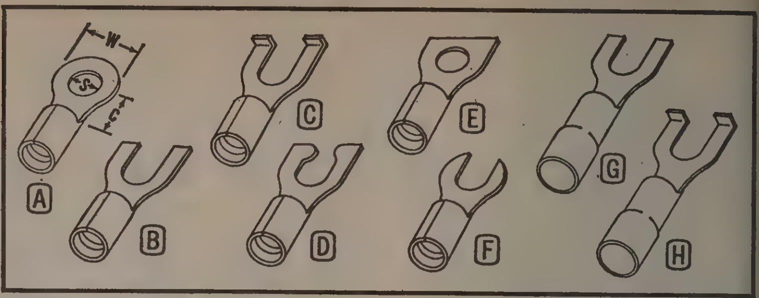
Solderless Terminals

1/4″ barrel length

5/32″ barrel length

ETC copper terminals and splices are electroplated with tin, made from .032″ stock, feature V-notch serrations in barrel for best wire grip. Insulated terminals are color-coded for easy wire identification. Where applicable, terminals are covered by UL, CSA and Military specification approvals. Quick connect terminals are tin-plated brass construction.

NOTE: #22-14 terminals are available in two lengths. Parts with prefix **A** or **B** have 1/4″ barrel length. Parts with prefix **AA** or **BB** have 5/32″ barrel length.



UNINSULATED TERMINALS

KRIMPTITE® BUTTED SEAM BARREL RING TONGUE (FIG. A)

#26-24 AWG wire.

ETC Part No.	Stud Size S	Dimen., In.		Net per 1000		
		Width W	Clearance C	1000-1999	2000-4999	5000-9999
M-1122-02*	2	9/64	1/8	$62.85#	$41.90	$31.04
M-1113-04*	4	13/64	7/32	62.85#	41.90	31.04
M-1113-06*	6	13/64	7/32	62.85#	41.90	31.04
M-1118-06*	6	1/4	19/64	62.85#	41.90	31.04
M-1118-08*	8	1/4	19/64	62.85#	41.90	31.04
M-1118-10*	10	1/4	19/64	62.85#	41.90	31.04

#22-18 AWG wire.

AA-120-04	4	7/32	5/32	$38.37	$25.58	$18.95
AA-132-04	4	1/4	1/4	38.37	25.58	18.95
AA-120-06	6	7/32	5/32	38.37	25.58	18.95
AA-132-06	6	1/4	1/4	38.37	25.58	18.95
AA-132-08	8	1/4	1/4	38.37	25.58	18.95
AA-121-08	8	5/16	5/16	38.37	25.58	18.95
AA-121-10	10	5/16	5/16	38.37	25.58	18.95

#16-14 AWG wire.

BB-123-06	6	1/4	7/32	$38.37	$25.58	$18.95
BB-139-08	8	11/32	5/16	38.37	25.58	18.95
BB-137-10	10	5/16	9/32	38.37	25.58	18.95
BB-139-10	10	11/32	5/16	38.37	25.58	18.95
BB-125-14	1/4″	15/32	13/32	57.45	38.30	28.37
BB-125-56	5/16″	15/32	13/32	57.45	38.30	28.37

#12-10 AWG wire.

C-128-10†	10	3/8	5/16	$ 60.92#	$40.61	$30.08
C-130-14†	1/4″	17/32	13/32	78.24#	52.16	38.64
C-130-56†	5/16″	17/32	13/32	78.24#	52.16	38.64
C-140-38*	3/8″	19/32	31/64	101.30#	67.53	50.02

SPADE TONGUE (FIG. B)

#26-24 AWG wire.

M-1123-00*	0	9/64	1/8	$62.85#	$41.90	$31.04
M-1116-02*	2	3/16	7/32	62.85#	41.90	31.04
M-1121-04*	4	13/64	7/32	38.75#	25.83	19.13

FLANGED SPADE TONGUE (FIG. C)

#22-18 AWG wire.

AA-115-06	6	19/64	7/32	$38.37	$25.58	$18.95
AA-115-08	8	19/64	7/32	38.37	25.58	18.95

SNAP SPADE TONGUE (FIG. D)

#22-18 AWG wire.

AA-1190-06	6	1/4	1/4	$47.25	$31.50	$23.33
AA-1191-08	8	9/32	1/4	47.25	31.50	23.33
AA-1192-10	10	21/64	1/4	47.25	31.50	23.33

#16-14 AWG wire.

BB-1193-06	6	1/4	1/4	$46.01	$30.67	$22.72
BB-1194-08	8	9/32	1/4	46.01	30.67	22.72
BB-1195-10	10	21/64	1/4	46.01	30.67	22.72

RECTANGULAR TONGUE (FIG. E)

#22-18 AWG wire.

AA-114-06	6	19/64	7/32	$38.37	$25.58	$18.95
AA-114-08	8	19/64	7/32	38.37	25.58	18.95

#16-14 AWG wire.

BB-113-06	6	19/64	15/32	$39.65	$26.43	$19.58
BB-113-08	8	19/64	15/32	39.65	26.43	19.58
BB-188-10	10	21/64	1/4	54.44	36.29	26.88

SLOTTED RING TONGUE (FIG. F)

#26-24 AWG wire.

M-1120-06*	6	1/4	19/64	$38.75#	$25.83	$19.13

VERSAKRIMP™ BRAZED SEAM BARREL RING TONGUE (FIG. A)

#22-18 AWG wire.

A-320-04	4	7/32	5/32	$50.63	$33.75	$25.00
AA-320-04	4	7/32	5/32	50.63	33.75	25.00
AA-332-04	4	1/4	1/4	50.63	33.75	25.00
A-320-06	6	7/32	5/32	50.63	33.75	25.00
AA-320-06	6	7/32	5/32	50.63	33.75	25.00
A-332-06	6	1/4	1/4	50.63	33.75	25.00
AA-332-06	6	1/4	1/4	50.63	33.75	25.00
A-332-08	8	1/4	1/4	50.63	33.75	25.00
AA-332-08	8	1/4	1/4	50.63	33.75	25.00
A-321-08	8	5/16	5/16	50.63	33.75	25.00
AA-321-08	8	5/16	5/16	50.63	33.75	25.00
A-321-10	10	5/16	5/16	50.63	33.75	25.00
AA-321-10	10	5/16	5/16	50.63	33.75	25.00
A-322-14	1/4″	15/32	13/32	67.44	44.96	33.30
A-322-56	5/16″	15/32	13/32	67.44	44.96	33.30

VERSAKRIMP BRAZED SEAM BARREL (CONT'D) RING TONGUE (FIG. A)

#16-14 AWG wire.

ETC Part No.	Stud Size S	Dimen., In.		Net per 1000		
		Width W	Clearance C	1000-1999	2000-4999	5000-9999
B-323-06	6	1/4	7/32	$ 50.63	$33.75	$25.00
BB-323-06	6	1/4	7/32	50.63	33.75	25.00
B-337-08	8	5/16	9/32	50.63	33.75	25.00
BB-339-08	8	11/32	5/16	50.63	33.75	25.00
B-337-10	10	5/16	9/32	50.63	33.75	25.00
BB-337-10	10	5/16	9/32	50.63	33.75	25.00
B-339-10	10	11/32	5/16	50.63	33.75	25.00
BB-339-10	10	11/32	5/16	50.63	33.75	25.00
B-325-14	1/4″	15/32	13/32	105.81	70.54	52.25
BB-325-14	1/4″	15/32	13/32	105.81	70.54	52.25
B-325-56	5/16″	15/32	13/32	105.81	70.54	52.25
BB-325-56	5/16″	15/32	13/32	105.81	70.54	52.25

#12-10 AWG wire.

C-328-10	10	3/8	5/16	$ 75.47#	$50.31	$37.27
C-330-14*	1/4″	17/32	13/32	82.28#	54.85	40.63
C-330-56*	5/16″	17/32	13/32	82.28#	54.85	40.63
C-340-38*	3/8″	19/32	31/64	101.73#	67.82	50.24

#8 AWG wire.

D-350-10‡	10	15/32	11/32	$147.35§	$98.23	$72.76
D-350-14‡	1/4″	15/32	11/32	147.35§	98.23	72.76

SPADE TONGUE (FIG. B)

#22-18 AWG wire.

AA-3109-02	2	3/16	13/64	$86.13	$57.42	$42.53
A-338-06	6	1/4	7/32	99.30	66.20	49.04
AA-338-06	6	1/4	7/32	99.30	66.20	49.04
A-334-06	6	19/64	7/32	99.30	66.20	49.04
AA-334-06	6	19/64	7/32	99.30	66.20	49.04
A-335-06	6	5/16	5/16	99.30	66.20	49.04
AA-334-08	8	19/64	7/32	99.30	66.20	49.04
A-335-08	8	5/16	5/16	99.30	66.20	49.04
A-335-10	10	5/16	5/16	99.30	66.20	49.04

#16-14 AWG wire.

B-324-06	6	19/64	7/32	$102.57	$68.38	$50.65
BB-324-06	6	19/64	7/32	102.57	68.38	50.65
B-324-08	8	19/64	7/32	102.57	68.38	50.65
BB-324-08	8	19/64	7/32	102.57	68.38	50.65
B-327-10	10	23/64	9/32	102.57	68.38	50.65
BB-327-10	10	23/64	9/32	102.57	68.38	50.65

#12-10 AWG wire.

C-341-08†	8	3/8	5/16	$127.79#	$85.19	$63.10
C-341-10†	10	3/8	5/16	127.79#	85.19	63.10

FLANGED SPADE TONGUE (FIG. C)

#22-18 AWG wire.

A-315-06	6	19/64	7/32	$99.98	$66.65	$49.37
AA-315-06	6	19/64	7/32	99.98	66.65	49.37
A-315-08	8	19/64	7/32	99.98	66.65	49.37
AA-315-08	8	19/64	7/32	99.98	66.65	49.37

#16-14 AWG wire.

B-316-06	6	19/64	7/32	$103.04	$68.69	$50.88
B-316-08	8	19/64	7/32	103.04	68.69	50.88
B-383-10	10	3/8	1/4	103.04	68.69	50.88

RECTANGULAR TONGUE (FIG. E)

#22-18 AWG wire.

A-314-06	6	19/64	7/32	$95.91	$63.94	$47.36
A-314-08	8	19/64	7/32	95.91	63.94	47.36

VIBRAKRIMP® INSULATION SUPPORT TIN-PLATED BRASS SLEEVE SPADE TONGUE (FIG. G)

#22-18 AWG wire.

AA-434-06	6	19/64	7/32	$118.91	$79.27	$58.72
AA-434-08	8	19/64	7/32	118.91	79.27	58.72

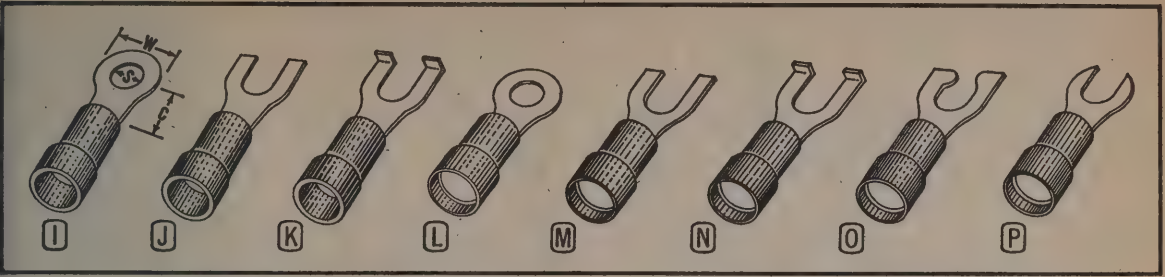
FLANGED SPADE TONGUE (FIG. H)

#16-14 AWG wire.

BB-416-06	6	19/64	7/32	$119.30	$79.53	$58.91
BB-416-08	8	19/64	7/32	119.30	79.53	58.91
BB-483-10	10	3/8	1/4	126.59	84.39	62.51

*Parts not available on tape. #Quantity of 500–1999. §Quantity of 250–1999. †500 terminals per reel. ‡250 terminals per reel. For full details, see taping information and pricing on another page.

Solderless Terminals



INSULATED TERMINALS

INSULKRIMP® PVC INSULATION SUPPORT SLEEVE

RING TONGUE (FIG. I)

#22-18 AWG wire.

ETC Part No.	Stud Size S	Dimen., In.		Net per 1000		
		Width W	Clearance C	1000-1999	2000-4999	5000-9999
A-220-04X	4	7/32	5/32	$84.72	$56.48	$41.84
AA-220-04X	4	7/32	5/32	84.72	56.48	41.84
AA-232-04X	4	1/4	1/4	84.72	56.48	41.84
A-220-06X	6	7/32	5/32	84.72	56.48	41.84
AA-220-06X	6	7/32	5/32	84.72	56.48	41.84
A-232-06X	6	1/4	1/4	84.72	56.48	41.84
AA-232-06X	6	1/4	1/4	84.72	56.48	41.84
A-232-08X	8	1/4	1/4	84.72	56.48	41.84
AA-232-08X	8	1/4	1/4	84.72	56.48	41.84
A-221-08X	8	5/16	5/16	84.72	56.48	41.84
AA-221-08X	8	5/16	5/16	84.72	56.48	41.84
A-221-10X	10	5/16	5/16	84.72	56.48	41.84
AA-221-10X	10	5/16	5/16	84.72	56.48	41.84
A-222-14X	1/4"	15/32	13/32	84.72	56.48	41.84
A-222-56X	5/16"	15/32	13/32	84.72	56.48	41.84

#16-14 AWG wire.

B-223-06X	6	1/4	7/32	$ 84.72	$56.48	$41.84
BB-223-06X	6	1/4	7/32	84.72	56.48	41.84
B-237-08X	8	5/16	9/32	84.72	56.48	41.84
BB-239-08X	8	11/32	5/16	84.72	56.48	41.84
B-228-08HDX†	8	3/8	5/16	141.30#	94.20	69.78
B-237-10X	10	5/16	9/32	84.72	56.48	41.84
BB-237-10X	10	5/16	9/32	84.72	56.48	41.84
B-239-10X	10	11/32	5/16	84.72	56.48	41.84
BB-239-10X	10	11/32	5/16	84.72	56.48	41.84
B-228-10HDX†	10	3/8	5/16	141.30#	94.20	69.78
B-225-14X‡	1/4"	15/32	13/32	99.41#	66.27	49.09
BB-225-14X‡	1/4	15/32	13/32	99.41#	66.27	49.09
B-225-56X‡	5/16"	15/32	13/32	99.41#	66.27	49.09
BB-225-56X‡	5/16"	15/32	13/32	99.41#	66.27	49.09

#12-10 AWG wire.

C-228-10X‡	10	3/8	5/16	$106.76#	$71.17	$52.72
C-230-14X*	1/4"	17/32	13/32	121.61#	81.07	60.05
C-230-56X*	5/16"	17/32	13/32	121.61#	81.07	60.05
C-240-38X*	3/8"	19/32	31/64	128.96#	85.97	63.68

#8 AWG wire.

D-650-10•	10	15/32	11/32	$310.05■	$206.70	$153.11
D-656-10•	10	3/8	11/32	307.73■	205.15	151.96
D-650-14•	1/4"	15/32	11/32	310.05■	206.70	153.11
D-656-14•	1/4"	3/8	11/32	307.73■	205.15	151.96

SPADE TONGUE (FIG. J)

#16-14 AWG wire.

B-224-06X	6	19/64	7/32	$84.72	$56.48	$41.84
B-224-08X	8	19/64	7/32	84.72	56.48	41.84
B-227-10X	10	23/64	9/32	84.72	56.48	41.84

FLANGED SPADE (FIG. K)

#22-18 AWG wire.

AA-215-06X	6	19/64	7/32	$84.72	$56.48	$41.84
AA-215-08X	8	19/64	7/32	84.72	56.48	41.84

#16-14 AWG wire.

B-216-06X	6	19/64	7/32	$84.72	$56.48	$41.84
B-216-08X	8	19/64	7/32	84.72	56.48	41.84
B-283-10X	10	3/8	1/4	91.13	60.75	45.00

AVIKRIMP® NYLON INSULATED VIBRATION SUPPORT

RING TONGUE (FIG. L)

#26-24 AWG wire.

M-8122-02‡	2	9/64	1/8	$148.04#	$98.69	$73.10
M-8113-04‡	4	13/64	7/32	148.04#	98.69	73.10
M-8113-06‡	6	13/64	7/32	148.04#	98.69	73.10
M-8118-06‡	6	1/4	19/64	148.04#	98.69	73.10
M-8118-08‡	8	1/4	19/64	148.04#	98.69	73.10
M-8118-10‡	10	1/4	19/64	148.04#	98.69	73.10

#22-18 AWG wire.

A-520-04	4	7/32	5/32	$123.05	$82.03	$60.76
AA-820-04§	4	7/32	5/32	123.05	82.03	60.76
AA-832-04§	4	1/4	1/4	123.05	82.03	60.76
A-520-06	6	7/32	5/32	123.05	82.03	60.76
AA-820-06§	6	7/32	5/32	123.05	82.03	60.76
A-532-08	8	1/4	1/4	123.05	82.03	60.76
AA-832-08§	8	1/4	1/4	123.05	82.03	60.76
A-521-08	8	5/16	5/16	123.05	82.03	60.76
AA-821-08§	8	5/16	5/16	123.05	82.03	60.76

AVIKRIMP NYLON INSULATED VIBRATION SUPPORT (CONT'D)

RING TONGUE (FIG. L)

#22-18 AWG wire.

ETC Part No.	Stud Size S	Dimen., In.		Net per 1000		
		Width W	Clearance C	1000-1999	2000-4999	5000-9999
A-521-10	10	5/16	5/16	$123.05	$82.03	$60.76
AA-821-10§	10	5/16	5/16	123.05	82.03	60.76
A-522-14	1/4"	15/32	13/32	143.51	95.67	70.87
A-522-56	5/16"	15/32	13/32	143.51	95.67	70.87

#16-14 AWG wire.

B-523-06	6	1/4	7/32	$123.05	$82.03	$60.76
BB-823-06§	6	1/4	7/32	123.05	82.03	60.76
B-537-08	8	5/16	9/32	123.05	82.03	60.76
BB-839-08§	8	11/32	5/16	123.05	82.03	60.76
B-537-10	10	5/16	9/32	123.05	82.03	60.76
BB-837-10§	10	5/16	9/32	123.05	82.03	60.76
B-539-10	10	11/32	5/16	123.05	82.03	60.76
BB-839-10§	10	11/32	5/16	123.05	82.03	60.76
B-525-14‡	1/4"	15/32	13/32	143.51#	95.67	70.87
BB-825-14§	1/4"	15/32	13/32	143.51#	95.67	70.87
B-525-56‡	5/16"	15/32	13/32	143.51#	95.67	70.87
BB-825-56§	5/16"	15/32	13/32	143.51#	95.67	70.87

#12-10 AWG wire.

C-828-10‡	10	3/8	5/16	$153.60#	$102.40	$75.85
C-830-14‡	1/4"	17/32	13/32	153.60#	102.40	75.85
C-830-56‡	5/16"	17/32	13/32	153.60#	102.40	75.85
C-840-38*	3/8"	19/32	31/64	153.60#	102.40	75.85

SPADE TONGUE (FIG. M)

#26-24 AWG wire.

M-8123-00‡	0	9/64	1/8	$148.04#	$98.69	$73.10
M-8116-02‡	2	3/16	7/32	148.04	98.69	73.10
M-8121-04‡	4	13/64	7/32	148.04	98.69	73.10

#22-18 AWG wire.

AA-8109-02§	2	3/16	13/64	$123.05	$82.03	$60.76
A-538-06	6	1/4	7/32	123.05	82.03	60.76
AA-838-06§	6	1/4	7/32	123.05	82.03	60.76
A-534-06	6	19/64	7/32	123.05	82.03	60.76
AA-834-06§	6	19/64	7/32	123.05	82.03	60.76
A-535-06	6	5/16	5/16	123.05	82.03	60.76
A-535-08	8	5/16	5/16	123.05	82.03	60.76
A-535-10	10	5/16	5/16	123.05	82.03	60.76

#16-14 AWG wire.

B-524-06	6	19/64	7/32	$123.05	$82.03	$60.76
BB-824-06§	6	19/64	7/32	123.05	82.03	60.76
B-524-08	8	19/64	7/32	123.05	82.03	60.76
BB-824-08§	8	19/64	7/32	123.05	82.03	60.76
B-527-10	10	23/64	9/32	123.05	82.03	60.76
BB-827-10§	10	23/64	9/32	123.05	82.03	60.76

#12-10 AWG wire.

C-841-08‡	8	3/8	5/16	$153.60#	$102.40	$75.85
C-841-10‡	10	3/8	5/16	153.60	102.40	75.85

FLANGED SPADE (FIG. N)

#22-18 AWG wire.

A-515-06	6	19/64	7/32	$123.05	$82.03	$60.76
AA-815-06§	6	19/64	7/32	123.05	82.03	60.76
A-515-08	8	19/64	7/32	123.05	82.03	60.76
AA-815-08§	8	19/64	7/32	123.05	82.03	60.76

#16-14 AWG wire.

B-516-06	6	19/64	7/32	$123.05	$82.03	$60.76
BB-816-06§	6	19/64	7/32	123.05	82.03	60.76
B-516-08	8	19/64	7/32	123.05	82.03	60.76
BB-816-08§	8	19/64	7/32	123.05	82.03	60.76
B-583-10	10	3/8	1/4	140.07	93.38	69.17
BB-883-10§	10	3/8	1/4	140.07	93.38	69.17

SNAP SPADE (FIG. O)

#22-18 AWG wire.

AA-5190-06	6	1/4	1/4	$135.33	$90.22	$66.83
AA-5191-08	8	9/32	1/4	135.33	90.22	66.83
AA-5192-10	10	21/64	1/4	135.33	90.22	66.83

#16-14 AWG wire.

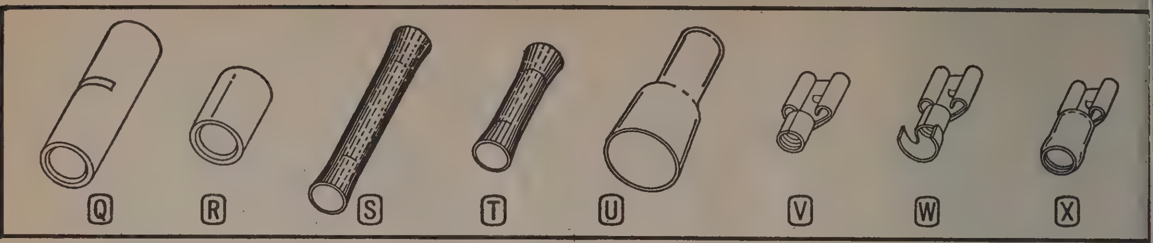
BB-5193-06	6	1/4	1/4	$135.33	$90.22	$66.83
BB-5194-08	8	9/32	1/4	135.33	90.22	66.83
BB-5195-10	10	21/64	1/4	135.33	90.22	66.83

SLOTTED RING (FIG. P)

#26-24 AWG wire.

M-8120-06‡	6	1/4	19/64	$148.04#	$98.69	$73.10

*Parts not available on tape. #Quantity 500–1999. ■Quantity 250–1999. †Heavy duty parts have .050" copper stock in #16-14 wire range and should be crimped by 12-10 tooling. ‡500 terminals per reel. •250 terminals per reel. For full details, see taping information and pricing on following page. §Taped parts available with funnel ferrule; prices on request.



UNINSULATED SPLICES

VERSAKRIMP™ SEAMLESS BUTT SPLICE (FIG. Q)

ETC Number	Wire Range	Length Inch	Net per 1000 1000-1999	2000-4999	5000-9999	10,000 Up
AS-345*	22-18	21/32	$ 96.98	$ 64.65	$47.89	$39.91
BS-331*	16-14	21/32	95.85#	63.90	47.33	39.44
CS-346†	12-10	1 3/16	169.25#	112.83	83.58	69.65

PARALLEL SPLICE (FIG. R)

ETC Number	Wire Range	Length Inch	1000-1999	2000-4999	5000-9999	10,000 Up
AS-302*	22-18	5/16	$ 81.42	$54.28	$40.21	$33.51
BS-304*	16-14	5/16	94.38#	62.92	46.61	38.84
CS-303*	12-10	5/16	133.86#	89.24	66.10	55.08

INSULATED SPLICES

INSULKRIMP® PVC INSULATED BUTT SPLICE (FIG. S)

ETC Number	Wire Range	Lgth. Inch	Max. Wire Insul. Dia. In.	Net per 1000 1000-1999	2000-4999	5000-9999
A-245X	22-18	15/16	.145	$ 76.55	$ 51.03	$ 37.80
B-231X	16-14	15/16	.200	76.55	51.03	37.80
C-246X†	12-10	1 1/16	.255	112.26#	74.84	55.44

PARALLEL SPLICE (FIG. T)

ETC Number	Wire Range	Lgth. Inch	Max. Wire Insul. Dia. In.	1000-1999	2000-4999	5000-9999
B-204X*	16-14	1 1/16	.175	$198.17	$132.11	$ 97.86
C-203X*	12-10	25/32	.255	249.20#	166.13	123.06

NYLAKRIMP™ NYLON INSULATED BUTT SPLICE (FIG. S)

ETC Number	Wire Range	Lgth. Inch	Max. Wire Insul. Dia. In.	1000-1999	2000-4999	5000-9999
AS-N-345†	22-18	1 3/64	.120	$105.48#	$ 70.32	$ 52.09
BS-N-331†	16-14	1 3/64	.150	104.97#	69.98	51.84
CS-N-346†	12-10	1 5/16	.210	242.27#	161.51	119.64

PARALLEL SPLICE (FIG. T)

ETC Number	Wire Range	Lgth. Inch	Max. Wire Insul. Dia. In.	1000-1999	2000-4999	5000-9999
AS-N-302*	22-18	5/8	.120	$190.53#	$127.02	$ 94.09
BS-N-304*	16-14	5/8	.150	201.69#	134.46	99.60
CS-N-303*	12-10	5/8	.210	213.77#	142.51	105.56

NYLON CLOSED END CONNECTORS (FIG. U)

ETC Number	Wire Range	Circular Mil Area	Net per 1000 1000-1999	2000-4999	5000-9999
NC-2214†	22-14	600–5180	$55.07	$36.71	$27.19
NC-1610†	16-10	2400–13,100	82.11	54.74	40.55

QUICK-CONNECTS

KRIMPTITE® UNINSULATED BUTTED SEAM BARREL (FIG. V)

ETC Number	Wire Range	Fits Tab Size, Inch	Net per 1000 1000-1999	2000-4999	5000-9999	10,000 Up
AA-1140	22-18	.250 x .032	$38.37	$25.58	$18.95	$15.79
BB-1141	16-14	.250 x .032	37.44	24.96	18.49	15.41
P-1142†	14-12	.250 x .032	37.88#	25.25	18.70	15.58
AA-1137	22-18	.187 x .020	59.90	39.93	29.58	24.65
BB-1138	16-14	.187 x .020	32.33	21.55	15.96	13.30

VIBRAKRIMP® VIBRATION SUPPORT BARREL (FIG. W)

ETC Number	Wire Range	Fits Tab Size, Inch	1000-1999	2000-4999	5000-9999	10,000 Up
AA-4176	22-18	.250 x .032	$70.88	$47.25	$35.00	$29.17
BB-4177	16-14	.250 x .032	70.86	47.24	34.99	29.16
P-4178†	14-12	.250 x .032	54.48#	36.32	26.90	22.42
AA-4173	22-18	.187 x .020	62.82	41.88	31.02	25.85
BB-4174	16-14	.187 x .020	55.37	36.91	27.34	22.78

AVIKRIMP® NYLON INSULATED AND VIBRATION SUPPORT (FIG. X)

ETC Number	Wire Range	Fits Tab Size, Inch	1000-1999	2000-4999	5000-9999	10,000 Up
AA-8140	22-18	.250 x .032	$117.00	$78.00	$57.78	$48.15
BB-8141	16-14	.250 x .032	117.00	78.00	57.78	48.15
P-8142†	14-12	.250 x .032	147.30#	98.20	72.74	60.62
AA-8137	22-18	.187 x .020	133.14	88.76	65.75	54.79
BB-8138	16-14	.187 x .020	133.14	88.76	65.75	54.79

*Parts not available on tape. #Quantity 500–1999. †500 terminals per reel. For full details, see taping information and pricing above right.

ETC OFFERS RATCHET HAND TOOLS FOR PRODUCTION CRIMPING. WRITE FOR FULL INFORMATION AND PRICES

TAPING INFORMATION AND PRICING

Most loose-piece parts are available on tape for high-speed automated crimping with ETC air or electric crimping presses. To order tape-fed terminals, add **T** to part number (e.g., AA-332-06-T). Parts must be ordered in multiples of full reels, 1M terminals per reel.

TAPING PRICES

Add following prices to standard prices for loose-piece terminals or splices.

ETC Part	Net per 1000 1000-1999	2000-4999	5000-9999	10,000 Up
Terminals #26-10	$ 7.10	$ 6.40	$5.70	$5.00
Terminals #8-4	11.20	10.25	9.05	8.00
Splices	8.05	7.40	6.65	6.00

MULTI-PURPOSE ABC-550 HAND TOOL

Quality tool does the job of five tools. Crimp #22 thru #10 insulated and non-insulated terminals and splices. Cuts, strips wire. Cuts bolts. Cushion grip handles for "no-fatigue" crimping.
ETC Model ABC-550 Hand Tool—Net Each, Lots of 1–24 . **$4.45**

ETC-MILITARY CROSS REFERENCE

MIL-T-7928

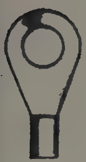
MS Number	ETC Number	MS Number	ETC Number
25036-101 ASG	A-520-06	25036-125 ASG	F-766-38
25036-101 ASG	AA-520-06	25036-126 ASG	G-775-14
25036-101 ASG	AA-820-06	25036-127 ASG	G-775-38
25036-102 ASG	A-532-06	25036-128 ASG	G-774-12
25036-102 ASG	AA-532-06	25036-128 ASG	G-776-12
25036-102 ASG	AA-832-06	25036-129 ASG	H-781-14*
25036-103 ASG	A-521-10	25036-130 ASG	H-781-38*
25036-103 ASG	AA-521-10	25036-131 ASG	H-780-12*
25036-103 ASG	AA-821-10	25036-132 ASG	H-781-14
25036-104 ASG	A-522-56	25036-133 ASG	H-781-38
25036-104 ASG	AA-522-56	25036-134 ASG	H-780-12
25036-104 ASG	AA-822-56	25036-135 ASG	J-785-56
25036-105 ASG	A-526-38	25036-136 ASG	J-785-38
25036-105 ASG	AA-526-38	25036-137 ASG	J-785-12
25036-105 ASG	AA-826-38	25036-138 ASG	K-790-38
25036-106 ASG	B-523-06	25036-139 ASG	K-790-12
25036-106 ASG	BB-523-06	25036-140 ASG	L-795-38
25036-106 ASG	BB-823-06	25036-141 ASG	L-795-12
25036-107 ASG	B-537-06	25036-143 ASG	M-8114-02
25036-107 ASG	B-539-06	25036-143 ASG	M-8122-02
25036-107 ASG	BB-537-06	25036-144 ASG	M-8113-04
25036-107 ASG	BB-539-06	25036-145 ASG	M-8118-06
25036-107 ASG	BB-837-06	25036-146 ASG	M-8118-08
25036-107 ASG	BB-839-06	25036-147 ASG	M-8118-10
25036-108 ASG	B-537-10	25036-148 ASG	A-520-04
25036-108 ASG	B-539-10	25036-148 ASG	AA-520-04
25036-108 ASG	BB-537-10	25036-148 ASG	AA-820-04
25036-108 ASG	BB-539-10	25036-149 ASG	A-521-08
25036-108 ASG	BB-837-10	25036-149 ASG	AA-521-08
25036-108 ASG	BB-839-10	25036-149 ASG	AA-821-08
25036-109 ASG	B-525-56	25036-150 ASG	A-522-14
25036-109 ASG	BB-525-56	25036-150 ASG	AA-522-14
25036-109 ASG	BB-825-56	25036-150 ASG	AA-822-14
25036-110 ASG	B-518-38	25036-152 ASG	B-523-04
25036-110 ASG	BB-518-38	25036-152 ASG	BB-523-04
25036-110 ASG	BB-818-38	25036-152 ASG	BB-823-04
25036-111 ASG	C-528-06	25036-153 ASG	B-537-08
25036-111 ASG	C-828-06	25036-153 ASG	B-539-08
25036-112 ASG	C-528-10	25036-153 ASG	BB-537-08
25036-112 ASG	C-828-10	25036-153 ASG	BB-539-08
25036-113 ASG	C-530-56	25036-153 ASG	BB-837-08
25036-113 ASG	C-830-56	25036-153 ASG	BB-839-08
25036-114 ASG	C-540-38	25036-154 ASG	BB525-14
25036-114 ASG	C-840-38	25036-154 ASG	BB-525-14
25036-115 ASG	D-756-10	25036-154 ASG	BB-825-14
25036-116 ASG	D-750-14	25036-156 ASG	C-528-08
25036-117 ASG	D-751-56	25036-156 ASG	C-828-08
25036-118 ASG	D-751-38	25036-157 ASG	C-530-14
25036-119 ASG	E-760-10	25036-157 ASG	C-830-14
25036-120 ASG	E-760-14	20659-105 ASG	C-328-10
25036-121 ASG	E-756-56	20659-106 ASG	C-330-56
25036-122 ASG	E-757-38	20659-128 ASG	C-340-38
25036-123 ASG	F-767-14	20659-141 ASG	D-350-14
25036-124 ASG	F-766-56		

*Use 1/0 terminals for applications calling for #1 AWG terminals.

VACO® Solderless Connectors

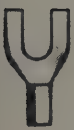
SERIES 10000 NON-INSULATED SINGLE GRIP SOLDERLESS TERMINALS

The basic single grip terminal is the most popular and economical onnector. Tensile strength and vibration and corrosion resistance ests meet or exceed all standard requirements. Seams are butted.



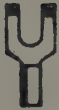
RING TONGUE TERMINALS

★ Vaco No.*	Wire Size	Stud Size	"C" Pak		
			Net per 100	Net per 1000	
				1000-4999	5000 Up
11204	22–18	4	$3.92	$35.36	$31.82
11205*	22–18	5–6	3.92	35.36	31.82
11206*	22–18	5–6	3.92	35.36	31.82
11208	22–18	8	3.92	35.36	31.82
11210*	22–18	10	3.92	35.36	31.82
11214	22–18	12–¼″	4.85	43.67	39.29
11238	22–18	⅜″	4.85	43.67	39.29
11304	16–14	4	3.92	35.36	31.82
11305*	16–14	5–6	3.92	35.36	31.82
11306*	16–14	5–6	3.92	35.36	31.82
11308	16–14	8	3.92	35.36	31.82
11310*	16–14	10	3.92	35.36	31.82
11314	16–14	12–¼″	4.85	43.67	39.29
11338*	16–14	⅜″	4.85	43.67	39.29
11406*	12–10	5–6	4.85	43.67	39.29
11408*	12–10	8	4.85	43.67	39.29
11410*	12–10	10	4.85	43.67	39.29
11414*	12–10	12–¼″	6.50	58.53	52.69
11438	12–10	⅜″	6.50	58.53	52.69



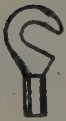
SPADE TONGUE TERMINALS

★ Vaco No.*	Wire Size	Stud Size	Net per 100	1000-4999	5000 Up
13204	22–18	4	$3.49	$31.37	$28.24
13206	22–18	5–6	3.49	31.37	28.24
13208	22–18	8	3.92	35.36	31.82
13210	22–18	10	3.92	35.36	31.82
13306*	16–14	4–6	3.92	35.36	31.82
13308	16–14	8	3.92	35.36	31.82
13310*	16–14	10	3.92	35.36	31.82
13406	12–10	4–6	4.85	43.67	39.29
13408	12–10	8	4.85	43.67	39.29
13410	12–10	10	4.85	43.67	39.29



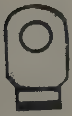
FLANGED SPADE TONGUE TERMINALS

★ Vaco No.*	Wire Size	Stud Size	Net per 100	1000-4999	5000 Up
14206*	22–18	4–6	$3.49	$31.37	$28.24



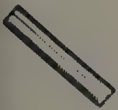
HOOK TONGUE TERMINALS

★ Vaco No.*	Wire Size	Stud Size	Net per 100	1000-4999	5000 Up
15206	22–18	4–6	$3.92	$35.36	$31.82
15208*	22–18	8	3.92	35.36	31.82
15210	22–18	10	3.92	35.36	31.82
15306	16–14	4–6	3.92	35.36	31.82
15308	16–14	8	3.92	35.36	31.82
15310	16–14	10	3.92	35.36	31.82
15408	12–10	8	4.85	43.67	39.29
15410	12–10	10	4.85	43.67	39.29



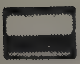
FLAG TONGUE TERMINALS

★ Vaco No.*	Wire Size	Stud Size	Net per 100	1000-4999	5000 Up
16210*	22–18	8–10	$3.92	$35.36	$31.82
16310*	16–14	8–10	3.92	35.36	31.82
16410*	12–10	8–10	4.85	43.67	39.29



BUTT CONNECTORS

★ Vaco No.*	Wire Size	Stud Size	Net per 100	1000-4999	5000 Up
17202	22–18	......	$3.92	$35.36	$31.82
17302	16–14	......	3.92	35.36	31.82
17402	12–10	......	3.92	35.36	31.82



PARALLEL CONNECTORS

★ Vaco No.*	Wire Size	Stud Size	Net per 100	1000-4999	5000 Up
17203	22–14	......	$3.02	$27.17	$24.45
17405	18–10	......	3.92	35.36	31.82

*Prefix Vaco Number with appropriate letter designating type of packaging desired: **C** for "C" Pak or **D** for "D" Pak.

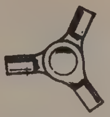
★ VACO "D" PAKS

Vaco "D" Paks—Any solderless terminal or connector with a ★ entered in this column is available in "D" Paks. Quantity in each Pak depends on the type and size selected. Each Pak is a reusable, self-hanging plastic box with identification label. Use prefix **D** when ordering. Net Each Pak........................**$1.10**

Vaco D2209 Assortment "D" Pak—Assortment of 26 non-insulated single grip terminals. Net Each Pak..........**$1.10**

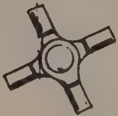
Vaco D2210 Assortment "D" Pak—Assortment of 13 insulated single grip terminals. Net Each Pak....................**$1.10**

SOLDERLESS TERMINALS (CONT'D.)



THREE-WAY CONNECTORS

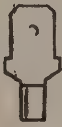
★ Vaco No.*	Wire Size	Stud Size	"C" Pak		
			Net per 100	Net per 1000	
				1000-4999	5000 Up
17303	16–14	......	$23.72	$213.44	$192.10
17403	12–10	......	31.00	279.24	251.20



FOUR-WAY CONNECTORS

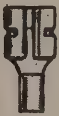
★ Vaco No.*	Wire Size	Stud Size	Net per 100	1000-4999	5000 Up
17304	16–14	......	$31.00	$279.24	$251.20
17404	12–10	......	34.92	305.78	283.14

QUICK CONNECTORS



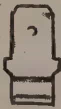
MALE TAB

★ Vaco No.*	Wire Size	Width, Ins.	"C" Pak		
			Net per 100	Net per 1000	
				1000-4999	5000 Up
18201	22–18	3/16	$3.92	$35.36	$31.82
18202	22–18	5/16	3.92	35.36	31.82
18301*	18–14	¼	3.92	35.36	31.82
18401	12–10	5/16	3.92	35.36	31.82



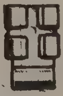
FEMALE TAB

★ Vaco No.*	Wire Size	Width, Ins.	Net per 100	1000-4999	5000 Up
18203*	22–18	9/32	$3.92	$35.36	$31.82
18204*	22–18	3/16	3.92	35.36	31.82
18302*	18–14	¼	3.92	35.36	31.82
18403*	12–10	9/32	3.92	35.36	31.82
18206*	22–20	⅛	4.42	39.81	35.82



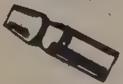
ANGLE MALE TAB

★ Vaco No.*	Wire Size	Width, Ins.	Net per 100	1000-4999	5000 Up
18303*	18–14	¼	$3.92	$35.36	$31.82



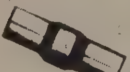
ANGLE FEMALE TAB

★ Vaco No.*	Wire Size	Width, Ins.	Net per 100	1000-4999	5000 Up
18304*	18–14	¼	$ 3.92	$ 35.36	$ 31.82
18305*	16–14	7/16	7.63	68.60	61.75
18307*	16–14	¼	9.37	84.41	75.96
18308*	18–16	⅜	18.96	170.68	153.62
18310*	14–12	5/16	9.37	84.41	75.96
18312*	16–14	5/16	5.89	53.04	47.74
18402*	12–10	¼	5.89	53.04	47.74
18314*	18–16	5/16	5.89	53.04	47.74



SNAP TERMINALS

★ Vaco No.*	Wire Size	Width, Ins.	Net per 100	1000-4999	5000 Up
19301*	16–14	5/32	$3.03	$27.17	$24.45
19303*	16–14	3/16	3.26	29.27	26.35



SNAP CONNECTORS

★ Vaco No.*	Wire Size	Width, Ins.	Net per 100	1000-4999	5000 Up
19302*	......	3/16	$10.66	$ 95.84	$ 86.26
19304*	......	7/32	12.51	112.56	101.31

*Prefix Vaco Number with appropriate letter designating type of packaging desired: **C** for "C" Pak or **D** for "D" Pak.

SPECIALTY TYPE CONNECTORS

Vaco No.*	Description	"C" Pak		
		Net per 100	Net per 1000	
			1000-4999	5000 Up
	IGNITION TERMINALS			
10101	Distributor cap terminal	$2.97	$26.67	$24.00
10102	Straight ignition terminal	3.21	28.87	25.99
10103	Angle ignition terminal	5.89	53.04	47.73
18011	Volkswagen adapter	18.96	170.68	153.62
18012	Volkswagen adapter	7.16	64.39	57.95
	CONNECTOR ADAPTERS			
18001	Snap conn. to male tab	$6.50	$58.53	$52.69
18002	Snap conn. to female tab	6.50	58.53	52.69
18006†	Screw term. to male tab	3.92	35.36	31.82
18010#	Screw term. to male tab	3.92	35.36	31.82
18007	Snap term. to female tab	5.92	53.28	47.96

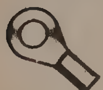
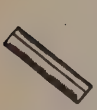
†Screw size 4–6. #Screw size 8–10.

CONNECTOR LISTING CONTINUED ON NEXT PAGE

VACO® Solderless Connectors (CONT'D.)

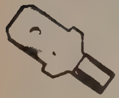
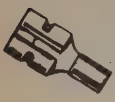
SERIES 20000 HIGH TEMPERATURE, NON-INSULATED SOLDERLESS TERMINALS

Similar to the basic 10000 series with the addition of special nickel plating to increase temperature range to 650° F. for use in heat-generating applications.

★ Vaco No.*	Wire Size	Stud Size	"C" Pak		
			Net per 100	Net per 1000	
				1000-4999	5000 Up
RING TONGUE TERMINALS					
21205	22–18	5–6	$4.02	$36.18	$32.56
21208	22–18	8	4.02	36.18	32.56
21210	22–18	10	4.02	36.18	32.56
21305	16–14	5–6	4.02	36.18	32.56
21308	16–14	8	4.02	36.18	32.56
21310	16–14	10	4.02	36.18	32.56
21410	12–10	10	4.96	44.68	40.21
BUTT CONNECTORS					
27202	22–18	....	$4.02	$36.18	$32.56
27302	16–14	....	4.02	36.18	32.56
27402	12–10	....	4.96	44.68	40.21

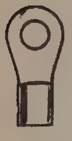
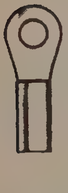
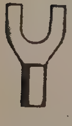
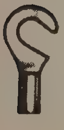
QUICK CONNECTS

★ Vaco No.*	Wire Size	Width, Ins.	"C" Pak		
			Net per 100	Net per 1000	
				1000-4999	5000 Up
MALE TAB					
28301	18–14	¼	$4.02	$36.18	$32.56
FEMALE TAB					
28302	18–14	¼	$4.02	$36.18	$32.56

SERIES 30000 NON-INSULATED, BRAZED BARREL, SOLDERLESS TERMINALS

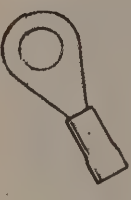
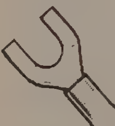
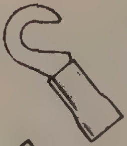
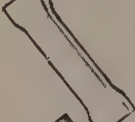
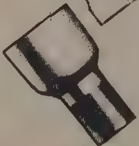
Brazed barrels provide a seamless connector body that may be crimped from any side. For use in heavy duty applications and with solid wire.

★ Vaco No.*	Wire Size	Stud Size	"C" Pak		
			Net per 100	Net per 1000	
				1000-4999	5000 Up
RING TONGUE TERMINALS					
31204	22–18	4	$5.23	$47.08	$42.36
31205	22–18	5–6	5.23	47.08	42.36
31206	22–18	5–6	5.23	47.08	42.36
31208	22–18	8	5.23	47.08	42.36
31210	22–18	10	5.23	47.08	42.36
31214	22–18	12–¼"	7.83	70.43	63.39
31238	22–18	⅜"	7.83	70.43	63.39
31304	16–14	4	5.23	47.08	42.36
31305	16–14	5–6	5.23	47.08	42.36
31306	16–14	5–6	5.23	47.08	42.36
31308	16–14	8	5.23	47.08	42.36
31310	16–14	10	5.23	47.08	42.36
31314	16–14	12–¼"	7.83	70.43	63.39
31338	16–14	⅜"	7.83	70.43	63.39
31406	12–10	4–6	7.83	70.43	63.39
31408	12–10	8	7.83	70.43	63.39
31410	12–10	10	7.83	70.43	63.39
31414	12–10	12–¼"	10.68	96.20	86.56
31438	12–10	⅜"	10.68	96.20	86.56
RING TONGUE TERMINALS WITH EXTENDED BARREL					
31510	8	10	$21.68	$195.14	$175.64
31514	8	¼"	21.68	195.14	175.64
31538	8	⅜"	21.68	195.14	175.64
31556	8	5/16"	21.68	195.14	175.64
31610	6	10	26.26	236.35	212.71
31614	6	¼"	26.26	236.35	212.71
31638	6	⅜"	26.26	236.35	212.71
31656	6	5/16"	26.26	236.35	212.71
SPADE TONGUE TERMINALS					
33204	22–18	4	$5.23	$47.08	$42.36
33206	22–18	5–6	5.23	47.08	42.36
33208	22–18	8	5.23	47.08	42.36
33210	22–18	10	5.23	47.08	42.36
33306	16–14	4–6	5.23	47.08	42.36
33308	16–14	8	5.23	47.08	42.36
33310	16–14	10	5.23	47.08	42.36
33406	12–10	4–6	7.83	70.43	63.39
33408	12–10	8	7.83	70.43	63.39
33410	12–10	10	7.83	70.43	63.39
HOOK TONGUE TERMINALS					
35208	22–18	8	$5.23	$47.08	$42.36

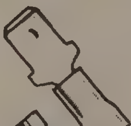
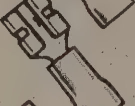
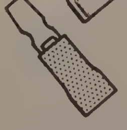
SERIES 60000 BELLMOUTH, INSULATED, SINGLE-GRIP, SOLDERLESS TERMINALS

A heavy gauge plastic sleeve with a flared opening has been adde to the basic 10000 terminal to provide a non-conductive barri from tongue to the wire insulation. Insulation is color-coded t wire size: red, 22–18; blue, 16–14; yellow, 12–10 gauge.

★ Vaco No.*	Wire Size	Stud Size	"C" Pak		
			Net per 100	Net per 1000	
				1000-4999	5000 Up
RING TONGUE TERMINALS					
61204	22–18	4	$7.01	$63.01	$56.72
61205	22–18	5–6	7.01	63.01	56.72
61206*	22–18	5–6	7.01	63.01	56.72
61208*	22–18	8	7.01	63.01	56.72
61210*	22–18	10	7.01	63.01	56.72
61214*	22–18	12–¼"	8.21	73.79	66.42
61238	22–18	⅜"	8.21	73.79	66.42
61304	16–14	4	7.01	63.01	56.72
61305	16–14	5–6	7.01	63.01	56.72
61306*	16–14	5–6	7.01	63.01	56.72
61308*	16–14	8	7.01	63.01	56.72
61310*	16–14	10	7.01	63.01	56.72
61314*	16–14	12–¼"	8.21	73.79	66.42
61338	16–14	⅜"	8.21	73.79	66.42
61406	12–10	4–6	8.21	73.79	66.42
61408	12–10	8	8.21	73.79	66.42
61410*	12–10	10	8.21	73.79	66.42
61414*	12–10	12–¼"	10.12	91.04	81.94
61438*	12–10	⅜"	10.12	91.04	81.94
SPADE TONGUE TERMINALS					
63204	22–18	4	$7.01	$63.01	$56.72
63206	22–18	5–6	7.01	63.01	56.72
63208	22–18	8	7.01	63.01	56.72
63210*	22–18	10	7.01	63.01	56.72
63306	16–14	4–6	7.01	63.01	56.72
63308	16–14	8	7.01	63.01	56.72
63310*	16–14	10	7.01	63.01	56.72
63406	12–10	4–6	8.21	73.79	66.42
63408	12–10	8	8.21	73.79	66.42
63410	12–10	10	8.21	73.79	66.42
FLANGED SPADE TONGUE TERMINALS					
64206*	22–18	4–6	$7.01	$63.01	$56.72
HOOK TONGUE TERMINALS					
65206	22–18	4–6	$7.01	$63.01	$56.72
65208	22–18	8	7.01	63.01	56.72
65210	22–18	10	7.01	63.01	56.72
65306	16–14	4–6	7.01	63.01	56.72
65308	16–14	8	7.01	63.01	56.72
65310	16–14	10	7.01	63.01	56.72
BUTT CONNECTORS					
67202*	22–18	......	$7.01	$63.01	$56.72
67302*	16–14	......	7.01	63.01	56.72
67402*	12–10	......	7.71	69.84	62.84
PIGTAIL CONNECTORS					
67203*	22–14	......	$6.13	$55.10	$49.60
67405*	18–10	......	7.01	63.01	56.72

QUICK CONNECTS

★ Vaco No.*	Wire Size	Width, Ins.	"C" Pak		
			Net per 100	Net per 1000	
				1000-4999	5000 Up
MALE TAB					
68202	22–18	5/16	$8.21	$73.79	$66.42
68301*	18–14	¼	7.01	63.01	56.72
68401*	12–10	5/16	8.21	73.79	66.42
FEMALE TAB					
68203*	22–18	9/32	$8.21	$73.79	$66.42
68302*	18–14	¼	8.20	73.68	66.31
68403*	12–10	9/32	8.21	73.79	66.42
SNAP TERMINALS					
69301	16–14	5/32	$13.05	$117.39	$105.66
69303	16–14	3/16	13.05	117.39	105.66

*Prefix Vaco Number with appropriate letter designating type of packaging desired: **C** for "C" Pak or **D** for "D" Pak.

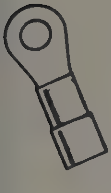
★ SEE FIRST VACO PAGE FOR "D" PAKS

CONNECTOR LISTING CONTINUED ON NEXT PAGE

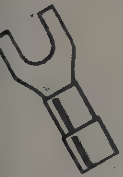
VACO® Solderless Connectors (CONT'D.)

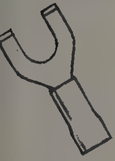
SERIES 90000 INSULATED, DOUBLE GRIP SOLDERLESS TERMINALS

Deluxe double grip terminals allow a positive, firm grip on both he wire and the wire insulation. Recommended for applications where vibration resistance is critical. Insulating sleeve is color oded to wire size: red for 22–18, blue for 16–14, and yellow for 2–10.

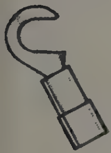


Vaco No.*	Wire Size	Stud Size	"C" Pak Net per 100	"C" Pak Net per 1000 1000-4999	"C" Pak Net per 1000 5000 Up
RING TONGUE TERMINALS					
91204	22–18	4	$12.24	$110.21	$ 99.19
91205	22–18	5–6	12.24	110.21	99.19
91206	22–18	5–6	12.24	110.21	99.19
91208	22–18	8	12.24	110.21	99.19
91210	22–18	10	12.24	110.21	99.19
91214	22–18	12–¼"	15.16	136.44	122.80
91238	22–18	⅜"	15.16	136.44	122.80
91304	16–14	4	12.24	110.21	99.19
91305	16–14	5–6	12.24	110.21	99.19
91306	16–14	5–6	12.24	110.21	99.19
91308	16–14	8	12.24	110.21	99.19
91310	16–14	10	12.24	110.21	99.19
91314	16–14	12–¼"	15.16	136.32	122.69
91338	16–14	⅜"	15.16	136.32	122.69
91406	12–10	4–6	15.16	136.32	122.69
91408	12–10	8	15.16	136.32	122.69
91410	12–10	10	15.16	136.32	122.69
91414	12–10	12–¼"	15.41	138.73	124.85
91438	12–10	⅜"	15.41	138.73	124.85



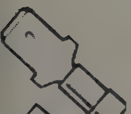


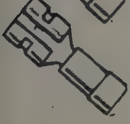
Vaco No.*	Wire Size	Stud Size	"C" Pak Net per 100	"C" Pak Net per 1000 1000-4999	"C" Pak Net per 1000 5000 Up
SPADE TONGUE TERMINALS					
93204	22–18	4	$12.24	$110.21	$ 99.19
93206	22–18	5–6	12.24	110.21	99.19
93208	22–18	8	12.24	110.21	99.19
93210	22–18	10	12.24	110.21	99.19
93306	16–14	4–6	12.24	110.21	99.19
93308	16–14	8	12.24	110.21	99.19
93310	16–14	10	12.24	110.21	99.19
93406	12–10	4–6	15.16	136.32	122.69
93408	12–10	8	15.16	136.32	122.69
93410	12–10	10	15.16	136.32	122.69
FLANGED SPADE TONGUE TERMINALS					
94206	22–18	4–6	$12.24	$110.21	$99.19



Vaco No.*	Wire Size	Stud Size	"C" Pak Net per 100	"C" Pak Net per 1000 1000-4999	"C" Pak Net per 1000 5000 Up
HOOK TONGUE TERMINALS					
95210	22–18	10	$12.24	$110.21	$99.19
95310	16–14	10	12.24	110.21	99.19

QUICK CONNECTS



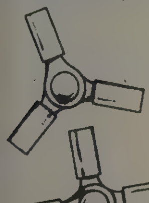


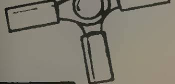
Vaco No.*	Wire Size	Width, Ins.	"C" Pak Net per 100	"C" Pak Net per 1000 1000-4999	"C" Pak Net per 1000 5000 Up
MALE TAB					
98301	18–14	¼	$12.24	$110.21	$99.19
FEMALE TAB					
98302	18–14	¼	$12.24	$110.21	$99.19

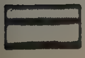
*Prefix Vaco Number with appropriate letter designating type of packaging desired: **C** for "C" Pak or **D** for "D" Pak.

SERIES 50000 INSULATED SOLDERLESS TERMINALS

A heavy gauge plastic sleeve has been added to the basic 10000 terminal to provide a non-conductive barrier from terminal to the wire insulation. Sleeving is color coded for wire size: red for 22–18, blue for 16–14, and yellow for 12–10 gauge.

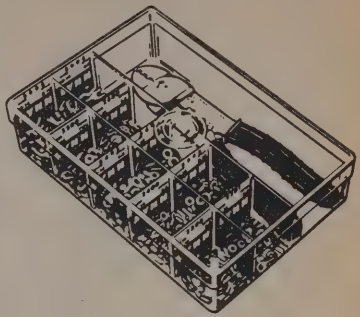






Vaco No.	Lgth., Ins.	"C" Pak Net per 100	"C" Pak Net per 1000 1000-4999	"C" Pak Net per 1000 5000 Up
THREE-WAY CONNECTORS				
57303	....	$35.65	$320.78	$288.69
57403	....	46.86	421.77	379.59
FOUR-WAY CONNECTORS				
57304	1½	$46.86	$421.77	$379.59
57404	1 11/16	50.92	458.15	412.34
PARALLEL CONNECTORS				
57203	15/32	$6.13	$55.10	$49.60
57405	7/16	7.01	63.01	56.72

SOLDERLESS TERMINAL AND CONNECTOR KITS



The simplest terminals to use ever made. Three steps and the terminal is on: Cut the wire (using the wire cutter built into the Crimping Tool); strip the wire (using the Crimping Tool); crimp the terminal around the wire (using the Crimping Tool). No soldering . . . No heating . . . No special skills needed . . . A perfect job every time.

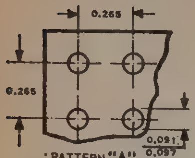
Vaco No.	Description	Net Each
1398	Non-insulated Connect-All kit. Contains 10 most popular single-grip terminal types.	$ 4.82
2398	Insulated Connect-All kit. Contains 10 most popular single-grip terminal types.	4.82
4398	Quick-Connect/Insulator Connect-All kit. Contains 10 popular styles of quick connectors and insulators.	4.82
1800	Empty plastic box and cover for above kits.	2.01
2090	Non-insulated automotive service kit. 10 assorted popular single-grip terminal styles and insulated tubing. Includes No. 1900 crimping tool.	11.83
2090-63	Same as above, except includes No. 1963 crimping tool.	12.65
2195	Non-insulated electronic service kit. Contains 10 assorted terminal styles. Includes No. 1900 crimping tool.	11.83
2195-63	Same as above, except includes No. 1963 crimping tool.	12.65
3185	Non-insulated quick-connect service kit. Contains 10 assorted single-grip quick-connect terminal styles and adapters. Includes No. 1900 crimping tool.	11.83
3185-63	Same as above, except includes No. 1963 crimping tool.	12.65
6065-63	Insulated automotive service kit. Contains 10 assorted single-grip insulated terminal styles. Includes No. 1963 crimping tool.	12.65
6175-63	Insulated electronic service kit. Contains 10 assorted single-grip insulated terminal styles. Includes No. 1963 crimping tool.	12.65
4900-63	Insulated deluxe cash register service kit. Contains assorted terminals in 20 styles. Includes No. 1963 crimping tool.	41.42
5000	Non-insulated deluxe cash register kit. Contains 20 assorted terminal styles plus No. 1900 crimping tool.	41.42
5000-63	Same as above, except includes No. 1963 crimping tool.	41.42
70000	Deluxe quick-connect cash register kit. Contains 20 assorted insulated and non-insulated quick-connect terminals plus No. 1963 crimping tool.	41.42
70231	Vaconnector service kit. Contains selection of each of three Vaconnectors plus supply of butt connectors and pigtail connectors.	15.40
70233	Vaconnector master service kit. Metal box contains assortment of each of three Vaconnectors plus No. 88402 slip joint pliers and wire samples for demonstration.	26.40
19322	Alligator and battery clip service kit. Ample supply of clips and insulators in metal box.	49.85

VACONNECTORS

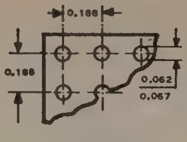
Make electrical connections faster and easier with unique 3-way Vaconnectors®. Ideal for electrical remodeling; electronic equipment; automotive, trailer, or mobile home connections. Can be used for tap connections, pigtail connections and inline connections, on circuits up to 300 volts. Eliminates need to cut wires or strip insulation. Installs quickly with just a squeeze of a plier. Available in carded paks of four and in quantity bulk paks. Complete instructions on all paks.

Vaco No.	Wire Size	Color	"C" Pak Net per 100	"C" Pak Net per 1000 1000-4999	"C" Pak Net per 1000 5000 Up
67303	18–14	Blue	$24.51	$220.54	$198.47
67406	12–10	Yellow	10.29	82.28	65.82
67407	18–12	Brown	10.29	82.28	65.82

Vector Boards, Terminals and Tools



PATTERN "A"



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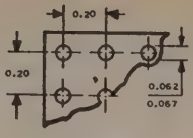

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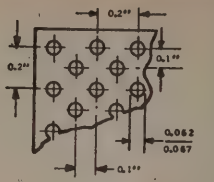

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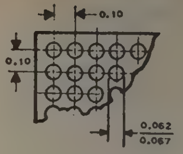


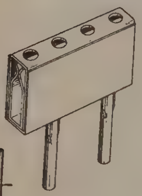
PATTERN "H"

Vectorbord and Micro-Vectorbord are made from flame-retardant materials and precision punched in a variety of materials and hole patterns. Materials used are phenolic; type PBE-P per L-P-513, NEMA grade FR 2, copper clad phenolic in 1 oz. NEMA FR 2; paper epoxy per MIL-P-22324 type PEE NEMA grade FR 3; copper clad epoxy paper type FL-PX per MIL-P-13949 NEMA grade FR 3; epoxy glass MIL-P-18177 type GEE NEMA FR 4 and G-10; copper clad epoxy glass MIL 13949 type FL-GF NEMA FR 4 and G-10. Glass composite is FR 4 grade. Boards accept push-in and wire wrappable terminals as shown, and many component leads without hole drilling.

Vector No.	Hole Pattern	Size, Inches W x L x Th.	Net Ea., Lots of 1-19	20-99	100-199
GLASS COMPOSITE					
32A18WE	A	4.80 x 8.51 x 1/16	$2.39	$2.15	$2.02
42G24WE	G	4.80 x 8.51 x 1/16	2.15	1.94	1.81
59P19-032	P	2.00 x 6.00 x 1/32	.99	.88	.83
59P44-032	P	4.50 x 6.00 x 1/32	1.65	1.52	1.41
64A18WE	A	4.80 x 16.99 x 1/16	4.26	3.83	3.58
64P44-062	P	4.50 x 6.50 x 1/16	1.70	1.53	1.43
84P44-062	P	4.50 x 8.50 x 1/16	2.10	1.89	1.76
85G24WE	G	4.80 x 16.99 x 1/16	4.76	4.27	4.00
169P44-062	P	4.50 x 17.00 x 1/16	4.30	3.87	3.61
169P84-062	P	8.50 x 17.00 x 1/16	6.39	5.47	4.81
169P84-062C1*	P	8.51 x 17.00 x 1/16	10.30	9.27	8.65
EPOXY PAPER					
64P44-062EP	P	4.50 x 6.50 x 1/16	$1.95	$1.75	$1.64
84P44-062EP	P	4.50 x 8.50 x 1/16	2.43	2.18	1.70
85F24EP	F	4.80 x 16.99 x 1/16	2.74	2.46	2.31
85G24EP	G	4.80 x 16.99 x 1/16	2.74	2.46	2.31
85G42EP	G	8.51 x 16.99 x 1/16	4.75	4.27	3.99
169P44-062EP	P	4.50 x 17.00 x 1/16	4.42	3.99	3.72
169P47-062EP	P	4.80 x 17.00 x 1/16	4.60	4.14	3.85

Vector No.	Hole Pattern	Size, Inches W x L x Th.	Net Ea., Lots of 1-19	20-99	100-199
PHENOLIC					
32AA9	A	2.41 x 8.51 x 3/32	$0.74	$0.65	$0.62
32AA18	A	4.80 x 8.51 x 3/32	1.14	1.03	.96
45B30	B	5.69 x 16.97 x 1/16	1.04	.93	.88
64A18	A	4.80 x 16.99 x 1/16	1.58	1.42	1.32
64AA18	A	4.80 x 16.99 x 3/32	2.03	1.83	1.70
64AA32	A	4.80 x 16.99 x 3/32	3.47	3.12	2.91
64P44-062XXXP	P	4.50 x 6.50 x 1/16	1.49	1.27	1.12
90B30	B	5.69 x 16.97 x 1/16	2.28	2.00	1.91
EPOXY GLASS					
64P44-062WE	P	4.50 x 6.50 x 1/16	$1.97	$1.67	$1.48
84P44-062WE	P	4.50 x 8.50 x 1/16	2.44	2.07	1.84
85H48WE	H	4.80 x 17.00 x 1/16	2.52	2.28	2.11
169P44-062WE	P	4.50 x 17.00 x 1/16	4.80	4.07	3.36
169P44-062C1WE*	P	4.50 x 17.00 x 1/16	6.48	5.83	5.44
169P84-062WE	P	8.51 x 17.00 x 1/16	7.30	6.57	6.13
169P84-062C1WE*	P	8.50 x 17.00 x 1/16	11.30	10.17	9.49
170H48WE	H	4.80 x 8.51 x 1/16	5.08	4.58	4.26

*Copper clad one side.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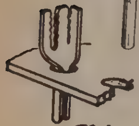
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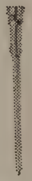
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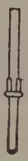
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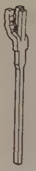
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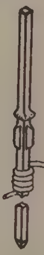
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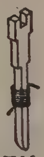
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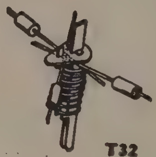
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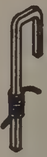
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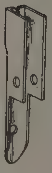
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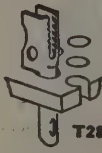
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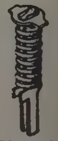

T30N-2

PUSH-IN TERMINALS

Zip push-in terminals are fast and easy to use because they fit prepunched holes in Vectorbord®, Micro-Vectorbord® and Plugbords. Simple, listed hand tools firmly seat terminals to hold without staking. Slots or fingers in some models hold leads until soldered. Wire wrappable types have sharp-cornered, 0.025" square tails for reliable wire wrapping. Klip-Strip T45-4 accepts DIP leads or #22 gauge wire for solderless interconnections. T30 and T32 types hold up to 6 leads in solderless spring connection and are ideal for experimental terminals.

Installing Tools Vector No.	Fits Hole Size	Description	Material/ Plating	Overall Length Inches	Installing Tools Manual	P158 Die Point	Net /100	Net /1000
SOLDERABLE TYPES								
T9.4	.093"	Push-in	Brass/Tin	9/16	P122B	....	$ 1.74	$ 12.43
T28	.062"	Push-in	Phr. Brz./Tin	.437	P91A	....	1.50	11.00
T42-1	.042"	Push-in	Phr. Brz./Tin	.360	P149A	....	1.50	11.00
K24A	.042"	Round pin	Phr. Brz./Gold	.375	....	D7-2	2.66†	37.00
K24C	.042"	Round pin	Phr. Brz./Tin	.375	....	D7-2	1.49†	16.99
WRAP-POST TYPES								
T44	.042"	.025" Sq.	Phr. Brz./Tin	.690	A13	D-11	$ 2.28	$ 14.00
K32	.042"	.025" Sq.	Phr. Brz./Tin	.690	....	....	1.75	10.89
T49	.042"	.025" Sq.	Phr. Brz./Tin	.625	P156	D-8	3.03	17.00
T49A	.042"	.025" Sq.	Phr. Brz./Gold	.625	P156	D-8	5.90	42.47
T46	.042"	.025" Sq.	Phr. Brz./Tin	.740	P133B	D-7	3.42	25.41
R32	.042"	.025" Sq.	Phr. Brz./Gold	.745	....	D-9	14.90#	107.07
SOLDERLESS TYPES								
T30N-2	.093"	Spring	Brass/Nickel	.906	P92A	....	$ 9.62§	$ 61.62▪
T32A	.093"	Spring	Brass/Nickel	1.250	P136	....	13.71§	126.64
T45-4	.042"	Klip-Strip	Phr. Brz./Tin	.555	P154-1A	....	2.69•	12.60▪

†Pkg. of 50. #Pkg. of 25. §Pkg. of 10. •Pkg. of 16. ▪Pkg. of 100.

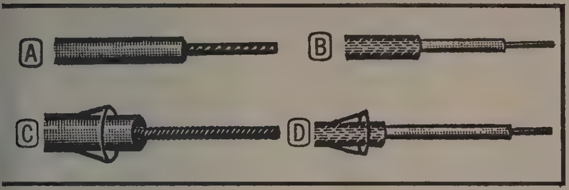
SPRING IMPACT TOOL FOR SEATING PUSH-IN TERMINALS

Model P158 spring impact tool delivers an adjustable blow to easily drive in and seat Zip Push-In Terminals. Interchangeable die points (listed with their appropriate terminals above) deliver the force to the terminals and make terminal installation fast and easy. Order **P158-1** adapter to use P158 Tool in drill press or arbor press.

Vector No. P158 Impact Tool—Net Each	$11.90
Vector No. P158-1 Press Adapter—Net Each	9.19
Vector No. D-7 Die Point—Net Each	6.35
Vector No. D-7-2 Die Point—Net Each	7.30
Vector No. D-8 Die Point—Net Each	3.86
Vector No. D-9 Die Point—Net Each	3.86
Vector No. D-11 Die Point—Net Each	3.86

alpha ALPHA WIRE MIL-Spec Hook-Up Wire

SPECIFICATIONS MIL-W-76B AND MIL-W-16878/D HOOK-UP WIRE



SPECIFICATION MIL-W-76B PLASTIC HOOK-UP WIRE

TYPE MW (MEDIUM WALL) PLASTIC (FIG. A)

Single conductor stranded or solid tinned copper, polyvinylchloride insulation .016″ th. Rated 1000 volts. Temp., −40° C to +80° C.

STRANDED

Type MW-C	Conductor Size	Conductor Strand	Nom. O.D.	Colors‡	Alpha No.	Net per Spool 1000′	Net per Spool 100′
24(7)U	24	7/32	.059″	1-27	1550	$15.30	$ 2.33
22(7)U	22	7/30	.064″	1-27	1551	17.85	2.61
20(10)U	20	10/30	.073″	1-27	1553	20.40	3.05
18(16)U	18	16/30	.084″	1-27	1555	27.15	3.62
16(26)U	16	26/30	.095″	1-19	1557	39.15	5.04
14(41)U	14	41/30	.110″	1-19	1559	61.20	7.08
12(65)U	12	65/30	.125″	1-19	1560	88.35	10.88

SOLID

Type MW-C	Conductor Size	Conductor Strand	Nom. O.D.	Colors‡	Alpha No.	Net per Spool 1000′	Net per Spool 100′
24(1)U	24	1	.055″	1-19	1561/24	$12.30	$ 2.24
22(1)U	22	1	.060″	1-19	1561	13.95	2.24
20(1)U	20	1	.066″	1-19	1563	17.55	2.64
18(1)U	18	1	.074″	1-19	1565	24.15	3.44

TYPE MW (MEDIUM WALL) PLASTIC, SHIELDED (FIG. B)

Single conductor stranded tinned copper, polyvinylchloride insulation, tinned copper shield overall. Nominal insulation, .016″. Voltage rating, 1000 volts. Temp., −40° C to +80° C.

Type MW-C	Conductor Size	Conductor Strand	Nom. O.D.	Colors*	Alpha No.	Net per Spool 1000′	Net per Spool 100′
24(7)S	24	7/32	.075″	1	1350	$79.71	$ 9.33
22(7)S	22	7/30	.085″	1	1351	87.47	10.02
20(10)S	20	10/30	.095″	1	1352	108.50	12.26
18(16)S	18	16/30	.105″	1	1353	130.22	13.91
16(26)S	16	26/30	.115″	1	1354	165.45	17.72
14(41)S	14	41/30	.130″	1	1355	251.21	26.87
12(65)S	12	65/30	.145″	1	1356	294.08	30.90

TYPE MW (MED. WALL) PLASTIC, NYLON JACKET (FIG. C)

Single conductor stranded tinned copper; polyvinylchloride insulation, nylon jacket overall. Nominal insulation, .016″. Voltage rating, 1000 volts. Temp., −40° C to +90° C.

Tpye MW-C	Conductor Size	Conductor Strand	Nom. O.D.	Colors‡	Alpha No.	Net per Spool 1000′	Net per Spool 100′
22(7)J	22	7/30	.072″	1-3	1504	$28.71	$ 4.44
20(10)J	20	10/30	.079″	1	1505	35.75	5.09
18(16)J	18	16/30	.090″	1	1506	50.51	7.10
16(26)J	16	26/30	.103″	1	1507	75.54	9.27
14(41)J	14	41/30	.118″	1	1508	110.57	13.70
12(65)J	12	65/30	.135″	1	1509	181.88	20.33

TYPE MW (MEDIUM WALL) PLASTIC, SHIELDED, NYLON JACKET (FIG. D)

Single conductor stranded tinned copper, white polyvinylchloride insulation, braided tinned copper shield, clear nylon jacket overall. Insul., .016″ th. Rated 1000 V. Temp., −40° C to +90° C.

Type MW-C	Conductor Size	Conductor Strand	Nom. O.D.	Colors*	Alpha No.	Net Per Spool 1000′	Net Per Spool 100′
24(7)SJ	24	7/32	.085″	1	1370	$103.20	$12.15
22(7)SJ	22	7/30	.092″	1	1371	102.26	12.09
20(7)SJ	20	7/28	.100″	1	1372	117.30	13.53
18(19)SJ	18	19/30	.110″	1	1373	151.97	17.19
16(19)SJ	16	19/29	.210″	1	1374	173.49	19.14
14(19)SU	14	19/27	.140″	1	1375	248.12	28.26
12(19)SU	12	19/25	.156″	1	1376	279.06	31.50

TYPE MW (MEDIUM WALL) GLASS BRAID (FIG. B)

Extra flexible stranded tinned copper, white medium wall polyvinylchloride insulation, color coded flame retardant lacquered glass braid overall. Nom. wall thickness, .016″. Voltage rating, 1000 volts. Temp. rating, −40° C to +80° C. Resistant to acids, alkalis, oil, flame, moisture and fungus.

Type MW-C	Conductor Size	Conductor Strand	Nom. O.D.	Colors‡	Alpha No.	Net per Spool 1000′	Net per Spool 100′
18(16)B	18	16/30	.090″	1-6	1592	$ 97.17	$10.86
16(26)B	16	26/30	.105″	1-6	1593	127.97	14.34
14(41)B	14	41/30	.120″	1	1594	194.12	21.36
12(65)B	12	65/30	.135″	1	1595	294.29	32.39

SPECIFICATION N MIL-W-76B PLASTIC HOOK-UP WIRE (CONT'D)

TYPE MW (MEDIUM WALL) GLASS BRAID SHIELDED (FIG. D)

Extra flexible stranded tinned copper, white medium wall polyvinylchloride insulation, white flame retardant lacquered glass braid with tinned copper shield overall, 80% coverage. Nom. wall thickness, .016″. Voltage rating, 1000 volts. Temp. rating, −40° C to +80° C. Resistant to acids, alkalis, oil, flame, moisture and fungus.

Type MW-C	Conductor Size	Conductor Strand	Nom. O.D.	Colors*	Alpha No.	Net Per Spool 1000′	Net Per Spool 100′
24(7)BS	24	7/32	.091″	1	1194/24	$146.93	$16.97
22(7)BS	22	7/30	.097″	1	1194/22	161.79	18.71
20(10)BS	20	10/30	.105″	1	1194	176.66	20.43
18(16)BS	18	16/30	.117″	1	1196	189.91	21.96
16(26)BS	16	26/30	.129″	1	1197	241.95	27.98

TYPE HW (HEAVY WALL) PLASTIC (FIG. A)

Single conductor stranded tinned copper; heavy wall polyvinylchloride insulation. Nominal insulation .032″ for 22-16 cond. sizes; .045″, all other sizes. Voltage rating, 2500 V 22-16 cond. sizes; 600 V, all other sizes. Temp., −40° C to +80° C.

Type HW-C	Conductor Size	Conductor Strand	Nom. O.D.	Colors*	Alpha No.	Net per Spool 1000′	Net per Spool 100′
22(7)U	22	7/30	.092″	1-6	1571	$ 25.94	$ 3.63
20(10)U	20	10/30	.100″	1-6	1573	32.84	4.58
18(16)U	18	16/30	.112″	1-6	1575	36.75	5.15
16(26)U	16	26/30	.126″	1-3	1577	46.95	6.11
14(41)U	14	41/30	.170″	1-3	1579	81.95	10.35
12(65)U	13	65/30	.186″	1-3	1651	126.90	14.25
10(105)U	10	105/30	.210″	1-3	1653	189.90	21.08
8(133)U	8	133/29	.260″	1-3	1655	455.21	46.88

TYPE LW (LIGHT WALL) PLASTIC (FIG. A) WITH REGULAR TINNED CONDUCTOR

Single conductor stranded tinned copper: light wall polyvinylchloride insulation .010″ th. Rated 300 volts. Temp., −40° C to +80° C.

Type LW-C	Conductor Size	Conductor Strand	Nom. O.D.	Colors‡	Alpha No.	Net per Spool 1000′	Net per Spool 100′
30(7)U	30	7/38	.033″	1-19	1685	$15.05	$ 2.25
28(7)U	28	7/36	.035″	1-19	1686	12.90	2.06
26(7)U	26	7/34	.038″	1-19	1687	13.05	2.09
24(7)U	24	7/32	.043″	1-19	1688	13.80	2.24
22(7)U	22	7/30	.049″	1-19	1689	15.30	2.30
20(7)U	20	7/28	.060″	1-19	1690	19.50	2.90

TYPE LW (LIGHT WALL) PLASTIC, NYLON JACKET (FIG. C)

Single conductor stranded tinned copper, light wall polyvinylchloride insulation, clear nylon jacket overall. Insulation .010″ nominal. Rated 300 volts. Temp., −40° C to +90° C.

Type LW-C	Conductor Size	Conductor Strand	Nom. O.D.	Colors‡	Alpha No.	Net per Spool 1000′	Net per Spool 100′
26(7)J	26	7/34	.042″	1-19	1677	$20.27	$ 3.38
24(7)J	24	7/32	.047″	1-19	1678	20.69	3.39
22(7)J	22	7/30	.053″	1-19	1679	26.00	4.29
20(7)J	20	7/28	.065″	1-19	1680	35.84	5.33

SPECIFICATION MIL-W-16878D HOOK-UP WIRE

RX-7000 IRRADIATED-HEAT RESISTANT HOOK-UP WIRE (FIG. A)

Newly developed hook-up wire with insulation made of irradiated polyvinylchloride compound (PVC) provides insulation far superior to ordinary PVC. Withstands higher temperature, and even in direct contact with a soldering iron will not shrink back, melt, blow or deform. Ideal where high reliability is essential, particularly in the wiring of tight, high density systems, appliances, computer wiring, business machines, instrumentation and control systems. Rated 600 volts, Type B; 1000 volts, Type C. Temperature, +105° C.

MIL-W-16878/D TYPE B STRANDED, +105° C, 600 VOLTS

Alpha No.	Conductor Size	Conductor Strand	Nom. O.D.	Colors*	Net per Spool 1000′	Net per Spool 100′
7053	26	7/34	.038″	1-19	$22.95	$ 2.94
7054	24	7/32	.043″	1-19	23.55	3.50
7054/19	24	19/36	.043″	1-19	27.90	3.89
7055	22	7/30	.050″	1-19	25.62	3.68
7055/19	22	19/34	.050″	1-19	31.88	3.87
7056	20	7/28	.058″	1-19	31.83	4.32
7056/19	20	19/32	.058″	1-19	33.90	4.22
7057	18	7/26	.068″	1-19	41.78	5.33
7057/19	18	19/30	.068″	1-19	55.16	6.41
7058/19	16	19/.0117	.077″	1-19	67.20	7.64

MIL-W-16878/D TYPE C STRANDED, +105° C, 1000 VOLTS

7030	24	7/32	.058″	1-19	$ 26.85	$ 3.42
7031	22	7/30	.064″	1-19	32.55	4.04
7032	20	7/28	.072″	1-19	38.10	4.67
7033	18	7/26	.082″	1-19	44.70	5.69
7034	16	19/29	.091″	1-19	64.77	7.38
7035	14	19/27	.105″	1-19	99.12	10.83
7036	12	19/25	.124″	1-19	131.30	14.04

*‡See following page for colors.

SPECIFICATION MIL-W-16878D HOOK-UP WIRE (CONT'D)

TYPE B UNCOVERED PLASTIC (FIG. A)

Single conductor stranded tinned copper, .010″ polyvinylchloride insulation. Rated 600 volts. Temp., −55° C to +105° C.

MIL-W Type	Conductor		Nom. O.D.	Colors‡	Alpha No.	Net per Spool	
	Size	Strand				1000′	100′
B-32	32	7/40	.028″	1-19	1850	$21.45	$ 3.06
B-30	30	7/38	.032″	1-19	1851	17.10	2.45
B-28	28	7/36	.034″	1-19	1852	15.60	2.40
B-26	26	7/34	.038″	1-19	1853	16.95	2.37
B-24	24	7/32	.043″	1-19	1854	15.75	2.37
B-24	24	19/36	.043″	1-19	1854/19	19.20	3.06
B-22	22	7/30	.050″	1-19	1855	17.25	2.67
B-22	22	19/34	.050″	1-19	1855/19	25.76	4.10
B-20	20	7/28	.058″	1-19	1856	20.85	3.27
B-20	20	19/32	.058″	1-19	1856/19	34.77	4.86
B-18	18	7/26	.068″	1-19	1857	26.55	3.51
B-18	18	19/30	.068″	1-19	1857/19	33.05	4.59
B-16	16	19/29	.077″	1-19	1858/19	35.25	4.46
B-14	14	19/27	.091″	1-19	1859/19	90.44	12.21

TYPE B NYLON JACKET (FIG. C)

Same as above, but clear nylon jacket overall; 115° C.

B-26	26	7/34	.044″	1-19	1863	$23.40	$ 3.35
B-24	24	7/32	.049″	1-19	1864	22.50	3.26
B-24	24	19/36	.049″	1-19	1864/19	26.10	3.51
B-22	22	7/30	.056″	1-19	1865	25.35	3.56
B-22	22	19/34	.056″	1-19	1865/19	30.00	3.96
B-20	20	7/28	.064″	1-19	1866	28.50	3.74
B-20	20	19/32	.064″	1-19	1866/19	32.25	4.25
B-18	18	7/26	.074″	1-19	1867	35.55	4.71
B-18	18	19/30	.074″	1-19	1867/19	41.10	5.21
B-16	16	19/29	.085″	1-19	1868/19	45.30	4.95
B-14	14	19/27	.099″	1-19	1869/19	64.10	11.46

TYPE B, PRE-BONDED, UNCOVERED PLASTIC (FIG. A)

Each strand is double tinned and then heated to bond the strands together for easy stripping. Insulation per MIL-W-16878D, .010″ polyvinylchloride. Rated 600 volts. Temp., −55° C to +105° C.

B-24	24	7/32	.044″	1-19	3154	$23.43	$ 3.39
B-22	22	7/30	.051″	1-19	3155	27.77	3.87
B-20	20	7/28	.059″	1-19	3156	36.68	4.83
B-18	18	7/26	.070″	1-19	3157	52.10	6.47

TYPE C UNCOVERED PLASTIC (FIG. A)

Single conductor stranded tinned copper; .016″ polyvinylchloride insulation. Rated 1000 volts. Temp., −55° C to +105° C.

MIL-W Type	Conductor		Nom. O.D.	Colors‡	Alpha No.	Net per Spool	
	Size	Strand				1000′	100′
C-24	24	7/32	.058″	1-19	1830	$23.91	$ 3.57
C-22	22	7/30	.064″	1-19	1831	26.90	3.95
C-20	20	7/28	.072″	1-19	1832	32.87	4.58
C-18	18	7/26	.082″	1-19	1833	47.57	6.11
C-16	16	19/29	.091″	1, 11-19	1834	62.97	8.09
C-14	14	19/27	.105″	1, 11-19	1835	97.07	12.09
C-12	12	19/25	.124″	1, 11-19	1836	152.45	17.87

TYPE C NYLON JACKET (FIG. C)

Same as above, but clear nylon jacket overall; 115° C.

C-24	24	7/32	.065″	1-19	1840	$27.45	$ 4.26
C-22	22	7/30	.072″	1-19	1841	31.89	4.71
C-20	20	7/28	.079″	1-19	1842	38.87	5.21
C-18	18	7/26	.090″	1-19	1843	54.60	7.08
C-16	16	19/29	.099″	1, 11-19	1844	71.73	8.40
C-14	14	19/27	.114″	1, 11-19	1845	107.00	12.72
C-12	12	19/25	.135″	1, 11-19	1846	154.52	18.48

TYPE C SHIELDED NYLON JACKET (FIG. D)

Shielded version of above. Single stranded tinned copper conductor. White .016″ polyvinylchloride insulation. Braided, tinned copper shield, 90% coverage. Clear nylon jacket. Rated −55° C to +115° C. Voltage rating, 1000 volts.

MIL-W Type	Conductor		Nom. O.D.	Colors*	Alpha No.	Net per Spool	
	Size	Strand				1000′	100′
C-24	24	7/32	.091″	1	1470	$ 116.36	$14.25
C-22	22	7/30	.098″	1	1471	123.96	15.00
C-20	20	7/28	.105″	1	1472	135.11	16.22
C-18	18	19/30	.115″	1	1473	160.08	18.60
C-16	16	19/29	.125″	1	1474	191.97	21.68
C-14	14	19/27	.142″	1	1475	261.54	28.77
C-12	12	19/25	.156″	1	1476	294.17	32.34

TYPE D NYLON JACKET (FIG. C)

Stranded tinned copper, color coded polyvinylchloride insulation. Sizes 24-6, clear nylon (polyamide) jacket overall. Temp. rating, −55° C to +115° C. Voltage rating, 3000 volts. Also available to order cut, stripped, marked and tinned.

MIL-W Type	Conductor		Nom. O.D.	Colors*	Alpha No.	Net per Spool	
	Size	Strand				1000′	100′
D-24	24	7/32	.090″	1-3	1880	$ 44.25	$ 6.42
D-22	22	7/30	.096″	1-3	1881	51.86	7.19
D-20	20	7/28	.104″	1-3	1882	61.01	8.19
D-18	18	7/26	.114″	1-3	1883	79.31	10.14
D-16	16	19/29	.125″	1-3	1884	99.80	12.36
D-14	14	19/27	.139″	1-3	1885	135.78	16.14
D-12	12	19/25	.168″	1-3	1886	200.09	21.57
D-10	10	37/26	.197″	1	1887	298.31	31.38
D-8	8	133/29	.265″	1	1888	567.63	58.29
D-6	6	133/27	.310″	1	1889	793.04	80.84

TYPE D UNCOVERED PLASTIC (FIG. A)

Same as Type D except without nylon jacket; 105° C max.

MIL-W Type	Conductor		Nom. O.D.	Colors*	Alpha No.	Net per Spool	
	Size	Strand				1000′	100′
D-24	24	7/32	.082″	1-3	1870	$ 25.20	$ 3.83
D-22	22	7/30	.088″	1-3	1871	35.31	4.85
D-20	20	7/28	.096″	1-3	1872	42.77	5.76
D-18	18	7/26	.106″	1-3	1873	52.91	6.44
D-16	16	19/29	.115″	1-3	1874	78.35	9.09
D-14	14	19/27	.129″	1-3	1875	103.74	11.34
D-12	12	19/25	.158″	1-3	1876	161.07	17.34
D-10	10	37/26	.185″	1	1877	243.23	24.51
D-8	8	133/29	.247″	1	1878	473.16	48.74
D-6	6	133/27	.290″	1	1879	683.25	75.00

TYPE EE TEFLON® WIRE (FIG. A)

Same as Type E, but .014″ thick extruded TFE Teflon insulation. Rated 1000 volts. Temperature, −65° C to +200° C.

MIL-W Type	Conductor		Nom. O.D.	Colors‡	Alpha No.	Spool of 100′▲
	Size	Strand				
EE-24	24	19/36	.055″	1-19	2874	$ 16.23
EE-22	22	19/34	.062″	1-19	2875	18.95
EE-20	20	19/32	.070″	1-19	2876	24.53
EE-18	18	19/30	.080″	1-19	2877	28.53
EE-16	16	19/29	.089″	1, 11-19	2878	38.10
EE-14	14	19/27	.106″	1, 11-19	2879§	52.47
EE-12	12	19/25	.124″	1, 11-19	2879/12§	77.55
EE-10	10	37/26	.145″	1, 11-19	2879/10§	129.98
EE-8	8	133/29	.210″	1	2879/8#	264.53

§Insul., .017″ thick. #Insul., .020″ thick. ▲Spool of 1000′ also avail.; prices on request.

TYPE ET EXTRUDED TEFLON® WIRE (FIG. A)

Single conductor stranded, silver-plated copper; extruded TFE Teflon insulation, .006″ thick. Rated 250 volts. Temperature, −65° C to +200° C.

MIL-W Type	Conductor		Nom. O.D.	Colors‡	Alpha No.	Net per Spool	
	Size	Strand				1000′	100′
ET-32	32	7/40	.021″	1-10	2840/7	$40.80	$6.60
ET-30	30	7/38	.024″	1-10	2841/7	39.98	6.60
ET-28	28	7/36	.027″	1-10	2842/7	39.75	6.60
ET-28	28	19/40	.027″	1-10	2842/19	75.90	8.64
ET-26	26	7/34	.031″	1-10	2843/7	43.73	7.58
ET-26	26	19/38	.032″	1-10	2843/19	65.24	7.58
ET-24	24	7/32	.036″	1-10	2844/7	48.68	7.80
ET-24	24	19/36	.037″	1-10	2844/19	55.80	8.78
ET-22	22	7/30	.042″	1-10	2845/7	55.13	8.63
ET-22	22	19/34	.044″	1-10	2845/19	58.43	9.15
....	30†	Solid	.022″	1-10	2841/1	38.94	4.98
....	28†	Solid	.025″	1-10	2842/1	37.88	4.85
....	26†	Solid	.028″	1-10	2843/1	39.99	4.98
....	24†	Solid	.032″	1-10	2844/1	43.91	5.37

†Solid silver plated copper conductor.

TYPE E TEFLON® SOLID-CONDUCTOR WIRE (FIG. A)

Single solid silver-plated copper conductor; extruded TFE Teflon insulation. Rated 600 V. Temp., −65° C to +200° C.

E-26	26	Solid	.036″	1-10	5853/1	$40.11	$5.31
E-24	24	Solid	.040″	1-10	5854/1	44.28	5.34
E-22	22	Solid	.045″	1-10	5855/1	60.00	7.41
E-20	20	Solid	.052″	1-10	5856/1	72.63	8.63
E-18	18	Solid	.060″	1-10	5857/1	94.74	10.77

TYPE E TEFLON® STRANDED-CONDUCTOR WIRE (FIG. A)

Stranded silver plated copper conductor; extruded TFE Teflon insulation. Rated 600 V. Temp. −65° C to +200° C.

MIL-W Type	Conductor		Nom. O.D.	Colors‡	Alpha No.	Spool of 100′▲
	Size	Strand				
E-30	30	7/38	.028″	1-19	5851	$ 6.69
E-28	28	7/36	.031″	1-19	5852	7.02
E-26	26	7/34	.035″	1-19	5853	7.76
E-24	24	19/36	.040″	1-19	5854	9.60
E-24	24	7/32	.039″	1-19	5854/7	8.18
E-22	22	19/34	.046″	1-19	5855	10.43
E-22	22	7/30	.045″	1-19	5855/7	9.45
E-20	20	19/32	.054″	1-19	5856	12.08
E-20	20	7/28	.053″	1-19	5856/7	11.25
E-18	18	19/30	.064″	1-19	5857	16.28
E-16	16	19/29	.073″	1-19	5858	19.80
E-14	14	19/27	.094″	1-6, 11-19	5859§	30.00
E-12	12	19/25	.113″	1, 11-19	5859/12§	39.93
E-10	10	37/26	.134″	1, 11-19	5859/10§	64.43

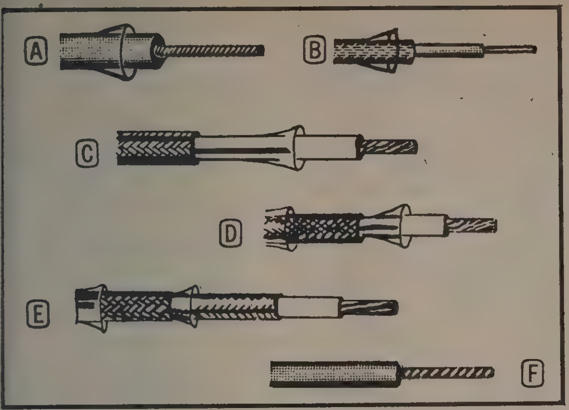
* ‡ STOCK COLORS

*Specify color. ‡Prices shown are for solid colors only. Following striping charges apply for either one, two or three spiral tracers per item in any standard put-up. Plastic and nylon jacketed wire, **$1.50** per 1000′; Teflon® wire, **$11.25** per 1000′. Other tracer colors available at extra cost. Write for information.

No.	Color	No.	Color	No.	Color
1	White	10	Violet	19	White/Violet
2	Black	11	White/Black	20	White/Black/Red
3	Red	12	White/Red	21	White/Black/Green
4	Green	13	White/Green	22	White/Black/Yellow
5	Yellow	14	White/Yellow	23	White/Black/Blue
6	Lt. Blue	15	White/Blue	24	White/Black/Brown
7	Brown	16	White/Brown	25	White/Black/Orange
8	Orange	17	White/Orange	26	White/Black/Gray
9	Gray	18	White/Gray	27	White/Black/Violet

®DuPont trademark.

alpha ALPHA WIRE Mil-Spec and UL Hook-Up Wire



MIL-W-5086A★ AND MIL-C-7078A★ AIRCRAFT HOOK-UP WIRE

Single conductor. Rated 600 volts. Temp., −55° C to +105° C. Resists water, oil, fuels, alcohol, acids, alkalis, fungus and abrasion.

UNSHIELDED MIL-W-5086A (FIG. B)

Type 1: Single, stranded tinned copper conductor; white PVC insulation; clear nylon jacket overall. **Type 2:** Single, stranded tinned copper conductor; white PVC insulation; white glass braid; and, clear nylon jacket (AN-22—AN-12) or flame retardant nylon lacquered nylon braid (AN-10—AN-0000) overall.

MIL Type	Spec. Type	Conductor		Nom. O.D.	Alpha No.	Net per Spool	
		Size	Strand			1000′	100′
AN-22	1	22	19/34	.068″	1381*	$ 50.76	$ 6.75
AN-20	1	20	19/32	.078″	1382*	59.13	7.55
AN-18	1	18	19/30	.088″	1383*	73.07	9.06
AN-16	1	16	19/29	.098″	1384*	87.24	10.55
AN-14	1	14	19/27	.117″	1385*	119.34	13.97
AN-12	1	12	19/25	.137″	1386*	174.65	19.55
AN-22	2	22	19/34	.075″	1341	73.64	8.18
AN-20	2	20	19/32	.085″	1342	86.75	9.44
AN-18	2	18	19/30	.095″	1343	104.91	11.39
AN-16	2	16	19/29	.105″	1344	120.20	13.86
AN-14	2	14	19/27	.125″	1345	166.77	18.83
AN-12	2	12	19/25	.143″	1346	229.38	24.75
AN-10	2	10	49/27	.189″	1387	363.93	38.31
AN-8	2	8	133/29	.240″	1388	592.82	62.58
AN-6	2	6	133/27	.293″	1389	935.18	97.13
AN-1	2	1	817/30	.470″	1389/1	2533.32	254.97
AN-4	2	4	133/25	.355″	1389/4	1331.58	139.20
AN-2	2	2	665/30	.425″	1389/2	2074.91	215.03
AN-0	2	0	1045/30	.525″	1389/0	3234.66	334.38
AN-00	2	00	1330/30	.590″	1389/00	3620.07	371.73
AN-000	2	000	1661/30	.645″	1389/000	5134.44	515.12
AN-0000	2	0000	2104/30	.715″	1389/0000	6325.67	634.26

*Fig. A.

UNJACKETED SHIELDED CABLE (MIL-C-7078A★ TYPE 1) BASE WIRE MIL-W-5086A★ TYPE 1 (FIG. C)

Each conductor stranded tinned copper, color coded polyvinylchloride insulation. Clear nylon jacket on each conductor, cabled, braided tinned copper shield overall. 85% coverage per Type 1 MIL-5086A★, Type 1 MIL-C-7078A★. Temp. rating, −55° C to +105° C. Voltage rating, 600 volts. Resists effects of oil, acids, alkalis, fungus, moisture and solvents.

MIL-W Type	No. of Cond.†	Conductor		Nom. O.D.	Alpha No.	Net per Spool	
		Size	Strand			1000′	100′
AN-22	1	22	19/34	.090″	1391	$151.52	$16.65
AN-22	2	22	19/34	.160″	1391/2	275.57	30.32
AN-20	1	20	19/32	.100″	1392	164.36	18.06
AN-20	2	20	19/32	.180″	1392/2	310.20	34.13
AN-18	1	18	19/30	.110″	1393	191.63	21.12
AN-18	2	18	19/30	.200″	1393/2	358.37	39.44
AN-16	1	16	19/29	.120″	1394	225.06	24.77

NYLON JACKETED SHIELDED CABLE (MIL-C-7078A★ TYPE 2) BASE WIRE MIL-W-5086A★ TYPE 1 (FIG. D)

Each conductor stranded tinned copper, color coded PVC insulation clear nylon jacket on each conductor, cabled, braided tinned copper shield. 85% coverage. Clear nylon jacket overall. Per Type 1 MIL-W-5086A★; per Type 2 MIL-C-7078A★.

AN-22	1	22	19/34	.100″	6460	$173.36	$19.13
AN-22	2	22	19/34	.170″	6461	289.44	30.81
AN-22	3	22	19/34	.180″	6462	371.12	40.85
AN-20	1	20	19/32	.110″	6463	182.93	20.07
AN-20	2	20	19/32	.190″	6464	323.40	34.44
AN-20	3	20	19/32	.200″	6465	404.90	44.27
AN-18	1	18	19/30	.120″	6466	218.93	23.79
AN-18	2	18	19/30	.210″	6467	371.66	40.37
AN-18	3	18	19/30	.220″	6468	495.87	52.71
AN-16	1	16	19/29	.130″	6469	227.73	24.71
AN-14	1	14	19/27	.150″	6470	290.19	31.10
AN-12	1	12	19/25	.170″	6471	364.64	40.07

†**Color Code of Conductors:** 1 = White; 2 = 1 White/Blue, 1 White/Red; 3 = 1 White/Blue, 1 White/Red, 1 White/Yellow.

★Aircraft wire (MIL-W-5086A and MIL-C-7078A), originally designed for aircraft usage, are no longer current military procurement specifications. Although not recommended for aircraft, the term "aircraft wire" is retained to refer to these types of construction outlined above.

NYLON JACKETED SHIELDED CABLE (MIL-C-7078A★ TYPE 2) BASE WIRE MIL-W-5086A★ TYPE 2 (FIG. E)

Each conductor stranded tinned copper. White PVC insulation. Color coded glass braid on each conductor. Clear nylon jacket on each conductor. Conductors cabled, braided, tinned copper, shield overall. 85% coverage. Clear nylon jacket overall per Type 2, MIL-W-5086A★, Type 2, MIL-C-7078A★. Temp. rating, −55° C to +105° C. Voltage rating, 600 volts. Resists effects of oil, acids, alkalis, fungus, moisture and solvents.

MIL-W Type	No. of Cond.†	Conductor		Nom. O.D.	Alpha No.	Net per Spool	
		Size	Strand			1000′	100′
AN-22	1	22	19/34	.105″	6477	$183.68	$20.22
AN-22	2	22	19/34	.180″	6478	324.69	36.09
AN-22	3	22	19/34	.190″	6479	413.60	45.17
AN-20	1	20	19/32	.115″	6480	199.08	21.83
AN-20	2	20	19/32	.200″	6481	367.29	40.40
AN-20	3	20	19/32	.210″	6482	496.59	53.57
AN-18	1	18	19/30	.125″	6483	235.38	25.44
AN-18	2	18	19/30	.220″	6484	416.66	45.47
AN-18	3	18	19/30	.234″	6485	550.95	59.09
AN-16	1	16	19/29	.135″	6486	259.34	27.83
AN-14	1	14	19/27	.160″	6487	318.83	35.46
AN-12	1	12	19/25	.175″	6488	409.92	44.76

†**Color Code of Conductors:** 1 = White; 2 = 1 White/Blue, 1 White/Red; 3 = 1 White/Blue, 1 White/Red, 1 White/Yellow.

QUICK CUSTOM CONSTRUCTION UL HOOK-UP WIRE

The special, custom or prototype, UL Listed wire you need—in ready to use form—from one foot to production requirements, produced and delivered to you fast. Stranded tinned copper, color coded polyvinylchloride insulation. Resistant to acids, alkalis, oil, flame, moisture and fungus.

300 VOLTS, 80° C, UL STYLE 1007 (FIG. F)

Temperature rating, −10° C to +80° C. Voltage rating, 300 volts. Nom. wall thickness, .016″. CSA Style TR-64, 1/64″ nom. wall thickness.

Conductor		Nom. O.D.	Colors*	Alpha No.	Net per Spool	
Size	Strand				1000′	100′
24	7/32	.057″	1–19	3050	$17.76	$2.87
22	7/30	.065″	1–19	3051	21.96	3.51
20	10/30	.071″	1–19	3053	29.00	4.22
18	16/30	.080″	1–19	3055	42.72	5.87
16	26/30	.095″	1–19	3057	65.34	8.22

600 VOLTS, 105° C, UL STYLE 1015 (FIG. F)

Temperature rating, −10° C to +105° C. Voltage rating, 600 volts. Nom. wall thickness, .016″. CSA Style TEW-105, 1/32″ nom. wall thickness.

22	7/30	.095″	1–10	3071	$22.20	$3.08
20	10/30	.102″	1–10	3073	28.05	3.80
18	16/30	.112″	1–10	3075	33.60	4.70
16	26/30	.125″	1–10	3077	49.05	5.78
14	41/30	.142″	1–10	3079	69.44	8.18

SEMI-RIGID PVC, 300 VOLTS, 80° C, UL STYLE 1061 (FIG. F)

Stranded tinned copper, color coded semi-rigid polyvinylchloride insulation. Temperature rating, −10° C to +80° C. Voltage rating, 300 volts in business machine or electronic computers only. Nom. wall thickness, .009″. Applications include internal wiring of computers, electric bookkeeping, accounting machines, and other office and control equipment.

24	7/32	.042″	1–10	3250	$16.65	$1.92
22	7/30	.048″	1–10	3251	20.99	2.43
20	7/28	.056″	1–10	3252	30.51	3.42

NYLON JACKET, 300 VOLTS, 80° C, UL STYLE 1008 (FIG. A)

Stranded tinned copper, color coded, polyvinylchloride insulation, clear nylon (polyamide) jacket overall. Nom. wall thickness, .016″. Voltage rating, 300 V. Temp. rating, +10° C to +80° C.

Type	Conductor		Nom. O.D.	Colors*	Alpha No.	Net/Spool	
	Size	Strand				1000′	100′
C-24	24	7/32	.065″	1–19	3840	$28.83	$4.47
C-22	22	7/30	.072″	1–19	3841	33.48	4.95
C-20	20	7/28	.079″	1–19	3842	40.91	5.48
C-18	18	7/26	.090″	1–19	3843	57.47	7.47
C-16	16	19/29	.099″	1, 11–19	3844	75.51	8.85

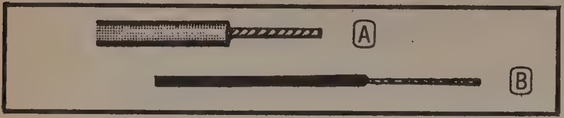
NYLON JACKET, 80° C, UL STYLE 1004 (FIG. A)

Stranded tinned copper, color coded **light wall** polyvinylchloride insulation, clear nylon (polyamide) jacket overall. Nominal jacket thickness, .002″. Nom. wall thickness, .010″. Temp. rating, −40° C to +80° C.

LW-C26(7)J	26	7/34	.042″	1–19	3677	$21.36	$3.00
LW-C24(7)J	24	7/32	.047″	1–19	3678	21.83	3.21
LW-C22(7)J	22	7/30	.053″	1–19	3679	27.41	3.83
LW-C20(7)J	20	7/28	.065″	1–19	3680	37.79	5.13

*STOCK COLORS

1–White
2–Black
3–Red
4–Green
5–Yellow
6–Light Blue
7–Brown
8–Orange
9–Gray (Slate)
10–Violet (Purple)
11–White/Black
12–White/Red
13–White/Green
14–White/Yellow
15–White/Blue
16–White/Brown
17–White/Orange
18–White/Gray
19–White/Violet



UNCOVERED PVC, 600 VOLTS, 80° C UL STYLE 1011 (FIG. A)

Stranded tinned copper, color coded **heavy wall** polyvinylchloride insulation. Temp. rating, −40° C to +80° C. Voltage rating, 600 volts. Resistant to acids, alkalis, oil, flame, moisture and fungus. Nom. wall thickness, **Nos. 2571–2577**, .032″; balance, .045″.

Type	Conductor		Nom. O.D.	Col-ors*	Alpha No.	Net per Spool	
	Size	Strand				1000′	100′
HW-C22(7)U	22	7/30	.092″	1–6	2571	$ 28.67	$ 4.01
HW-C20(10)U	20	10/30	.100″	1–6	2573	36.29	5.06
HW-C18(16)U	18	16/30	.112″	1–6	2575	40.49	6.09
HW-C16(26)U	16	26/30	.126″	1–3	2577	49.28	6.87
HW-C14(41)U	14	41/30	.170″	1–3	2579	85.85	10.83
HW-C12(65)U	12	65/30	.186″	1–3	2551	140.43	15.75
HW-C10(105)U	10	105/30	.210″	1–3	2553	210.09	23.25
HW-C8(133)U	8	133/29	.260″	1–3	2555	491.13	51.84

TEFLON UL1212, 80° C; UL1213, 105° C (FIG. B)

Single conductor stranded silver plated copper, extruded TFE Teflon insulation. Temp. rating, −65° C to +200° C. Nom. wall thickness, .010″. Resistant to acid, alkalis, oil, flame, moisture, solvents and fungus.

Conductor		Nom. O.D.	Colors*	Alpha No.	Net per Spool	
Size	Strand				1000′	100′
32	7/40	.029″	1–19	6850	$74.84	$13.37
30	7/38	.032″	1–19	6851	39.36	6.68
28	7/36	.036″	1–19	6852	40.02	7.01
26	7/34	.040″	1–19	6853	45.78	7.73
26	19/38	.041″	1–19	6853/19	72.77	9.45
24	19/36	.045″	1–19	6854	62.55	9.57
24	7/32	.044″	1–19	6854/7	50.79	8.16
22	19/34	.051″	1–19	6855	68.75	10.40
22	7/30	.050″	1–19	6855/7	60.23	9.44
20	19/32	.059″	1–19	6856	82.97	12.05
20	7/28	.058″	1–19	6856/7	79.01	11.24

TEFLON UL1164, 150° C; UL1180, 200° C (FIG. A)

Single conductor stranded silver plated copper, extruded TFE Teflon insulation. Temp. rating, −65° C to +200° C. Nom. wall thickness, .014″. Resistant to acid, alkalis, oil, flame, moisture, solvents and fungus.

24	19/36	.055″	1–19	6874	$ 81.48	$12.20
22	19/34	.062″	1–19	6875	94.79	13.62
20	19/32	.070″	1–19	6876	112.08	16.02
18	19/30	.080″	1, 11–19	6877	176.57	30.18
16	19/29	.089″	1, 11–19	6878	181.20	23.72

*COLOR CODE OF CONDUCTORS

No.	Color	No.	Color	No.	Color	No.	Color
1	White	6	Lt. Blue	11	Wht/Blk	16	Wht/Brn
2	Black	7	Brown	12	Wht/Red	17	Wht/Orng
3	Red	8	Orange	13	Wht/Grn	18	Wht/Gray
4	Green	9	Gray	14	Wht/Yel	19	Wht/ Violet
5	Yellow	10	Violet	15	Wht/Blue		

KYNAR® WIRE, 125° C, 300 VOLTS FOR WIRE WRAP CONNECTIONS (FIG. A)

Solid, silver-plated, oxygen-free high conductivity (OFHC) copper conductor, extruded Kynar (Polyvinylidene fluoride) insulation. Extremely tough, high cut-through resistance. Self-extinguishing, will not support combusion. Excellent ultra-violet and weathering resistance. Used in automatic wire wrapping equipment in computer and related industries. Temp. rating, through 125° C continuous (UL rated at 105° C). Nominal wall thickness, .005″. Cut lengths available, write or phone for information.

Conductor Size	Nom. O.D.	Colors*	Alpha No.	Net per Spool	
				1000′	100′
30	.020″	1–10	5951	$32.37	....
28	.023″	1–10	5952	37.46	....
26	.026″	1, 3–6, 9	5953	38.31	....
24	.030″	1, 3–6	5954	47.36	....

TEFZEL® COMPUTER WIRE, 150° C, 300 VOLTS (FIG. B)

Rugged, flexible wire-wrap wire. Solid silver-plated OFHC copper conductor. Tefzel insulation (copolymer of ethylene and tetra fluourethylene. Low dielectric constant of 2.6. Rated non-burning or self-extinguishing. Temp. rating, −100° C to +150° C continuous. Nom. wall thickness, .005″. Cut lengths available, write or phone for information.

30	.019″	1–10	1805	$79.04	$ 9.32
28	.023″	1–10	1806	85.17	9.93
26	.026″	1–10	1807	91.62	10.56
24	.029″	1–10	1808	103.26	11.75

RX-7000 IRRADIATED-HEAT RESISTANT HOOK-UP WIRE MIL-W-16878D UL STYLES 1430, 1429, 1472 (FIG. A)

Newly developed hook-up wire with insulation made of irradiated polyvinylchloride compound (PVC) provides insulation far superior to ordinary PVC. Withstands higher temperature, and even in direct contact with a soldering iron will not shrink back, melt, blow or deform. Ideal where high reliability is essential, particularly in the wiring of tight, high density systems, appliances, computer wiring, business machines, instrumentation and control systems. Rated 300 volts.

UL STYLE 1430, 105° C, 300 VOLTS

Nom. wall thickness, .016″.

Conductor		Nom. O.D.	Colors*	Alpha No.	Net per Spool	
Size	Strand				1000′	100′
24	7/32	.056″	1–19	7130	$28.20	$3.59
22	7/30	.062″	1–19	7131	34.19	4.23
20	7/28	.070″	1–19	7132	40.01	4.91
18	7/26	.080″	1–19	7133	46.94	5.97
16	19/.0117	.091″	1–19	7134	68.01	7.76

UL STYLE 1429, 150 VOLTS, SOLID AND STRANDED, 80° C

Nom. wall thickness, .010″.

26	7/34	.038″	1–19	7149	$24.11	$3.09
24	7/32	.043″	1–19	7150	24.74	3.68
22	7/30	.050″	1–19	7151	26.90	3.86
20	7/28	.068″	1–19	7153	33.42	4.53
18	7/26	.068″	1–19	7155	43.86	5.60
16	19/.0117	.077″	1–19	7157	70.56	8.01
22	Solid	.045″	1–19	7161	24.03	3.50
24	Solid	.040″	1–19	7161/24	21.12	3.18
20	Solid	.054″	1–19	7163	36.99	4.61

UL STYLE 1472, 125 VOLTS, STRANDED, 80° C, 300 VOLTS

Nom. wall thickness, .0075″.

30	7/38	.028″	1–19	7070	$60.18	$6.93
28	7/36	.032″	1–19	7071	49.41	5.85
26	7/34	.034″	1–19	7072	44.18	5.33
24	7/32	.040″	1–19	7073	42.21	5.13
22	7/30	.045″	1–19	7074	45.80	5.49
20	7/28	.054″	1–19	7075	52.04	6.11

COAXIAL CABLE 6/U, 8/U, 11/U, 59/U TYPES (FIG. C)

Designed specifically for commercial and CATV, MATV and CCTV applications. Alpha Nos. 9830 and 9840 available in 500′ and 100′ spools, prices on request.

Alpha No.	Type	Size*	Dielectric Material	Shield*	Jkt. Mate-rial	Nom. O.D.	Nom. Imped-ance, Ohms	Channel					Stock Colors	Net per Spool 1000′
								2	5	13	14	33		
9843	6/U	18 Solid BC	Foam PE	Foil	PVC	.242″	75	1.5	1.9	3.1	5.0	7.0	Blk., Wht., Gray	$ 72.66
9846	8/U	13 (7 x 21) BC	Foam PE	BBC	PVC	.407″	50	1.2	1.7	2.5	3.9	5.5	Black Only	276.35
9847	11/U	14 Solid BC	Foam PE	BBC	PE	.405″	75	1.0	1.3	2.1	3.6	4.8	Black Only	298.46
9848	58/U	20 Solid BC	Foam PE	BTC	PVC	.195″	50	4.2	4.7	7.0	10.4	15.3	Black Only	97.43
9830	59/U	22 Solid BCW	Solid PE	BBC	PVC	.242″	75	2.0	2.7	4.5	6.8	10.0	Black Only	92.48
9840	59/U	22 Solid BCW	Foam PE	BBC	PVC	.242″	75	2.2	2.8	4.5	6.0	9.8	Black Only	110.15
9844	59/U	22 Solid BCW	Foam PE	Foil	PVC	.218″	80	1.9	2.6	3.8	6.5	9.1	Blk., Wht., Gray	63.51

***BC**—Bare Copper. **BCW**—Bare Copper Weld. **Foil**—Aluminum/Polyester Tape with 4–28 AWC Tinned Copper Weld drain wires. **BBC**—Braided Bare Copper. **BTC**—Braided Tinned Copper. **Foam PE**—Unicellular Foamed Polyethylene.

alpha ALPHA WIRE

Control Cable

All of the MIL-W-16878 cables on this page available with other jacket colors; data and prices on request.

SHIELDED NYLON PVC CONDUCTORS MIL-W-16878D/B (FIG. A)

Each conductor stranded tinned copper, .010″ polyvinylchloride insulation, color coded, clear nylon (polyamide) jacket, conductors cabled, braided tinned copper shield 90% coverage, white polyvinylchloride jacket overall. Temp. rating, −55° C to +105° C. Voltage rating, 600 volts. Resists acids, alkalis, oil, flame, moisture, fungus, solvents. Nominal wall thickness, .010″; nylon thickness, .003″.

Conductor			Nom. Overall Jacket	Nom. O.D.	Alpha No.	Net per Spool•	
No.	Size	Strand				1000′	100′
1	26	7/34	.010″	.087″	3200	$ 80.76	$ 10.08
2	26	7/34	.014″	.138″	3201	109.77	13.68
3	26	7/34	.014″	.142″	3202	149.21	18.59
4	26	7/34	.016″	.162″	3203	175.86	21.98
1	24	19/36	.010″	.092″	3210	85.52	10.23
2	24	19/36	.016″	.152″	3211	122.79	14.21
3	24	19/36	.016″	.161″	3212	157.94	18.36
4	24	19/36	.017″	.172″	3213	191.79	22.71
1	22	19/34	.010″	.100″	3220	89.40	11.04
2	22	19/34	.016″	.168″	3221	151.65	18.51
3	22	19/34	.017″	.178″	3322	212.25	25.23
4	22	19/34	.019″	.194″	3223	233.55	28.30
1	20	19/32	.010″	.106″	3230	94.05	11.54
2	20	19/32	.019″	.186″	3231	173.10	21.33
3	20	19/32	.019″	.196″	3232	227.70	26.06
4	20	19/32	.021″	.218″	3233	273.45	31.62
1	18	19/30	.012″	.120″	3240	130.47	16.12
2	18	19/30	.021″	.210″	3241	225.26	26.63
3	18	19/30	.022″	.227″	3242	299.60	35.06
4	18	19/30	.023″	.250″	3243	332.96	40.64
1	16	19/29	.016″	.137″	3245	126.45	15.27
2	16	19/29	.023″	.236″	3246	223.95	25.65
3	16	19/29	.023″	.240″	3247	306.15	35.44
4	16	19/29	.025″	.274″	3248	378.15	44.82

22 GAUGE, 5-12 CONDUCTOR CABLE

5	22	19/34	.020″	.212″	3335	$ 895.64	$100.71
6	22	19/34	.020″	.235″	3336	980.48	110.11
8	22	19/34	.025″	.257″	3337	1366.98	138.14
10	22	19/34	.025″	.284″	3340	1536.69	155.09
12	22	19/34	.030″	.310″	3342	1838.39	188.60

COLOR CODE OF CONDUCTORS

Pair No.	Color Combination	Pair No.	Color Combination
1	Black paired with Red	7	Black paired with Orange
2	Black paired with White	8	Red paired with Green
3	Black paired with Green	9	Red paired with White
4	Black paired with Blue	10	Red paired with Blue
5	Black paired with Brown	11	Red paired with Yellow
6	Black paired with Yellow	12	Red paired with Brown

IRRADIATED CONDUCTOR CABLE, 600 VOLTS, 105° C, MIL-W-16878D/B (FIG. B)

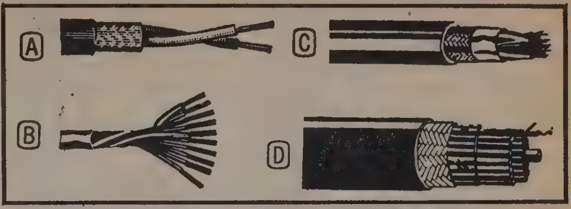
Ideal for application on crowded circuit boards where terminals must be soldered. Prevents shrinkback, melting or charring when used in production line soldering. Stranded tinned copper conductors, color coded, irradiated PVC (RX-7000) insulation (braided, tinned copper shield) white PVC jacket overall. Nom. jacket thickness, .025″. Nom. insul. thickness, .010″. **Conductors' Color Code:** 1 = White; 2 = Black; 3 = Red; 4 = Green.

UNSHIELDED

Conductor			Nom. O.D.	Alpha No.	Net per Spool•	
No.	Size	Strand			1000′	100′
1	24	7/32	.90″	6621A	$108.18	$14.08
2	24	7/32	.129″	6622A	164.75	22.46
3	24	7/32	.139″	6623	214.19	27.89
4	24	7/32	.150″	6624A	285.02	37.13
1	22	7/30	.098″	6631	115.32	14.97
2	22	7/30	.149″	6632A	192.72	25.07
3	22	7/30	.155″	6633	251.36	31.22
4	22	7/30	.168″	6634A	345.09	44.92
1	20	7/28	.105″	6641A	137.33	17.89
2	20	7/28	.163″	6642A	198.06	25.76
3	20	7/28	.178″	6643	280.07	36.47
4	20	7/28	.187″	6644A	372.89	48.56
1	18	7/26	.115″	6651A	151.02	19.65
2	18	7/26	.182″	6652A	248.03	32.27
3	18	7/26	.193″	6653	329.85	42.93
4	18	7/26	.212″	6654A	461.31	60.06

SHIELDED

1	24	7/32	.115″	7621	$129.86	$16.90
2	24	7/32	.158″	7622A	197.70	26.98
3	24	7/32	.164″	7623	257.04	33.40
4	24	7/32	.176″	7624A	342.03	44.54
1	22	7/30	.122″	7631	138.39	18.01
2	22	7/30	.172″	7632A	231.24	30.08
3	22	7/30	.180″	7633	301.62	37.50
4	22	7/30	.193″	7634A	414.18	53.87
1	20	7/28	.130″	7661	164.75	21.43
2	20	7/28	.188″	7662	237.69	30.93
3	20	7/28	.197″	7663	336.11	43.76
4	20	7/28	.212″	7664	447.47	58.23
1	18	7/26	.140″	7671	181.23	23.57
2	18	7/26	.208″	7672	297.62	38.69
3	18	7/26	.218″	7673	395.81	51.49
4	18	7/26	.237″	7674	553.59	72.03



SHIELDED CONTROL AND INSTRUMENTATION CABLE, MIL-W-16878D (FIG. C)

Used as interconnecting cables for electronic equipment, instrumentation and control cable, telemetry data, remote control of sensitive recording instruments. Each conductor stranded tinned copper, color coded, polyvinylchloride insulation, cabled, Mylar® wrap. Braided tinned copper shield 90% coverage, chrome gray polyvinylchloride jacket overall. Temp. rating, −55° C to +105° C. Resists acids, alkalis, oil, flame, moisture, solvents and fungus.

MINIATURE SHIELDED CONTROL CABLE— 600 VOLT—TYPE B CONDUCTOR

Nominal Wall Thickness: .010″.

Conductor			Nom. Jkt.	Nom. O.D.	Alpha No.	Net per Spool•	
No.	Size	Strand				1000′	100′
2	B-28	7/36	.012″	.125″	3302	$ 249.32	$ 30.06
3	B-28	7/36	.012″	.130″	3303	332.87	39.03
4	B-28	7/36	.012″	.140″	3304	406.31	47.13
6	B-28	7/36	.015″	.170″	3306	519.33	59.53
8	B-28	7/36	.015″	.175″	3308	591.36	67.51
10	B-28	7/36	.018″	.210″	3310	750.98	85.22
12	B-28	7/36	.018″	.215″	3312	850.02	98.17
15	B-28	7/36	.020″	.230″	3315	1032.90	106.67
20	B-28	7/36	.022″	.260″	3320	1289.39	132.56

18 GAUGE HEAVY DUTY SHIELDED CONTROL CABLE 1000 VOLT, TYPE C CONDUCTOR

Nominal Wall Thickness: .016″.

5	C-18	19/30	.025″	.300″	3405	$1047.41	$108.03
8	C-18	19/30	.030″	.350″	3408	1408.49	162.68
10	C-18	19/30	.035″	.405″	3410	1872.77	190.97
12	C-18	19/30	.035″	.430″	3412	2247.06	259.56
15	C-18	19/30	.040″	.470″	3415	2557.04	259.46
20	C-18	19/30	.045″	.530″	3420	3457.44	349.37
30	C-18	19/30	.055″	.650″	3430	5114.13	522.30

16 GAUGE SHIELDED CONTROL CABLE 1000 VOLT, TYPE C CONDUCTOR

Nominal Wall Thickness: .016″.

4	16	19/29	.031″	.326″	3444	$1532.94	$157.52
5	16	19/29	.032″	.346″	3445	1704.05	175.22
6	16	19/29	.034″	.369″	3446	1827.98	187.79
8	16	19/29	.041″	.424″	3448	2292.80	235.17
10	16	19/29	.044″	.470″	3450	2701.02	276.71
12	16	19/29	.048″	.511″	3452	3467.46	348.72

COLOR CODE OF CONDUCTORS (CONFORMS TO MIL-C-915)

No.	Color	No.	Color	No.	Color
1	Black	11	Blue/Black	21	Orange/Green
2	White	12	Black/White	22	Black/White/Red
3	Red	13	Red/White	23	White/Black/Red
4	Green	14	Green/White	24	Red/Black/White
5	Orange	15	Blue/White	25	Green/Black/White
6	Blue	16	Black/Red	26	Orange/Black/White
7	White/Black	17	White/Red	27	Blue/Black/White
8	Red/Black	18	Orange/Red	28	Black/Red/Green
9	Green/Black	19	Blue/Red	29	White/Red/Green
10	Orange/Black	20	Red/Green	30	Red/Black/Green

COMPUTER CABLE

COAXIAL—UL STYLE 2386 (FIG. D)

Used for interconnection of modules and data transmission. Individual miniature coax cables, grouped together under common overall shield and jacket. Individual cables of #26 AWG solid tin-plated copper conductor, air-spaced, flame-retardant polyethylene dielectric spiral-wrapped 29 AWG tinned copper drain wire, braided tinned copper shield, overall .016″ PVC jacket. Nominal dia., .155″. Completed cable constructed of miniature coaxial cables cabled with PVC fillers, clear Mylar wrap, overall gray PVC jacket. Shielded cables have braided tinned copper shields with spirally wrapped #26 AWG solid copper alloy drain wires. Nominal impedance, 95 ohms. Attenuation at 400 MHz max., 10.2 dB/100 ft. Velocity propogation, 83%. Voltage, 750 V, max.

Type	No. of Indiv. Coax Cables	Jacket Thickness	Nom. O.D.	Alpha No.	Net per Spool•†	
					1000′	100′
Unshielded	20	.085″	.978″	2453	$5707.95	$585.06
Unshielded	24	.085″	1.075″	2454	7420.34	756.30
Shielded	24	.080″	1.110″	2456	7991.15	813.38

UL STYLE 2343—18 GAUGE (FIG. C)

Used for interconnection of computer modules. Each conductor stranded tinned copper. Color coded, 80° C PVC insulation. Cabled with PVC fillers, .001″ clear Mylar wrap. Braided tinned copper shield, 85% coverage. Gray PVC jacket. Nom. wall thickness, .016″.

Conductor		Jacket Thickness	Nom. O.D.	Alpha No.	Net/Spool•†	
No.	Strand				1000′	100′
6	16/30	.062″	.394″	2458	$684.96	$77.37

•Also available in 500 ft. spools. Prices on request. †Available also cut to customer's length requirement. Minimum order 25 ft. per item. All orders non-cancellable. ®Registered DuPont TM.

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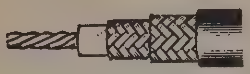

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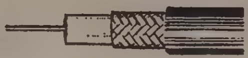

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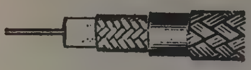

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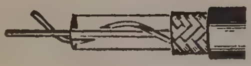

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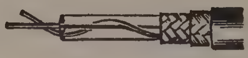

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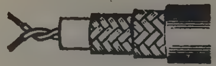


POLYETHYLENE DIELECTRIC RG/U COAXIAL CABLES

Factory tested to assure physical and electrical performance. Production runs are subjected to electrical property tests to determine capacitance, impedance and attenuation. Further tests are made for corona extinction and physical properties. Dielectrics and insulating jackets are subjected to aging and flow tests in a special forced-draft oven; plus, exposure to extreme low temperatures in sub-zero environmental chamber to determine cold-bend properties. All have solid polyethylene dielectric (VP, 65.9%) except as noted. Dimensions shown are max.

Alpha No.	MIL No. RG-	Fig.	Center Conductor			Shields*		Jacket		Oper. Volts rms	Nom. Imped. Ohms	Cap., pF/ ft.	Net Price per Put-Up		
			Mat.*	Strand	O.D., In.	1st	2nd	Mat.*	O.D., In.				100′ Put-Up	500′ Put-Up	1000′ Put-Up
9006A	6A/U	A	CW	1	.0285	SC	C	NCV	.336	2700	75	20	$ 71.39	$ 348.41	$ 684.29
9008♦	8/U	B	C	7/.0285	.086	C	.....	V	.415	5000	52	29.5	35.52	151.08	281.63
9008A♦	8A/U	B	C	7/.0285	.086	C	.....	NCV	.415	5000	52	29.5	41.75	173.49	323.37
9009B	9B/U	A	SC	7/.0285	.086	SC	SC	NCV	.430	5000	50	30	116.18	569.75	1060.76
9011	11/U	B	TC	7/.0159	.048	C	.....	V	.415	5000	75	20.5	25.00	92.50	184.95
9011A♦	11A/U	B	TC	7/.0159	.048	C	.....	NCV	.412	5000	75	20.5	36.14	154.31	287.60
9012A‡	12A/U	C	TC	7/.0159	.048	C	.....	NCV	.412	5000	75	20.5	55.61	259.34	509.45
9014A	14A/U	A	C	1	.102	C	C	NCV	.558	7000	52	29.5	89.10	433.77	852.18
9017A	17A/U	B	C	1	.188	C	.....	NCV	.885	11000	52	29.5	178.98	871.02	1742.06
9019A	19A/U	B	C	1	.250	C	.....	NCV	1.135	14000	52	29.5	290.48	1355.49	2663.07
9055	55/U	A	C	1	.032	TC	TC	NP	.206	1900	53.5	28.5	22.85	104.96	206.03
9055B	55B/U	A	SC	1	.032	TC	TC	BP	.206	1900	53.5	28.5	27.54	130.32	255.60
9058♦	58/U	B	C	1	.032	TC	.....	V	.200	1900	53.5	28.5	11.20	34.90	69.75
9058A	58A/U	B	TC	19/.0071	.0375	TC	.....	V	.199	1900	50	29.5	12.90	38.80	77.55
9058C	58C/U	B	TC	19/.0071	.0375	TC	.....	NCV	.199	1900	50	29.5	16.68	56.58	105.48
9059♦	59/U	B	CW	1	.0253	C	.....	V	.250	2300	73	21	14.67	47.10	86.03
9059B♦	59B/U	B	CW	1	.023	C	.....	NCV	.246	2300	75	20.5	17.37	59.91	111.69
9062•♦	62/U	D	CW	1	.025	C	.....	V	.250	750	93	13.5	18.77	67.02	124.94
9062A•	62A/U	D	CW	1	.025	C	.....	NCV	.249	750	93	13.5	19.22	68.63	129.56
9062B•♦	62B/U	D	CW	1	.025	TC	TC	BP	.250	750	93	13.5	21.89	83.07	166.13
9063B•	63B/U	D	CW	1	.0253	C	.....	NCV	.415	1000	125	10	48.26	207.92	408.47
9071B•♦	71B/U	E	CW	1	.025	C	TC	BP	.250	750	93	13.5	26.04	115.16	226.23
9174	174/U	B	CW	7/.0063	.019	TC	.....	V	.105	1500	50	30	10.17	33.30	62.06
9212	212/U	A	SC	1	.056	SC	SC	NCV	.336	3000	50	29.5	100.29	466.92	933.81
9213♦	213/U	B	C	7/.0296	.090	C	.....	NCV	.412	5000	50	30.5	41.75	173.49	323.37
9214	214/U	A	SC	7/.0296	.090	SC	SC	NCV	.432	5000	50	30.5	131.58	585.81	1091.90
9215‡	215/U	C	C	7/.0296	.090	C	.....	NCV	.412	5000	50	30.5	57.27	271.11	529.31
9217	217/U	A	C	1	.106	C	C	NCV	.555	7000	50	30	87.66	413.52	827.04
9218	218/U	B	C	1	.195	C	.....	NCV	.880	11000	50	30	232.68	1089.50	2178.99
9219§	219/U	C	C	1	.195	C	.....	NCV	.880	11000	50	30	333.36	1541.49	3028.46
9223♦	223/U	A	SC	1	.036	SC	SC	NCV	.216	1900	50	30	48.26	217.55	405.47

MINIATURE TEFLON® COAXIAL CABLES

Temp., −65° C to +200° C.

Alpha No.	MIL No. RG-	Fig.	Center Conductor			Shields*		Jacket		Oper. Volts rms	Nom. Imped. Ohms	Cap., pF/ ft.	Net Price per Put-Up		
			Mat.*	Strand	O.D., In.	1st	2nd	Mat.*	O.D., In.				100′ Put-Up	500′ Put-Up	1000′ Put-Up
9178B	178B/U	B	SCW	7/.004	....	SC	.....	FEP	.075	1000	50±2	27.9	$ 25.95	$ 99.63	$199.25
9179B	179B/U	B	SCW	7/.004	....	SC	.....	FEP	.105	1200	75±3	20.4	39.98	169.62	339.23
9180B	180B/U	B	SCW	7/.004	....	SC	.....	FEP	.145	850	93±2	15.3	53.25	235.29	470.58
9187A	187A/U	B	SCW	7/.004	....	SC	.....	TFE	.110	1200	75±3	19.5	35.85	162.96	325.44
9188A	188A/U	B	SCW	7/.0067	....	SC	.....	TFE	.110	1200	50±2	27.5	35.85	157.52	315.03
9195A	195A/U	B	SCW	7/.004	....	SC	.....	TFE	.155	1500	95±3	14.5	78.89	375.21	750.39
9196A	196A/U	B	SCW	7/.004	....	SC	.....	TFE	.080	1000	50±2	28.5	28.25	115.16	230.30

*Materials—Conductors and Shields: C, copper; CW, copper-covered steel; SC, silver-covered copper; SCC, silver-coated cadmium bronze; SCW, silver-plated, Copperweld®; TC, tinned copper. Jackets: BP, black polyethylene, Type IIIA; FEP, extruded FEP Teflon; NCV, non-contaminating polyvinylchloride, Type IIA; NP, natural polyethylene, Type III; NY, nylon; PE, solid polyethylene; TFE, fused TFE Teflon tape; V, polyvinylchloride, Type I. ‡Armor .475″ O.D. alum. wire. §Armor .945″ O.D. alum. wire. •Dielectric is SPP (semi-solid polyethylene), 84% VP. ®Reg. TM's: Teflon of DuPont; Copperweld of Copperweld Steel Corp. ♦Available in 1000-ft. put-ups with max. of 3 lengths per put-up, where continuous lengths are not necessary; to order, add prefix L (e.g., L9608A) and **deduct 10% from 1000′ put-up price shown.**

MULTICONDUCTOR SHIELDED CABLE

UL STYLE 2464,
300 V, 80° C

Wiring cable suitable for industrial control equipment, business machines and many other uses. Conductor is stranded, annealed, tinned copper; insulation is PVC rated at 80° C (105° C for Type 2501) and 300 volts (600 V for Type 2501); tape wrap is 0.001″ clear mylar; nylon rip cord; jacket is gray PVC thickness as listed and marked at one foot intervals.

SHIELDED

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
20 AWG—10/30 STRAND						
52	2	.032	.235	$ 32.87	$ 142.82	$ 228.48
53	3	.032	.245	37.37	162.30	259.68
54	4	.032	.265	41.10	178.61	285.78
56	6	.032	.315	51.99	225.84	361.35
58	8	.032	.335	60.37	262.25	419.61
60	10	.032	.385	71.65	311.25	498.00
60/15	15	.032	.425	100.51	436.68	698.69
60/20	20	.032	.470	114.26	549.20	878.72
60/25	25	.032	.535	140.45	675.21	1080.33
60/30	30	.032	.565	162.59	781.61	1250.57
60/40	40	.050	.665	211.86	1018.52	1629.62
60/50	50	.050	.735	254.87	1225.34	1960.55
60/60	60	.050	.790	300.60	1445.19	2312.30
60/70	70	.080	.925	362.84	1744.37	2790.99
60/80	80	.080	.955	407.01	1956.80	3130.86
60/90	90	.080	1.000	449.43	2160.81	3457.28
60/00	100	.080	1.070	497.54	2392.05	3827.28
18 AWG—16/30 STRAND						
62	2	.032	.255	$ 36.22	$ 157.38	$ 251.81
63	3	.032	.265	42.06	182.67	292.29
64	4	.032	.290	49.75	216.15	345.83
66	6	.032	.340	62.73	272.55	436.10
68	8	.032	.365	76.21	331.10	529.77
70	10	.032	.420	94.34	409.80	655.67
70/15	15	.032	.470	117.98	567.21	907.53
70/20	20	.032	.530	150.02	721.25	1154.03
170/25	25	.050	.625	186.54	896.82	1434.92
170/30	30	.050	.660	216.26	1039.62	1663.40
170/40	40	.050	.735	275.30	1323.56	2117.70
170/50	50	.050	.805	330.27	1587.84	2540.54
170/60	60	.080	.935	414.35	1992.08	3187.32
170/70	70	.080	1.015	478.92	2302.56	3684.11
170/80	80	.080	1.050	536.91	2581.23	4129.97
170/90	90	.080	1.095	595.32	2862.14	4579.41
16 AWG—26/30 STRAND						
172	2	.032	.285	$ 43.09	$ 187.19	$ 299.49
173	3	.032	.300	53.07	230.51	368.78
174	4	.032	.330	62.57	271.80	434.88
176	6	.032	.385	82.85	359.97	575.96
178	8	.032	.415	104.93	455.85	729.35
180	10	.032	.480	116.13	558.30	893.25
180/15	15	.032	.545	161.81	777.87	1244.58
180/20	20	.050	.645	212.51	1021.64	1634.64
180/25	25	.050	.720	257.13	1236.20	1977.93
180/30	30	.050	.760	300.02	1442.40	2307.84
180/40	40	.080	.910	404.63	1945.34	3112.52
180/50	50	.080	1.000	493.73	2373.68	3797.88
180/60	60	.080	1.070	582.33	2799.71	4479.56
COMBINATION GAUGES						
141	6*	.032	.310	$ 50.73	$ 220.40	$ 352.64
142	7†	.032	.325	54.58	237.20	379.50
143	8‡	.032	.390	58.93	256.01	409.62

UNSHIELDED

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
20 AWG (10/30) STRAND						
5052	2	.032	.220	$ 18.08	$ 78.54	$ 125.66
5053	3	.032	.225	21.98	95.42	152.67
5054	4	.032	.245	25.91	112.56	180.11
5056	6	.032	.285	34.71	150.81	241.29
5058	8	.032	.315	41.68	181.07	289.71
5060	10	.032	.360	50.43	219.09	350.55
5060/15	15	.032	.405	72.96	316.97	507.14
5060/20	20	.032	.450	94.12	408.92	654.26
5060/25	25	.032	.500	106.14	510.30	816.48
5060/30	30	.032	.535	125.82	604.85	967.76
5060/40	40	.050	.635	170.84	821.30	1314.09
5060/50	50	.050	.695	211.10	1014.90	1623.83
5060/60	60	.050	.750	250.65	1205.09	2040.17
5060/70	70	.080	.885	304.19	1462.38	2339.81
5060/80	80	.080	.915	344.31	1655.30	2648.49
5060/90	90	.080	.955	384.62	1849.13	2958.60
5060/00	100	.080	1.030	426.14	2048.78	3278.03
18 AWG (16/30) STRAND						
5062	2	.032	.230	$ 21.36	$ 92.79	$ 148.49
5063	3	.032	.245	26.93	117.02	187.23
5064	4	.032	.265	32.62	141.66	226.64
5066	6	.032	.320	44.14	191.75	306.78
5068	8	.032	.345	55.48	241.07	385.68
5070	10	.032	.395	67.33	292.52	468.02
5070/15	15	.032	.445	98.01	425.78	681.23
5070/20	20	.032	.495	116.37	559.47	895.16
5070/25	25	.032	.555	143.75	691.10	1105.73
5070/30	30	.050	.625	176.24	847.28	1355.64
5070/40	40	.050	.700	231.35	1112.27	1779.62
5070/50	50	.050	.770	286.86	1379.13	2206.59
5070/60	60	.080	.895	354.86	1706.01	2729.61
5070/70	70	.080	.975	411.90	1980.30	3168.48
5070/80	80	.080	1.010	466.50	2242.79	3588.47
5070/90	90	.080	1.055	521.79	2508.57	4013.72
5070/00	100	.080	1.135	578.45	2781.00	4489.62
16 AWG (26/30) STRAND						
5072	2	.032	.260	$ 26.78	$ 116.36	$ 186.15
5073	3	.032	.275	35.47	154.11	246.59
5074	4	.032	.300	44.02	191.21	305.93
5076	6	.032	.365	61.29	266.27	426.02
5078	8	.032	.395	78.27	340.07	544.10
5080	10	.032	.455	107.37	466.43	746.30
5080/15	15	.032	.515	127.46	612.74	980.39
5080/20	20	.050	.610	172.59	829.76	1327.61
5080/25	25	.050	.680	213.39	1025.90	1641.45
5080/30	30	.050	.725	253.17	1217.16	1947.45
5080/40	40	.080	.875	346.79	1667.27	2667.62
5080/50	50	.080	.960	428.66	2060.81	3297.30
5080/60	60	.080	1.030	510.36	2453.72	3925.92
COMBINATION GAUGES						
5041	6*	.032	.280	$26.61	$115.58	$184.94
5042	7†	.032	.295	36.35	157.92	252.66
5043	8‡	.032	.365	39.77	172.80	276.47

UL STYLE 2501, 600 V, 105° C

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
22 AWG—7/30 STRAND						
504	4	.063	.390	$ 51.83	$ 225.14	$ 360.23
505	5	.063	.420	58.53	254.28	406.85
507	7	.063	.450	68.24	296.49	474.39
509	9	.063	.510	86.32	375.08	600.11
509/12	12	.063	.555	103.07	447.75	716.40
509/15	15	.063	.610	112.31	539.88	863.82
509/19	19	.063	.650	131.73	633.27	1013.24
509/25	25	.063	.745	163.86	787.73	1260.35
20 AWG—10/30 STRAND						
514	4	.063	.410	$ 51.41	$ 247.19	$ 395.51
515	5	.063	.440	69.49	301.86	482.96
517	7	.063	.470	80.68	350.49	560.78
519	9	.063	.535	98.82	429.26	686.82
519/12	12	.063	.595	109.29	525.38	840.60
519/15	15	.063	.640	129.89	624.44	999.12
519/19	19	.063	.685	154.79	744.15	1190.67
519/25	25	.063	.735	207.03	995.34	1592.55
18 AWG—16/30 STRAND						
524	4	.063	.435	$ 67.06	$ 291.36	$ 466.17
525	5	.063	.465	79.60	345.77	553.23
527	7	.063	.500	97.46	423.45	677.52
529	9	.063	.570	106.43	511.70	818.70
529/12	12	.063	.635	133.04	639.63	1023.39
529/15	15	.063	.685	160.01	769.29	1230.86
529/19	19	.063	.735	188.51	906.29	1403.52
529/25	25	.080	.885	247.91	1191.86	1906.97

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
22 AWG (7/30) STRAND						
5404	4	.063	.370	$ 32.95	$ 143.18	$ 229.07
5405	5	.063	.395	37.67	163.67	261.87
5407	7	.063	.425	46.36	201.45	322.31
5409	9	.063	.485	56.17	243.99	390.39
5409/12	12	.063	.535	70.37	305.64	489.05
5409/15	15	.063	.575	86.19	374.45	599.13
5409/19	19	.063	.615	103.98	451.74	722.79
5409/25	25	.063	.710	120.45	579.09	926.55
20 AWG (10/30) STRAND						
5414	4	.063	.385	$ 37.81	$ 164.34	$ 262.94
5415	5	.063	.415	43.77	190.17	304.26
5417	7	.063	.445	54.71	237.78	380.43
5419	9	.063	.510	66.95	290.81	465.30
5419/12	12	.063	.565	84.53	367.25	587.60
5419/15	15	.063	.610	103.52	449.72	719.52
5419/19	19	.063	.650	114.09	548.52	877.64
5419/25	25	.063	.750	146.66	705.02	1128.03
18 AWG (16/30) STRAND						
5424	4	.063	.410	$ 45.85	$199.22	$ 318.77
5425	5	.063	.445	53.72	233.30	373.31
5427	7	.063	.475	68.49	297.56	476.10
5429	9	.063	.555	83.71	363.71	581.94
5429/12	12	.063	.605	107.77	468.17	749.07
5429/15	15	.063	.655	119.81	575.96	921.54
5429/19	19	.063	.700	146.87	706.08	1129.73
5429/25	25	.063	.810	187.94	903.51	1445.63

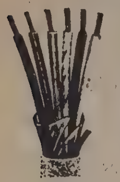
*Contains four #22 (7/30) and two #18 (16/30). †Contains five #22 (7/30) and two #18 (16/30). ‡Contains six #22 (7/30) and two #18 (16/30).

**UL STYLE 2501 IS ALSO AVAILABLE IN #16 AND #14 AWG.
PRICES AVAILABLE ON REQUEST.**

**UL STYLE 2464 IS ALSO AVAILABLE IN #24 AND #22 AWG.
PRICES AVAILABLE ON REQUEST.**

alpha ALPHA WIRE UL/CSA/OSHA Cables

UNSHIELDED UL STYLE 2343 CABLE



Appliance wiring cable suitable for use in electronic computers and business machines to 80° C. Conductor is stranded, annealed, tinned copper; insulation is 0.009″ thickness semi-rigid PVC to UL Style 1061, rated at 80° C, 300 V; tape wrap is 0.001″ clear mylar; nylon rip cord; jacket is gray 80° C PVC thickness as listed, marked at one foot intervals. Cable has superior flame retardancy and excellent resistance to acids, oils, moisture, solvents and fungus. Cable passes FR-1 flame test.

24 AWG MULTICONDUCTOR (7/32)

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of		
				100′	500′	1000′
5200	5	.063	.250	$ 64.13	$ 263.34	$ 431.18
5201	7	.063	.265	68.09	279.68	466.16
5202	12	.063	.320	94.09	386.34	643.86
5203	15	.063	.340	115.55	525.27	875.43
5204	19	.063	.360	125.24	569.31	948.84
5205	27	.063	.410	167.46	761.16	1268.60
5206	37	.063	.445	230.78	1048.95	1748.27
5207	48	.063	.495	290.12	1318.68	2197.77
5208	60	.063	.535	346.32	1574.21	2623.70

24 AWG TWISTED PAIRS (7/32)

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	O.D., Inches	Net Each, Spool of		
				100′	500′	1000′
5230	5	.063	.345	$ 90.75	$ 372.72	$ 621.20
5231	7	.063	.355	104.17	427.77	712.92
5232	12	.063	.445	135.60	616.50	1027.47
5233	15	.063	.485	173.33	787.88	1313.18
5234	19	.063	.505	196.88	894.84	1491.42
5235	27	.063	.575	267.09	1214.10	2023.47
5236	37	.063	.640	358.11	1627.71	2712.83
5237	48	.063	.710	447.00	2031.87	3386.43
5238	60	.063	.760	570.87	2594.87	4324.79

22 AWG MULTICONDUCTOR (7/30)

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of		
				100′	500′	1000′
5210	5	.063	.270	$ 68.18	$ 279.93	$ 466.55
5211	7	.063	.285	73.12	300.38	500.63
5212	12	.063	.345	103.00	423.05	705.09
5213	15	.063	.370	124.89	567.72	946.22
5214	19	.063	.390	137.34	624.35	1040.58
5215	27	.063	.440	183.02	831.93	1386.57
5216	37	.063	.490	252.59	1148.03	1913.40
5217	48	.063	.545	315.53	1434.26	2390.43
5218	60	.063	.580	391.46	1779.35	2967.08

22 AWG TWISTED PAIRS (7/30)

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	O.D., Inches	Net Each, Spool of		
				100′	500′	1000′
5240	5	.063	.370	$ 99.55	$ 408.90	$ 681.50
5241	7	.063	.385	104.13	473.36	788.97
5242	12	.063	.485	152.94	695.12	1158.53
5243	15	.063	.535	201.02	913.71	1522.85
5244	19	.063	.565	225.93	1026.93	1711.58
5245	27	.063	.645	299.61	1361.91	2269.86
5246	37	.063	.735	402.38	1828.98	3048.33
5247	48	.063	.815	520.02	2363.67	3939.51
5248	60	.080	.915	643.52	2925.12	4875.21

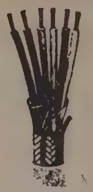
20 AWG MULTICONDUCTOR (19/32)

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of		
				100′	500′	1000′
5220	5	.063	.295	$ 77.34	$ 317.70	$ 529.46
5221	7	.063	.320	86.52	355.44	592.37
5222	12	.063	.390	113.42	515.52	844.01
5223	15	.063	.415	149.79	680.96	1134.95
5224	19	.063	.440	169.88	772.16	1286.96
5225	27	.063	.510	225.93	1026.93	1711.58
5226	37	.063	.560	311.03	1413.83	2356.35
5227	48	.063	.630	393.39	1788.09	2980.17
5228	60	.063	.680	478.17	2173.43	3622.34

20 AWG TWISTED PAIRS (19/32)

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	O.D., Inches	Net Each, Spool of		
				100′	500′	1000′
5250	5	.063	.420	$107.27	$ 487.53	$ 812.55
5251	7	.063	.435	129.06	586.61	977.67
5252	12	.063	.555	193.41	879.12	1465.20
5253	15	.063	.610	234.57	1066.26	1777.10
5254	19	.063	.650	293.37	1333.61	2222.67
5255	27	.063	.750	392.36	1783.38	2972.30
5256	37	.080	.890	539.04	2450.18	4083.65
5257	48	.080	.990	679.16	3087.12	5145.20
5258	60	.080	1.065	839.69	3816.78	6361.37

SHIELDED UL STYLE 2343 CABLE



Appliance wiring cable suitable for use i electronic computers and business machines t 80° C. Conductor is stranded, annealed, tinne copper; insulation is 0.009″ thickness sem rigid PVC to UL Style 1061, rated at 80° C 300 V; tape wrap is 0.001″ clear mylar; shiel is braided, tinned copper (85–90% coverage) nylon rip cord; jacket is gray 80° C PV thickness as listed, marked at one foot intervals. Cable has superior flame retardancy an excellent resistance to acids, oils, moistur solvents and fungus. Passes FR-1 flame tes

24 AWG SHIELDED MULTICONDUCTOR (7/32)

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of		
				100′	500′	1000′
5300	5	.063	.275	$ 75.80	$ 311.39	$ 518.99
5301	7	.063	.290	83.45	342.84	571.40
5302	12	.063	.345	102.06	463.95	773.24
5303	15	.063	.365	134.27	610.19	1016.97
5304	19	.063	.380	145.67	662.09	1103.49
5305	27	.063	.430	191.67	871.25	1452.09
5306	37	.063	.470	260.57	1184.21	1973.69
5307	48	.063	.520	326.27	1483.01	2471.69
5308	60	.063	.555	386.12	1755.09	2925.12

24 AWG SHIELDED TWISTED PAIRS (7/32)

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	O.D., Inches	Net Each, Spool of		
				100′	500′	1000′
5330	5	.063	.365	$101.03	$ 459.23	$ 765.38
5331	7	.063	.380	115.55	525.27	875.43
5332	12	.063	.465	168.84	767.45	1279.08
5333	15	.063	.510	209.99	954.60	1591.02
5334	19	.063	.525	236.64	1075.70	1792.82
5335	27	.063	.595	314.84	1431.11	2385.17
5336	37	.063	.670	412.05	1873.02	3121.73
5337	48	.063	.740	508.94	2313.38	3855.63
5338	60	.063	.815	639.36	2906.24	4843.76

22 AWG SHIELDED MULTICONDUCTOR (7/30)

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of		
				100′	500′	1000′
5310	5	.063	.290	$ 83.45	$ 342.84	$ 571.40
5311	7	.063	.310	90.37	371.16	618.59
5312	12	.063	.380	112.11	509.54	849.23
5313	15	.063	.390	146.00	663.68	1106.09
5314	19	.063	.410	159.84	726.57	1210.94
5315	27	.063	.470	212.76	967.20	1611.98
5316	37	.063	.510	289.26	1314.74	2191.20
5317	48	.063	.570	357.41	1624.56	2707.59
5318	60	.063	.610	431.79	1962.66	3271.10

22 AWG SHIELDED TWISTED PAIRS (7/30)

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	O.D., Inches	Net Each, Spool of		
				100′	500′	1000′
5340	5	.063	.395	$111.75	$ 507.99	$ 846.63
5341	7	.063	.410	128.01	581.87	969.80
5342	12	.063	.510	190.98	868.11	1446.83
5343	15	.063	.555	232.31	1055.93	1847.87
5344	19	.063	.590	271.59	1234.55	2058.81
5345	27	.063	.680	353.61	1607.25	2678.73
5346	37	.063	.770	465.71	2116.79	3527.97
5347	48	.080	.890	591.96	2690.79	4484.67
5348	60	.080	.950	730.37	3319.85	5533.11

20 AWG SHIELDED MULTICONDUCTOR (19/32)

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of		
				100′	500′	1000′
5320	5	.063	.325	$ 94.57	$ 388.44	$ 647.42
5321	7	.063	.345	105.31	432.50	720.80
5322	12	.063	.410	132.84	603.90	1006.50
5323	15	.063	.440	173.33	787.88	1313.18
5324	19	.063	.465	193.07	877.53	1462.56
5325	27	.063	.530	261.90	1190.49	1984.16
5326	37	.063	.585	351.53	1597.80	2663.01
5327	48	.063	.660	404.39	1838.03	3341.88
5328	60	.063	.715	530.73	2412.44	4020.72

20 AWG SHIELDED TWISTED PAIRS (19/32)

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	O.D., Inches	Net Each, Spool of		
				100′	500′	1000′
5350	5	.063	.440	$131.13	$ 596.04	$ 993.39
5351	7	.063	.460	160.19	727.94	1213.58
5352	12	.063	.580	236.64	1075.70	1792.82
5353	15	.063	.645	299.27	1360.34	2267.25
5354	19	.063	.680	345.27	1569.50	2615.84
5355	27	.063	.785	454.28	2064.89	3441.48
5356	37	.080	.930	609.96	2772.57	4620.96
5357	48	.080	1.030	767.75	3489.71	5816.19
5358	60	.080	1.100	936.92	4258.71	7097.90

alpha ALPHA WIRE FIT® Shrinkable Tubing

FIT-105 POLYVINYLCHLORIDE TUBING

Extra-flexible tubing, ideal for cable jackets. Conforms to MIL- -23053/2C. High flexibility, strength and 50% shrinkage make it suitable for insulating components and cables with wide shape and size variations. **Shrinkage Temp.:** Approx. 347° F (175° C). **Operating Temp.:** 105° C, continuous. **Tensile Strength:** 800 psi, min. **Elongation:** 200% ultimate min. **Low Temp. Flexibility:** −35° C. **Dielectric Strength:** 750 V/mil. minimum. **Longitudinal Shrinkage:** 10%. **Environment Resistance:** Inert to fungus; excellent resistance to fuel, oil, hydraulic fluid, solvents, acids and alkalis. Self-extinguishing to flame; non-corrosive. Poor resistance to soldering irons. **Standard Put-Up:** Continuous lengths and 6" lengths. **Color:** Black.

Alpha No. FIT-	Size, Inches Min. I.D.*	Recov. I.D.†	Wall Thk.	Net Price per Pkg. of 25′	100′	200′
105-3/64"	.046	.023	.020	$ 5.27	$17.44	$76.22‡
105-1/16"	.062	.031	.020	5.64	18.72	81.82‡
105-3/32"	.093	.046	.020	6.53	21.60	42.36
105-1/8"	.125	.062	.025	6.89	22.88	44.86
105-3/16"	.187	.093	.025	8.42	27.84	54.58
105-1/4"	.250	.125	.025	10.62	35.20	69.02
105-3/8"	.375	.187	.030	11.82	39.20	76.86
105-1/2"	.500	.250	.030	13.33	44.16	....
105-3/4"	.775	.375	.035	17.89	59.20	....
105-1"	1.000	.500	.040	25.04	82.88	....
105-1½"	1.500	.750	.045	39.33	130.24	....
105-2"	2.000	1.000	.050	54.27§	104.00#	....

Before shrinking. †After shrinking. ‡Pkg. of 500′. §Pkg. of 10′ vailable at **$22.71.** #Pkg. of 50′.

PACKAGED ASSORTMENTS IN 6" LENGTHS

Alpha No.	Size Range	No. Lengths/Box	Net/Box
FIT-105-MS1	3/64"–1/4" (6 sizes)	10 per size (60 total)	$ 8.17
FIT-105-MS2	3/8"–1" (4 sizes)	10 per size (40 total)	12.87
FIT-105-MS3	1½" and 2" only	7 per size (14 total)	12.68

FIT-221 IRRADIATED POLYOLEFIN TUBING

Simple-to-use, all-purpose extruded tubing gives tight mechanical bond with thermal stability. Controlled shrinkage to correct predetermined size occurs in 7 seconds at 135° C, beginning at a slower rate at 113° C. Shrinks 50% (2:1 ratio) with only 5% maximum longitudinal shrinkage. Will not cold-flow or melt, but etains form stability throughout its temperature range. Clear ubing remains transparent over its full operating range, −55° C to 135° C. Though high temperature, material is flammable; will not burn, however, when shrunk over flame-resistant on non-flammable components. **Operating Temperature:** −55° C to +135° C continuous. **Tensile Strength:** 2500 psi min. **Elongation:** 00% min., ultimate. **Dielectric Strength:** 300 volts/mil, min. **Dielectric Constant:** 2.9 max. **Environment Resistance:** Will not support fungus. Non-corrosive. Max. water absorption, 0.6%. Excellent resistance to fuel, oil, acids, alkalis and solvents. (Tested to Bell Labs tests.) **Colors:** Specify clear, black, white, red, yellow or blue when ordering.

Alpha No. FIT-	Size, Inches Min. I.D.*	Recov. I.D.†	Wall Thk.	4 Ft. Lengths Std. Pkg.	Pkg. Net	6" Lengths Std. Pkg.	Pkg. Net
221-3/64"	.046	.023	.016	100′	$25.35	20′	$5.93
221-1/16"	.063	.031	.017	100′	26.70	18′	5.93
221-3/32"	.093	.046	.020	100′	30.75	16′	5.93
221-1/8"	.125	.062	.020	100′	32.80	14′	5.93
221-3/16"	.187	.093	.020	100′	40.00	12′	5.93
221-1/4"	.250	.125	.025	100′	50.20	10′	5.93
221-3/8"	.375	.187	.025	100′	55.55	8′	5.93
221-1/2"	.500	.250	.025	20′	12.65	7′	5.93
221-3/4"	.750	.375	.030	20′	16.85	6′	5.93
221-1"	1.000	.500	.035	20′	23.61	4′	5.93
221-1½"	1.500	.750	.040	20′	41.56	2.5′	5.93
221-2"	2.000	1.000	.045	20′	57.37	1.5′	5.93
221-3"	3.000	1.500	.050	8′	36.40	1′	5.93
221-4"	4.000	2.000	.055	8′	53.02	.5′	5.93

PACKAGED ASSORTMENTS IN 6" LENGTHS

Assorted, standard colors and sizes in 6" lengths, all identified.

Alpha No.	Size Range	No. Lengths/Box	Net/Box
FIT-221-MS1	3/64" thru 3/16" (5 sizes)	6 per size (30 total)	$ 6.97
FIT-221-MS2	1/4" thru 3/4" (4 sizes)	4 per size (16 total)	13.95
FIT-221-MS3	1" thru 4" (5 sizes)	2 per size (10 total)	13.00

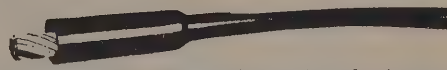
FIT-350 IRRADIATED KYNAR TUBING

High-temperature, thin-wall tubing with excellent cut-through and abrasion resistance. Semi-rigid, polyvinylidene fluoride. Non-flammable; shrinkage ratio, 2:1 (50%); high dielectric strength. Supplied in clear only. Shrinks to half size at 175°C; forms permanent mechanical bond. Operates at temperatures from −55° C to +175° C; withstands intermittent heat shock to 350° C.

Alpha No. FIT-	Dimensions, Inches Min. I.D.*	Recov. I.D.†	Wall Th.	4 Ft. Lengths Std. Pkg.	Pkg. Net	6 In. Lengths Std. Pkg.	Pkg. Net
350-3/64"	.046	.023	.010	100′	$50.27	16′	$8.69
350-1/16"	.063	.031	.010	100′	54.71	14′	8.69
350-3/32"	.093	.046	.010	100′	65.64	12′	8.69
350-1/8"	.125	.062	.010	100′	71.62	10′	8.69
350-3/16"	.187	.093	.010	100′	111.44	8′	8.69
350-1/4"	.250	.125	.012	100′	140.33	6′	8.69
350-3/8"	.375	.187	.012	100′	184.44	4′	8.69
350-1/2"	.500	.250	.012	20′	54.84	2′	8.69
350-3/4"	.750	.375	.017	20′	100.89	1′	8.69
350-1"	1.000	.500	.019	20′	185.47	.5′	8.69

*Before shrinking. †After shrinking.

FIT-295 POLYOLEFIN SEMI-RIGID TUBING



Maximum strength at stress points; extremely strong, abrasion-resistant extruded tubing with heavy wall; good stability. Shrinkage 2:1 (50%) gives wide versatility. High temperature capability, though inflammable. **Shrinkage Temp.:** Approx. 275° F (135° C). **Operating Temp.:** 135° C, continuous. **Tensile Strength:** 2500 PSI, min. **Elongation:** 300% ultimate min. **Low Temp. Flexibility:** −67° F. **Dielectric Strength:** 300 V/mil, min. **Dielectric Constant:** 2.7. **Volume Resistance:** 10^{16} ohm/cm. **Environment Resistance:** Inert to fungus. Excellent resistance to fuel, oil, hydraulic fluid, solvents, acids and alkalis. Non-corrosive. Excellent resistance to soldering irons. No cracks or splits with heat aging 175° C (347° F) for 168 hours. **Standard Put-Up:** 4 ft. and 6" lengths. **Colors:** Available in clear, black or color as indicated in table below.

Alpha No. FIT-	Color	Size, Inches Min. I.D.*	Recov. I.D.†	Wall Thk.	4 Ft. Lgths. Std. Pkg.	Pkg. Net	6" Lengths Std. Pkg.	Pkg. Net
295-3/64"	Yellow	.046	.023	.020	100′	$27.20	20′	$6.80
295-1/16"	White	.063	.032	.020	100′	28.53	18′	6.80
295-3/32"	Blue	.093	.045	.020	100′	32.84	16′	6.80
295-1/8"	Red	.125	.063	.020	100′	35.16	14′	6.80
295-3/16"	Green	.187	.093	.025	100′	42.96	12′	6.80
295-1/4"	Slate	.250	.125	.025	100′	53.56	10′	6.80
295-3/8"	Brown	.375	.187	.030	100′	59.53	8′	6.80
295-1/2"	White	.500	.250	.030	20′	13.49	7′	6.80

* Before shrinking. †After shrinking.

PACKAGED ASSORTMENT IN 6" LENGTHS

Alpha No.	Size Range	No. Lengths/Box	Net/Box
FIT-295-MS1	3/64"–1/2" (8 sizes)	(40 total)	$6.80

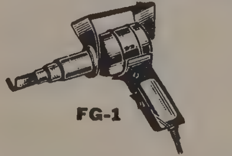
FIT-300 IRRADIATED POLYOLEFIN TUBING

OUTER WALL SHRINKS . . . INNER WALL MELTS

Surface irradiated tubing has been developed to answer the need for easy-to-use, permanent encapsulation and jacketing material. Because only the outer wall of this tubing is irradiated, when heat is applied, only this outer wall shrinks. The inner wall, instead of shrinking, melts and the viscous plastic released by the heat, encapsulates the wire or component placed in the tubing. The pressure created by the outer wall shrinkage forces the melted plastic into every orifice, eliminating voids and resulting, when cooled, in a solid, homogenous molding. Alpha HG-1 hot air gun is recommended for heating tubing. However, excellent results may be achieved by use of an oven, hot liquids, soldering iron or even the flame of a match. **Shrinking and Melting Temperature:** 275° F (135° C). **Operating Temperature:** −55° C to +110° C. **Tensile Strength:** 2500 psi. **Elongation:** 400%. **Dielectric Strength:** 1100 V/mil. **Volume Resistance:** 10^{16} ohm/cm.

Alpha No. FIT-	Black or Color	Size, Inches Min. I.D.*	Recov. I.D.†	Wall Thk.	4 Ft. Lgths. Std. Net	Pkg. Net	6" Lgth. Std. Pkg.	Pkg. Net
300-1/8"	Brown	.125	.023	.038	100′	$ 85.24	7′	$7.04
300-3/16"	Gray	.187	.060	.043	100′	104.16	6′	7.04
300-1/4"	White	.250	.080	.047	100′	129.68	5′	7.04
300-3/8"	Red	.375	.135	.050	100′	144.44	4′	7.04
300-1/2"	Blue	.500	.195	.055	20′	34.07	3′	7.04
300-3/4"	Yellow	.750	.313	.065	20′	52.60	2′	7.04
300-3/10"	Blue	.300	.050	.100	100′	296.18	2′	7.04

HEAT GUNS AND ACCESSORIES



FG-1

HG-1

MINIATURE FIT GUN

For shrinking all FIT tubing and FIT sleeves. Durable, electric motor driven unit delivers a high volume of air to the nozzle. Lightweight, for bench or hand use. Easily replaceable heat elements; 3-position rocker switch. Rated 7 amps, 115 VAC. Includes tubing reflector and FIT sleeve reflector; stand for vertical or horizontal use. **Typical Temperatures:** 175° C without adapter; 205° C with adapter only; 230° C with tubing reflector; 350° C with FIT sleeve reflector.

Alpha Gun FG-1 FIT Gun—Net Each.................. **$61.25**

HEAT GUNS

The recommended tool for shrinking FIT tubing. A flameless, quiet-operating hot air torch that may be used for portable operations or secured permanently to a bench by means of a mounting bracket. Heavy-duty construction. Adjustable turbo fan air intake to control temperature and a double jacketed housing of diecast aluminum. With neoprene-jacketed 3-wire cord and plug and adapter for 2-prong receptacle. Motor for 115 VAC/DC. Length, 11" overall.

Alpha No. HG-1 Heat Gun—Temp. up to 260° C. Net . **$66.34**
Alpha No. HG-2 Heat Gun—Temp., 750°–400° C. Net. **79.48**

alpha ALPHA WIRE Insulating Tubing and Braiding

ALPHA POLYVINYLCHLORIDE PVC-105 MIL-I-631D PLASTIC TUBING

All-purpose, economical tubing is compounded with first quality, non-migratory resinous type plasticizers; designed to counteract chemical and environmental degradation. Rated for temperatures as high as 105° C with high dielectric strength. No loss in tensile strength or flexibility; resistant to abrasion. Retains its flexibility which permits it to cling to and protect irregular shapes. Meets MIL-I-631D, Type F, Form U, Grade C, Class I, Category 1.

Dielectric Strength: 800 V/mil. **Tensile Strength:** 2700–3300 ps **Min. Volume Resis.:** 10^{11} ohm/cm. **Low Temperature Flexibility** −20° C. **Specify Color: #24** thru **#2:** Clear, black, white, yellow red or green; **#1** thru **1″:** Clear, black or white; **1⅛″** thru **2½″** Clear or black. **To Order:** Add gauge size to prefix **PVC-105/** e.g., **PVC-105/24.**

Ga. Size	Nom. I.D., In.	Net per Spool of 100′	500′	1000′
24	.022	$3.60	....	$19.80
22	.027	3.60	....	19.80
20	.034	3.91	....	21.01
19	.038	3.91	....	21.01
18	.042	4.20	....	23.10
17	.047	4.20	....	23.10
16	.053	4.50	....	24.75
15	.059	4.50	....	24.75
14	.066	4.80	$15.51	....
13	.076	4.80	15.51	....
12	.085	5.10	16.50	....
11	.095	5.10	16.50	....
10	.106	6.00	19.42	....
9	.118	7.19	23.27	....

*Larger put-ups available. †On spool.

Ga. Size	Nom. I.D., In.	Net Price per Put-Up* Coil of 100′	Coil of 250′	Spool of 500′
8	.133	$ 7.80	....	$25.25
7	.148	7.70	....	27.17
6	.166	8.25	....	29.10
5	.186	8.80	....	31.02
4	.208	9.35	$17.84	....
3	.234	9.90	18.92	....
2	.263	11.00	21.04	....
1	.294	12.38	23.68	....
0	.330	13.75	26.32	....
5/16″	.312	16.21	30.92	....
3/8″	.375	14.44	27.54	....
7/16″	.438	16.50	....	....
1/2″	.500	18.57	....	....

Ga. Size	Nom. I.D., In.	Net Price per Put-Up Coil of 50′	Coil of 100′
9/16″	.562	....	$24.54
5/8″	.625	....	26.82
3/4″	.750	$23.91	....
7/8″	.875	27.35	....
1″	1.000	37.74	....
1⅛″	1.125	53.36	....
1¼″	1.250	53.36	....
1⅜″	1.375	57.44	....
1½″	1.500	71.41	....
1¾″	1.750	99.35	....
2″	2.000	125.93	....
2¼″	2.250	152.13	....
2½″	2.500	164.45	....

ALPHA POLYVINYLCHLORIDE LOC-TRAC ZIPPER TUBING

All-purpose, easy-to-use jacketing material; zips on in seconds without disconnecting or disturbing connections. Will not pop open even when bent into a U-shape. Does not need sealant nor adhesive. Track thickness when closed, .150″, dielectric strength, 759V/mil, tensile strength, 3810 psi; ultimate elongation, 255%; operating temperature, −86 to +106°C; fungus proof; self-extinguishing. One metal slider with every 25 feet of tubing; additional sliders, AB-395, may be ordered at 10c each. **ZIP-41 Type:** MIL-I-631D, Grade C materials. All-purpose type. Wall thickness, .020″. Clear or black. **ZIP-41M Type:** MIL-I-631D, Grade C materials. Wall thickness, .040″ for heavy-duty use. Clear or black. **ZIP-60 Type:** Aluminum foil laminated between two sheets of polyvinyl. Wall thickness, .040″. Silver-gray color.

Alpha No.	Net 100′*	Alpha No.	Net 100′*	Alpha No.	Net 25′	Net 50′	Net 100′*
ZIP-41M-½″	$120.89	ZIP-60-½″	$140.49	ZIP-41-½″	$23.66	$46.58	$ 91.69
ZIP-41M-⅝″	129.06	ZIP-60-⅝″	150.29	ZIP-41-⅝″	24.54	48.34	95.17
ZIP-41M-¾″	137.23	ZIP-60-¾″	160.09	ZIP-41-¾″	25.45	50.15	98.77
ZIP-41M-⅞″	145.31	ZIP-60-⅞″	169.89	ZIP-41-⅞″	26.35	51.92	102.29
ZIP-41M-1″	154.86	ZIP-60-1″	181.31	ZIP-41-1″	27.38	53.97	106.37
ZIP-41M-1⅛″	163.11	ZIP-60-1⅛″	191.26	ZIP-41-1⅛″	28.28	55.78	109.97
ZIP-41M-1¼″	167.03	ZIP-60-1¼″	196.09	ZIP-41-1¼″	28.69	56.59	111.60
ZIP-41M-1½″	183.30	ZIP-60-1½′	215.69	ZIP-41-1½″	30.47	60.14	118.69
ZIP-41M-1¾″	199.60	ZIP-60-1¾″	225.46	ZIP-41-1¾″	32.27	63.72	125.80
ZIP-41M-2″	215.83	ZIP-60-2″	254.86	ZIP-41-2″	34.03	67.22	132.77

Write for prices on larger sizes. *Larger put-ups available.

BRAIDING

A

B

TINNED COPPER FLAT BRAID (FIG. A) TO MIL SPEC QQ-W-343/S, ASTM-B-33

For shielding insulated wire and cable, bonding and ground straps. For applications requiring extreme flexibility (pigtails, component leads, connecting moving parts, etc). Very fine, soft annealed tinned copper wires, braided and rolled flat. Strand size, 36, except Nos. 1239 thru 1242/4 which are 30 AWG. Also available in spool of 500′ except: 1240–1242/4; prices on request.

Width In.	Alpha No.	Net, Spool 1000′	100′	Width In.	Alpha No.	Net per Spool 1000′	100′
.025	1221	$ 86.75	$10.62	⅝	1233	$453.23	$ 47.94
1/32	1222	92.78	11.40	¾	1234	1042.77	107.90
3/64	1223	99.02	12.08	1	1235	1118.63	115.49
3/32	1224	116.27	13.43	1⅜	1239	1273.17	130.94
⅛	1229	129.89	15.12	1½	1240	....	183.45
3/16	1230	144.59	16.47	1¾	1241	....	366.90
¼	1231	201.77	22.34	2	1242	....	460.49
⅜	1232	332.70	35.75	3	1242/4	....	888.36
½	1233/2	428.99	45.30				

EXTRA LARGE TINNED COPPER TUBULAR BRAID (FIG. B)

Tubular braids manufactured to standards of QQ-B-575 although these sizes are not listed in the specification. Each strand 30 AWG.

Nom. I.D.	Alpha No.	Net, Spool 100′	50′	Nom. I.D.	Alpha No.	Net, Spool 100′	50′
⅞″	2177	$181.73	$ 94.44	1¼″	2180	$241.19	$122.63
1″	2178	205.08	104.33	1⅜″	2181	280.05	141.95
1⅛″	2179	214.88	111.20	1½″	2182	301.13	152.22

TINNED COPPER TUBULAR BRAID (FIG. B) TO MIL SPEC QQ-B-575

Maximum shielding against electrostatic interference for wires, cables, etc. Woven, tinned copper braid fully round per MIL Spec QQ-B-575. Each strand is soft, drawn, tinned copper wire, 36 AWG except as noted. Self-supporting to maintain the round shape. Shielding coverage 95%.

Nom. I.D.	Alpha No.	Net, Spool 250′	100′	Nom. I.D.	Alpha No.	Net, Spool 100′
1/32″	2160	$17.46	$ 8.22	¼″	2171	$ 66.35
1/16″	2162	36.05	17.33	9/32″	2171/1†	69.21
5/64″	2163	42.66	20.12	⅜″	2172	68.37
7/64″	2164	57.39	26.52	7/16″	2173†	112.77
⅛″	2166	62.00	27.68	½″	2174	93.71
5/32″	2167	111.02	45.80	9/16″	2175†	173.03
11/64″	2168	79.86	35.24	21/32″	2175/1†	265 25
13/64″	2170*	....	49.04	25/32″	2176	126.86

*Braid 34 AWG. †Braid 30 AWG.

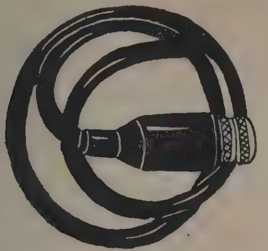
EXTRUDED TEFLON TUBING

Teflon tubing is completely inert and has zero moisture absorption. The tubing is rated for continuous operation from −65° C to +260° C and retains toughness and flexibility throughout this range. **Dielectric Strength:** 1400V/mil. **Dielectric Constant:** 2.2. Conforms to MIL-I-22129C, AMS 3651B, 3655, 3653, and Fed. Spec. P-403A.

AWG Wire Size	Nom. I.D. (In.)	Wall Thickness TFT-200/	TFT-250/	Net Each TFT-200/ 100′*†▲	TFT-250/ 100′*■
30	.012	.009	....	$ 13.30	....
28	.015	.009	....	11.68	....
26	.018	.010	....	10.50	....
24	.022	.010	.012	11.48	$ 14.05
22	.027	.010	.012	13.48	15.63
20	.034	.012	.016	16.30	21.45
19	.038	.012	.016	17.53	23.35
18	.042	.012	.016	19.05	25.23
17	.047	.012	.016	20.83	27.55
16	.053	.012	.016	22.75	29.18
15	.059	.012	.016	23.35	30.40
14	.066	.012	.016	25.03	32.80
13	.076	.012	.016	28.33	36.53
12	.085	.012	.016	30.48	39.43
11	.095	.012	.016	33.75	43.83
10	.106	.012	.016	37.20	48.00
9	.118	.015	.020	51.73	68.73
8	.133	.015	.020	57.15	75.40
7	.148	.015	.020	62.48	81.33
6	.166	.015	.020	66.35	87.83
5	.186	.015	.020	78.20	96.75
4	.208	.015	.020	85.60	105.15
3	.234	.015	.020	95.18	120.33
2	.263	.015	.020	105.93	132.08
1	.294	.015	.020	116.30	147.00
0	.330	.015	.020	130.90	165.43

To complete the order number, add wire size to end of type number. *Other put-ups and discounts upon request. †Random lengths packed in 100′ coil. ■Stock color is natural only. ▲Stock colors are natural and black.

FIT-600 NEOPRENE EXTRA FLEXIBLE-RUGGED IRRADIATED HEAT SHRINKABLE TUBING



MEETS MIL-R-46846A/1, MIL-1-23053/B/1, AMS-3623
Highly flexible, abrasion resistant heavy wall neoprene tubing ideal for fabrication in house short-run cables and harnesses. Widely used in prototype and repair work. At applied heat of 175° C, FIT-600 shrinks to approximately half its supplied diameter. Longitudinal shrinkage is less than 10%. Has good dielectric strength, excellent chemical and solvent resistance. Dielectric strength, 300 volts/mil. Flammability, self-extinguishing in 5 sec. Elongation, 250%.

Alpha No.	Size	Min. I.D. Before Shrinkage	Recov. I.D. After Shrinkage	Nom. Wall Thk.	Net per Pkg.	
					25′	100′
FIT-600-¼	¼″	.250″	.143″	.035″	$ 53.23	$208.89
FIT-600-⅜	⅜″	.375″	.214″	.040″	63.72	249.78
FIT-600-½	½″	.500″	.286″	.048″	70.83	277.70
FIT-600-⅝	⅝″	.625″	.375″	.052″	79.62	312.22
FIT-600-¾	¾″	.750″	.428″	.057″	88.53	347.33
FIT-600-⅞	⅞″	.875″	.500″	.065″	99.00	388.22
FIT-600-1	1″	1.00″	.570″	.070″	108.01	423.56
FIT-600-1¼	1¼″	1.25″	.714″	.087″	149.70	587.33
FIT-600-1½	1½″	1.50″	.857″	.095″	174.93	686.00
FIT-600-1¾	1¾″	1.75″	1.00″	.107″	213.86	838.67
FIT-600-2	2″	2.00″	1.14″	.110″	248.77	975.56
FIT-600-3	3″	3.00″	1.71″	.125″	379.71	751.91*

*Pkg. of 50 Ft.

PACKAGED ASSORTMENTS IN 6″ LENGTH

Alpha No.	Tubing Size Range	Length	Lengths per Box	Net per Box
FIT-600 MS-1	¼″–⅞″	6″	12	$16.20
FIT-600 MS-2	⅞″–3″	6″	12	43.74

SPIRAL WRAP TUBING

The SW Series tubing simplifies wire harnessing, cabling, and bundling work. The tubing clings tightly to the wire or cable being bundled, yet is flexible and simple to apply. Available in: polyethylene, meeting MIL-I-631D; flame-resistant polyethylene, meeting MIL-E-500F; nylon, meeting MIL-M-20693A; Teflon, meeting MIL-I-22129C; and ultraviolet-resistant polyethylene for use outdoors.

Alpha No.	Material	Max. Dia. Wire/Cable (In.)	Nom. Wall Thickness (In.)	Pitch (In.)	Color	Net 25′*
SW-1	Polyethylene	½	.031	.250	Natural	$ 1.20
SW-2		2	.046	.375		1.93
SW-3		3	.052	.437		3.00
SW-4		4	.060	.562		3.66
SW-5		5	.065	.750		6.85
SW-6		6	.095	1.000		9.64
SW-10	Flame Resistant Polyethylene	½	.031	.250	White	1.69
SW-11		2	.046	.375		3.39
SW-12		3	.052	.437		5.67
SW-13		4	.060	.562		7.67
SW-14		5	.065	.750		9.54
SW-20	Nylon	½	.016	.250	Natural	2.51
SW-21		2	.025	.375		4.37
SW-22		3	.035	.437		9.37
SW-23		4	.035	.562		12.31
SW-30	Teflon	½	.030	.250	Natural	20.73
SW-31		2	.030	.375		36.55
SW-32		2½	.030	.437		57.49
SW-33		3	.030	.562		78.16
SW-34		3½	.030	.750		135.52
SW-35		4	.040	1.000		214.85
SW-40	Ultraviolet Resistant Polyethylene	½	.030	.250	Black	1.24
SW-41		2	.045	.375		2.60
SW-42		3	.050	.437		3.13
SW-43		4	.060	.562		3.82
SW-44		5	.065	.750		8.24
SW-45		6	.095	1.000		18.13

*Larger put-ups available.

FIT-400 FEP. TEFLON* HEAT SHRINKABLE TUBING

Requires less heat. Operating temperature, 400° C. Shrinkage ratio, 2:1 (50% shrinkage). Designed for use with heat-sensitive components, solid state devices, solder joints, FEP tubing is applied as a natural, transparent tubing and requires heat of 200° F to 350° F to shrink. Stock color, natural.

Alpha No.	Size, AWG	Expanded Inside Dia.	Recovered Inside Dia.	Nom. Wall Thickness	Net/100′ Pkg.
FIT-400-24	24	.032″	.027″	.008″	$ 44.20
FIT-400-22	22	.037″	.032″	.008″	46.24
FIT-400-20	20	.046″	.039″	.008″	48.22
FIT-400-18	18	.061″	.049″	.008″	50.27
FIT-400-16	16	.076″	.061″	.009″	56.27
FIT-400-14	14	.093″	.072″	.009″	58.29
FIT-400-12	12	.116″	.089″	.009″	60.29
FIT-400-10	10	.142″	.114″	.010″	65.29
FIT-400-9	9	.159″	.124″	.010″	89.22
FIT-400-8	8	.181″	.143″	.010″	93.42
FIT-400-7	7	.198″	.158″	.011″	110.73
FIT-400-6	6	.227″	.180″	.011″	116.18
FIT-400-5	5	.249″	.198″	.011″	121.56
FIT-400-4	4	.292″	.226″	.011″	128.42
FIT-400-3	3	.312″	.249″	.011″	149.51
FIT-400-2	2	.367″	.280″	.012″	160.13
FIT-400-1	1	.400″	.311″	.012″	171.40
FIT-400-0	0	.442″	.349″	.012″	190.49

*Registered Du Pont trademark.

PACKAGED ASSORTMENTS IN 6″ LENGTHS

Alpha No.	Tubing Size, Range	No. Lengths per Box	Net per 100′ Pkg.
FIT-400 MS-1	400-24–400-9	18	$3.80
FIT-400 MS-2	400-8–400-0	18	9.62

LOW LEAKAGE MEDICAL SAFETY CABLE
UL TYPE SJT

Specially designed low leakage power cable reduces danger of electrical shock in medical and dental applications. Utilizes special low dielectric constant fillers and core for wider conductor spacing. Each conductor stranded and annealed copper. Insulation color coded FEP Teflon®. Paper tape wrap over core with red PVC jacket overall. Maximum leakage, 10 ft. length at 120 V is 6 μA to green, 16 μA through jacket. Three conductor, black, white, green. Nominal insulation thickness, .031″; jacket thickness, .050″.

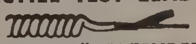
Alpha No.	Conductor Size, AWG	Nom. O.D.	Net per Spool			
			100′	250′	500′	1000′
1980	18	.430″	$252.56	$617.84	$1213.67	$2312.03
1981	16	.475″	289.31	708.87	1389.69	2647.04

NEOPRENE WELDING CABLE

Lightweight, flexible cables with high resistance to abrasion, impact, flexing and twisting. Stranded bare copper conductor, tape wrap, black Neoprene® rubber insulation. Sizes of cable recommended by NEMA Electric Welding Section for standard hand welding equipment based on lengths up to 90 ft. (i.e., 45 ft. of welding cable and 45 ft. of return cable): 100 A welder, 4 AWG; 150 A welder, 3 AWG; 200 A welder, 2 AWG; 300 A welder, 1/0 AWG; 400 A welder, 2/0 AWG; 500 A welder, 2/0 AWG; 600 A welder, 3/0 AWG.

Alpha No.	Conductor		Nom. O.D. Dia.	Cur. Cap., Amps	Net per Foot	
	Size	Strand			25-99	100-499
6112	6	266/30	0.38″	75	$ 2.07	$1.49
6113	4	420/30	0.43″	100	2.76	1.97
6114	3	532/30	0.43″	150	3.63	2.63
6115	2	665/30	0.51″	200	4.32	3.11
6116	1	833/30	0.54″	250	5.16	3.84
6117	1/0	1057/30	0.61″	300	6.26	4.40
6118	2/0	1317/30	0.67″	375	7.61	5.48
6119	3/0	1622/30	0.74″	450	9.60	7.07
6120	4/0	2109/30	0.86″	550	11.45	8.69

RETRACTILE TEST LEAD WIRE



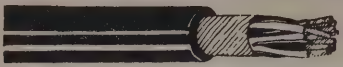
RETRACTED LENGTH 12″, EXTENDED LENGTH 6 FT.

High grade quality rubber insulation for maximum flex life extruded over a single conductor of extra flexible tinned copper which gives long life. Available in 12″ retracted length with 6″ straight lead on each end. Cord extends to 6 feet. Black or red. Rated 5,000 volts.

Alpha No.	Conductor		Ampere Rating	Nominal		Net/ Foot
	Size	Strand		Coil O.D.	Cord O.D.	
650	20	41/36	4	¾″	.165″	$2.36

UNSHIELDED AND SHIELDED COMPUTER AND CONTROL CABLES

UNSHIELDED COMPUTER AND CONTROL CABLE
UL STYLE 1061 CONDUCTORS, 600 VOLTS



For control and signal application in computers, industrial equipment and instrumentation. Stranded tinned copper conductor, .010″ color-coded PVC insulation. Cabled singly or in pairs. Gray vinyl jacket overall. Cable rated at +80° C, 300 volts. Individual conductors rated +105° C, 600 volts.

UNSHIELDED MULTI-CONDUCTOR CABLES

24 GAUGE

Nominal O.D. conductor, .045″. Nom. jkt. thickness, .063″. Conductor stranding, 7/32.

Alpha No.	No. of Conductors	Nom. O.D., In.	Net per Spool	
			1000′	100′
5200	5	.218	$ 375.26	$ 55.05
5201	7	.251	405.71	59.50
5202	12	.301	560.37	82.22
5203	15	.328	761.91	100.56
5204	19	.341	825.80	108.99
5205	27	.394	1104.09	145.74
5206	37	.418	1521.56	200.85
5207	48	.470	1912.77	252.50
5208	60	.508	2283.47	301.41

22 GAUGE

Nominal O.D. conductor, .050″. Nom. jkt. thickness, .063″. Conductor stranding, 7/30.

5210	5	.202	$ 406.05	$ 59.57
5211	7	.272	435.71	63.90
5212	12	.332	613.65	90.00
5213	15	.352	823.52	108.69
5214	19	.372	905.64	119.54
5215	27	.432	1206.77	159.29
5216	37	.481	1665.27	219.83
5217	48	.533	2080.44	274.61
5218	60	.574	2582.31	340.70

20 GAUGE

Nominal O.D. conductor, .058″. Nom. jkt. thickness, .063″. Conductor stranding, 19/32.

5220	5	.277	$ 460.80	$ 67.58
5221	7	.293	515.55	75.60
5222	12	.363	734.55	107.73
5223	15	.393	987.77	130.37
5224	19	.412	1120.07	147.84
5225	27	.494	1489.62	188.02
5226	37	.521	2050.79	270.69
5227	48	.584	2593.71	342.38
5228	60	.644	3152.60	416.16

UNSHIELDED PAIRED CABLES

24 GAUGE

Nominal O.D. conductor, .044″. Nom. jkt. thickness, .063″. Conductor stranding, 7/32.

Alpha No.	No. of Pairs	Nom. O.D., In.	Net per Spool	
			1000′	100′
5230	5	.332	$ 540.65	$ 79.30
5231	7	.352	620.48	91.02
5232	12	.438	984.23	118.02
5233	15	.488	1142.88	150.86
5234	19	.507	1298.01	171.35
5235	27	.595	1761.08	232.46
5236	37	.665	2361.03	311.67
5237	48	.747	2947.29	389.04
5238	60	.819	3763.95	496.85

22 GAUGE

Nominal O.D. conductor, .050″. Nom. jkt. thickness, .063″. Conductor stranding, 7/30.

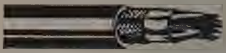
5240	5	.368	$ 593.12	$ 86.98
5241	7	.393	686.66	100.70
5242	12	.475	1008.29	133.11
5243	15	.551	1325.37	174.95
5244	19	.563	1489.62	196.64
5245	27	.604	1975.52	260.76
5246	37	.755	2653.04	350.19
5247	48	.856	3428.64	452.58
5248	60	.984	4243.01	560.07

20 GAUGE

Nominal O.D. conductor, .058″. Nom. jkt. thickness, .063″. Conductor stranding, 19/32.

5250	5	.398	$ 707.18	$103.73
5251	7	.445	850.89	112.32
5252	12	.545	1275.20	168.33
5253	15	.607	1546.65	204.15
5254	19	.634	1934.45	255.33
5255	27	.749	2586.86	341.48
5256	37	.826	3554.09	469.14
5257	48	.955	4477.98	591.09
5258	60	1.045	5536.44	730.80

SHIELDED COMPUTER AND CONTROL CABLE
UL STYLE 1061 CONDUCTORS, 600 VOLTS, 80° C



Used for control and signal application in computers, industrial equipment and instrumentation. Stranded tinned copper conductor, .010″ color-coded PVC insulation. Braided tinned copper shield. Cabled singly or in pairs; gray vinyl jacket overall. Cable rated at 80° C, 300 volts. Individual conductors rated 105° C, 600 volts.

SHIELDED MULTI-CONDUCTOR CABLES

24 GAUGE

Nominal O.D. conductor, .045″. Nom. jkt. thickness, .063″. Conductor stranding, 7/32.

Alpha No.	No. of Conductors	Nom. O.D., In.	Net per Spool	
			1000′	100′
5300	5	.247	$ 451.68	$ 66.23
5301	7	.277	497.30	72.92
5302	12	.328	672.96	98.70
5303	15	.353	885.09	116.85
5304	19	.367	960.39	126.78
5305	27	.418	1263.78	166.82
5306	37	.447	1717.74	226.77
5307	48	.497	2151.17	283.95
5308	60	.538	2545.80	336.05

22 GAUGE

Nominal O.D. conductor, .050″. Nom. jkt. thickness, .063″. Conductor stranding, 7/30.

5310	5	.287	$ 497.30	$ 72.92
5311	7	.298	538.37	78.97
5312	12	.357	739.10	108.42
5313	15	.382	962.66	127.07
5314	19	.397	1053.90	139.11
5315	27	.458	1402.94	185.18
5316	37	.513	1907.06	251.75
5317	48	.563	2356.47	311.06
5318	60	.603	2846.91	375.80

20 GAUGE

Nominal O.D. conductor, .058″. Nom. jkt. thickness, .063″. Conductor stranding, 19/32.

5320	5	.302	$ 563.46	$ 82.63
5321	7	.318	627.33	92.02
5322	12	.387	875.99	115.62
5323	15	.417	1142.88	150.86
5324	19	.437	1272.90	168.03
5325	27	.518	1726.86	227.94
5326	37	.552	2317.68	305.94
5327	48	.612	2908.52	351.95
5328	60	.673	3499.32	461.91

SHIELDED PAIRED CABLES

24 GAUGE

Nominal O.D. conductor, .044″. Nom. jkt. thickness, .063″. Conductor stranding, 7/32.

Alpha No.	No. of Pairs	Nom. O.D., In.	Net per Spool	
			1000′	100′
5330	5	.357	$ 666.12	$ 97.70
5331	7	.378	761.91	100.56
5332	12	.378	1113.21	146.94
5333	15	.513	1384.70	182.76
5334	19	.533	1560.33	205.95
5335	27	.622	2075.87	274.01
5336	37	.693	2716.91	358.62
5337	48	.778	3355.64	442.94
5338	60	.847	4215.63	556.46

22 GAUGE

Nominal O.D. conductor, .050″. Nom. jkt. thickness, .063″. Conductor stranding, 7/30.

5340	5	.392	$ 736.85	$108.07
5341	7	.418	844.04	111.41
5342	12	.497	1259.21	166.22
5343	15	.578	1608.24	202.19
5344	19	.584	1791.83	236.37
5345	27	.672	2331.36	307.76
5346	37	.784	3070.47	405.32
5347	48	.883	3903.11	515.19
5348	60	.960	4815.59	635.66

20 GAUGE

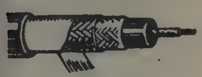
Nominal O.D. conductor, .058″. Nom. jkt. thickness, .063″. Conductor stranding, 19/32.

5350	5	.422	$ 864.57	$114.12
5351	7	.468	1056.20	139.41
5352	12	.572	1560.33	205.95
5353	15	.633	1973.24	260.46
5354	19	.665	2276.63	300.50
5355	27	.778	2995.20	395.37
5356	37	.854	4021.73	530.87
5357	48	.983	5061.96	668.19
5358	60	1.074	6177.45	815.42

COLOR CODE OF CONDUCTORS (Colors Repeated)

No.	Color	No.	Color	No.	Color	No.	Color	No.	Color	No.	Color	No.	Color
1	Black	4	Orange	7	Blue	10	White	13	Wht/Red	16	Wht/Grn	19	Wht/Gray
2	Brown	5	Yellow	8	Violet	11	Wht/Blk	14	Wht/Org	17	Wht/Blue	20	Wht/Blk/Brn
3	Red	6	Green	9	Gray	12	Wht/Brn	15	Wht/Yel	18	Wht/Violet	21	Wht/Blk/Red

MICROPHONE AND SHIELDED POWER SUPPLY CABLES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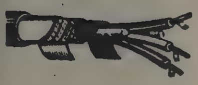
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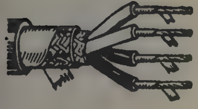
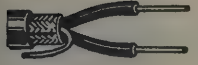

C

Great abrasion and impact resistance; extra limp so cable lies flat. **No. 8410:** 3 strands copper, 4 strands copper covered steel, cellulose yarn braid, rubber insul., rayon braid, tinned copper braid shield, cellulose yarn wrap, black rubber jacket. **Nos. 8406 and 8413:** Tinned cadmium bronze, cotton serve, rubber insulated, cabled with fillers, 100% coverage conductive textile wrap shield, tinned copper braid shield, cotton serve, black rubber jacket. **All Others:** Tinned copper, cotton wrap, rubber insulated, conductors cabled, rayon braid, tinned copper braid shield, cotton wrap, black rubber jacket. **Conductor Color Coding: 1,** white; **2,** black; **3,** red; **4,** green; **5,** blue; **6,** brown; **7,** yellow; **8,** orange.

Belden No.	Fig.	No. of Cond.	AWG and (Stranding)	Cap.,* pF/ft.	Nom. O.D.	Net Each, Spool of						
						15′	25′	50′	100′	250′	500′	1000′
8410	A	1	25 (7 x 33)	33	.245″	......	$7.65	$13.40	$24.70	$ 48.85	$ 97.65	....
8413‡	B	2	24 (45 x 40)	55	.190″	$5.10	7.70	14.30	25.00	53.50	106.90	....
8406‡	B	3	24 (45 x 40)	60	.223″	......	......	......	29.25	......	140.05	....
8412	C	2	20 (26 x 34)	55	.263″	......	8.25	15.00	25.00	55.60	111.15	$222.30
8402†•	C	2	20 (26 x 34)	55	.263″	......	......	......	25.30	60.40	120.75	....
8428#	C	2	18 (41 x 34)	60	.290″	......	......	......	31.95	......	147.10	294.15
8408†•	C	2	16 (65 x 34)	55	.385″	......	......	......	43.80	......	211.05	....
8423	C	3	20 (26 x 34)	60	.272″	......	......	17.15	26.80	62.80	125.55	251.10
8424	C	4	20 (26 x 34)	60	.290″	......	......	18.75	30.15	70.80	141.60	283.20
8407#•	C	4	16 (65 x 34)	55	.416″	......	......	......	50.65	124.60	......	....
8425	C	5	20 (26 x 34)	60	.318″	......	......	......	36.55	89.25	......	....
8426	C	6	20 (26 x 34)	60	.344″	......	......	......	44.95	109.90	......	....
8427	C	7	20 (26 x 34)	60	.355″	......	......	......	48.90	119.65	......	....
8418	C	8	20 (26 x 34)	60	.381″	......	......	......	55.35	134.10	......	....

*Capacitance between one conductor and remaining conductors (if any) connected to shield. †Brown Hypalon® jacket; 8408 has heavy duty brown Hypalon jacket. ‡Miniature cable. #Black neoprene jacket; 8407 has heavy duty black neoprene jacket. •Passes the FR-1 vertical flame test.

BROADCAST AUDIO CABLES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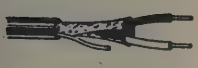
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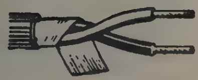
Nos. 8437 and 8441: Tinned copper, vinyl insulated, conductors cabled, 8441 stranded, and 8437 solid tinned copper drain wire, tinned copper braid shield, black vinyl jacket. **Nos. 8450, 8451 and 9451:** Tinned copper, polypropylene insulated, conductors cabled, stranded tinned copper ground drain wire, Beldfoil® aluminum-polyester shield, paper wrap, black or gray vinyl jacket (specify); **No. 9451,** gray vinyl jacket only. Jacket and shield on No. 9541 are bonded so both can be removed on automatic stripping equipment. All types are 2-conductor. **Color Coding:** Black, red.

Belden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Cap.* pF/ft.	Work Volts	Net Each, Spool of			
						100′	250′	500′	1000′
8437•▲	D	22 (Solid)	.200″	85	300	....	....	$45.40	$90.75
8441•▲	D	22 (16 x 34)	.210″	86	300	$13.25	....	49.75	99.45
8450†•	E	22 (Solid)	.118″	76	200	8.70	$13.50	27.00	54.00
8451†•	E	22 (7 x 30)	.135″	67	200	9.40	15.75	31.45	62.85
9451	E	22 (7 x 30)	.135″	67	200	....	....	33.90	67.80

*Between one conductor and other conductor connected to shield. †Miniature. ‡In self dispensing Convert-a-pak™. •Passes the FR-1 vertical flame test. ▲U.L. Listed.

TWO CONDUCTOR SHIELDED CABLE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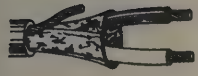
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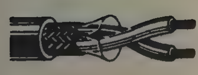
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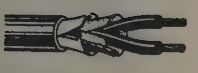
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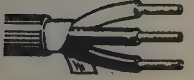
Variety of gauges, insulations, shieldings and jackets meet every service requirement. Uniform quality for dependable service. **Fig. F Types:** Tinned copper, vinyl insulated, conductors cabled, tinned copper spiral wrapped shield, chrome vinyl jacket. **Fig. G Types:** Tinned copper, polyethylene insulated, conductors cabled, Beldfoil aluminum-polyester shield, stranded tinned copper drain wire (24 AWG for 8641, 22 AWG for 8761, 20 AWG for 8760 and 8762, 18 AWG for 8719, 16 AWG for 8720 and 14 AWG for 8718), chrome vinyl jacket. **Fig. H Type:** Tinned copper, rubber insulated, conductors cabled, separator, braided tinned copper shield, chrome vinyl jacket. **Fig. J Type:** Balanced pair instrumentation cable featuring short lay cabling to minimize pick-up of electromagnetic interference and special conductive textile tape to minimize microphonic noise. Tinned copper, polypropylene insulated, conductors cabled, noise reducing tape, 24 AWG stranded tinned copper drain wire, Beldfoil aluminum-polyester shield, black vinyl jacket. **No. 9154** similar to **Fig. G,** except vinyl insulated, twisted pair, 22 AWG wire, rose gray vinyl jacket; UL Listed (Style 2094).

Belden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Color Coding	Cap.,* pF/ft.	Work Volts	Net Each, Spool of			
							100′	250′	500′	1000′
8739•▲	F	22 (Solid)	.160″	Blk, red	66	350	$ 8.70	....	$ 31.35	$ 62.70
8737•▲	F	22 (7 x 30)	.170″	Blk, red	70	350	9.40	$17.25	34.50	69.00
8759•▲	F	20 (7 x 28)	.195″	Blk, red	79	350	11.85	....	40.50	81.00
8790•	F	18 (7 x 26)	.231″	Red, wht	92	450	14.65	26.70	53.40	106.80
8780•	F	16 (19 x 29)	.266″	Blk, wht	98	450	18.40	....	69.00	138.00
8641▲	G	24 (7 x 32)	.164″	Blk, clear	42	350	8.00	....	27.75	55.50
8761▲	G	22 (7 x 30)	.171″	Blk, clear	47	350	....	....	28.50	57.00
8762▲	G	20 (7 x 28)	.200″	Blk, clear	49	350	10.25	17.95	35.80	71.55
8760▲	G	18 (16 x 30)	.222″	Blk, clear	44	450	....	21.45	42.90	85.80
8719▲	G	16 (19 x 29)	.292″	Blk, clear	47	600	....	....	63.45	126.90
8720▲	G	14 (19 x 27)	.340″	Blk, clear	47	750	....	....	96.70	193.35
8718▲	G	12 (19 x 25)	.400″	Blk, clear	49	1000	....	....	145.20	290.40
9154▲	G	20 (7 x 28)	.194″	Blk, red	100	300	....	....	35.80	71.55
8208	H	18 (16 x 30)	.255″	Red, wht	77	200	18.85	....	70.95	141.90
9452	J	24 (19 x 36)	.135″	Blk, red	58	200	9.75	....	33.75	67.50

*Between one conductor and other conductor connected to shield. •Passes the FR-1 vertical flame test. ▲U.L. Listed.

THREE CONDUCTOR SHIELDED CABLES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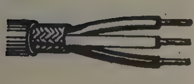
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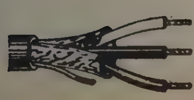

M

Three conductor cable with three conductors shielded; #30 thru #16 gauge. **Fig. K Types:** Tinned copper, vinyl insulated, conductors cabled, tinned copper spiral wrapped shield. Chrome vinyl jacket. **Fig. L Types:** Tinned copper, vinyl insulated, conductors cabled, tinned copper braid shield. Chrome vinyl jacket. No. 8643: Same, but polypropylene insulated conductors cabled around textile strength member. Operating temperature, 105° C max. **Fig. M Types:** Tinned copper, polyethylene insulated, conductors cabled, Beldfoil aluminum-polyester shield, stranded tinned copper ground drain wire (22 AWG for 9770 and 8771, 20 AWG for 8770 and 8772, 18 AWG for 8618), chrome vinyl jacket. **Color Coding:** Black, red and white except 8771, 8772, 8770 and 8618, black, red and clear.

Belden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Cap.,* pF/ft.	Working Volts	Net Each, Spool of				
						15′	50′	100′	500′	1000′
9462	G	22 (7 x 30)	.174″	80	300	....	....	$10.15	$33.15	$ 66.30
8791•	K	18 (7 x 26)	.236″	84	450	....	....	17.95	67.65	135.30
8735•▲	L†	22 (7 x 30)	.199″	60	350	$2.86	$7.55	12.95	46.65	93.30
8643	L†	30 (7 x 38)	.086″	43	200	....	....	15.25	30.30	....
8618▲	M	16 (19 x 29)	.310″	50	600	....	....	....	84.90	169.80
8771▲	M	22 (7 x 30)	.179″	41	350	....	....	17.95	35.80	71.55
8772▲	M	20 (7 x 28)	.204″	51	350	....	....	....	45.15	90.30
8770•▲	M	18 (16 x 30)	.236″	48	450	....	....	....	57.55	115.05
9770‡	M	22 (7 x 30)	.145″	60	200	....	....	20.10	40.20	80.40

*Capacitance between one conductor and other conductors connected to shield. §250′. ‡Polypropylene insulated and has brown vinyl jacket. •Passes the FR-1 vertical flame test. †Similar.
®TM: Beldfoil of Belden; Hypalon of DuPont; ▲U.L. Listed.

TWO CONDUCTOR UNSHIELDED CABLES

All purpose cable for sound, intercom and alarm systems in a variety of sizes and insulations. Uniform quality and size for dependable service, easy installation. **Fig. A Types:** Copper, vinyl insulated, cabled. **Fig. B Types:** Copper, vinyl insulated, cabled, chrome vinyl jacket. **Fig. C Types:** Copper, vinyl insulated, chrome colored jacket, parallel cable. All conductors tinned except as noted.

Belden No.	Fig.	AWG and (Stranding)	Colors ‡	Nom. O.D.	Suggested Work Volts	Net Each, Spool of 25′	100′	500′	1000′
8481•▴	A	22 (Solid)*	1	.114″	300	......	$4.36	$12.15	$ 24.30
8482•	A	19 (Solid)*	1	.130″	350	......	5.70	17.95	35.85
8492•	A	19 (Solid)†	2	.170″	600	......	......	......	41.55
8460•▴	A	18 (7 x 26)	3	.175″	450	......	8.30	27.90	68.25
8470•▴	A	16 (19 x 29)	3	.206″	600	......	......	35.35	70.65
9151▴	A	22 (7 x 30)†	2	.108″	300	......	......	14.05	28.05
9152▴	A	20 (10 x 30)†	2	.125″	300	......	......	17.10	34.20
9153▴	A	18 (16 x 30)†	2	.142″	300	......	......	23.35	46.65
9497	A	16 (19 x 29)	7	.206″	600	......	......	43.75	87.45
8442•▴	B	22 (7 x 30)	4	.165″	350	......	5.95	19.60	39.15
8205•▴	B	20 (10 x 30)	4	.190″	350	......	7.30	23.05	46.05
8486•	B	19 (Solid)*	1	.162″	350	......	......	22.15	44.25
8461•▴	B	18 (7 x 26)	3	.226″	450	......	9.90	34.15	68.25
9740•▴	B	18 (16 x 30)	4	.220″	400	......	......	34.35	68.70
8471•	B	16 (19 x 29)	3	.256″	600	......	......	46.20	92.40
8473•	B	14 (19 x 27)	3	.332″	600	......	......	73.35	146.70
8477•	B	12 (19 x 25)	3	.384″	600	......	......	103.20	206.40
8782	C	24 (7 x 32)†	5	.058 x .115	300	$1.65	3.59	10.30	20.55
8781•	C	22 (Solid)†	......	.060 x .120	300	......	3.99	10.20	20.40
8649•	C	20 (7 x 28)	6	.073 x .146	300	......	5.55	17.05	34.05

*Bare. †One cond. tinned. ‡Colors: 1—Brn, tan; 2—specify wht or brn; 3—blk, wht; 4—blk, red; (jacket color) 5—specify chrome, brown, clear or wht; 6—chrome, clear; 7—org, blk. §50′, **$2.23.** ▴UL Listed.

THREE CONDUCTOR UNSHIELDED CABLES

Three conductor unshielded cables of high quality for intercom, control line and many other applications. **Fig. D Type:** Bare copper, vinyl insulated and cabled. **Fig. E Types:** Copper, vinyl insulated, cabled. Chrome vinyl jacket. **Fig. F Types:** Copper, vinyl insulated, parallel cable.

8483•	D	19 (Solid)	6	.132″	300	......	$7.55	$25.90	$ 51.75
8443•▴	E	22 (7 x 30)*	7	.160″	200	$2.65	6.95	24.10	48.15
8487•	E	19 (Solid)	6	.180″	300	......	......	31.65	63.30
8701•	F	22 (Solid)†	8	.060 x .190	300	......	5.50	17.25	34.50
9498	D	16 (19 x 29)	9	.220″	450	......	......	56.25	112.50

*Tinned. †One conductor tinned. ‡Colors: 6, brown, gray, tan; 7, black, green, red; 8, chrome; 9, white, brown, red; orange, black and orange with black stripe. §250′, **$11.05.** ▴U.L. Listed.

VINYL MICROPHONE AND SHIELDED POWER SUPPLY CABLES

Low capacitance and loss; lightweight; small size. **Nos. 8401 and 8411:** 3 strands copper, 4 strands copper covered steel, cellulose yarn braid, polyethylene insulated, tinned copper braid shield, chrome vinyl jacket. **No. 8434:** 3 strands copper, 4 strands Copperweld, tinned, polyethylene insulated, black and red conductors under Beldfoil® ISO-Shield™, stranded ground wire, green and clear conductors under overall Beldfoil aluminum-polyester shield, chrome vinyl jacket. Pairs cabled on common axis to reduce diameter. **No. 8420:** Tinned cadmium bronze, cotton wrap, polyethylene insulated, cabled with fillers, rayon braid, tinned copper braid shield, chrome vinyl jacket. **No. 8723:** Tinned copper, polypropylene insulated, black and red under Beldfoil ISO-Shield, green and white under Beldfoil aluminum-polyester shield, stranded tinned copper common drain wire, chrome vinyl jacket. Pairs cabled on common axis to reduce dia. **No. 8729:** Tinned copper, polyethylene insulated, conductors cabled, Beldfoil aluminum-polyester shield, three 23 AWG solid copper covered steel, one 25 AWG stranded copper covered steel drain wires, white vinyl jacket. Conductors color-coded red, black, green and clear. **All Others:** Tinned copper, polyethylene insulated, conductors cabled, rayon braid, tinned copper braid shield, chrome vinyl jacket.

Belden No.	Fig.	No. of Cond.	AWG and (Stranding)	Cap.,* pF/ft.	Nom. O.D.	Net Each, Spool of 15′	25′	50′	100′	250′	500′	1000′
8411	G	1	25 (7 x 33)	40	.144″	$2.35	$3.40	$ 5.40	$10.25	$17.85	$ 35.70	$ 71.40
8401	G	1	25 (7 x 33)	25	.200″	2.89	3.92	6.95	12.70	22.80	45.60	91.20
8420†•	H	2	24 (45 x 40)	40	.185″	4.17	6.15	9.45	17.80	35.35	70.60	......
8422	I	2	22 (16 x 34)	32	.231″	3.66	5.55	10.60	18.50	34.00	67.95	135.90
8403•	I	3	20 (26 x 34)	45	.244″	5.30	......	13.65	25.00	48.85	97.65	195.30
8404•▴	I	4	20 (26 x 34)	40	.248″	5.70	......	......	25.00	53.80	107.50	214.95
8405•	I	5	20 (26 x 34)	40	.275″	......	......	......	......	62.85	125.70	251.40
8434	J	4	25 (7 x 33)	40	.165″	......	......	......	13.15	......	49.60	99.15
8723	K	4	22 (7 x 30)	62	.165″	......	......	......	13.40	......	49.90	99.75
8729▴	L	4	22 (19 x 34)	42	.265″	......	......	......	......	......	80.05	160.05

*Between one conductor and remaining conductors (if any) connected to shield. †Miniature. ▴U.L. Listed.

75-OHM PRECISION VIDEO CABLES

High quality carrier of video signal in color or monochrome studios; 100% sweep tested.

Belden No. 8279 (Fig. M)—Has 23 (7 x 31) bare compacted conductor, polyethylene insulated, tinned copper braid shield, black polyethylene jacket. Nom. impedance, 75 ohms. Nom. capacitance, 21 pF/ft. Nom. O.D., .220″; fits RG-59/U connectors.
100′ Spool, Net...... **$21.35** **250′ Spool,** Net...... **$39.75** **500′ Spool,** Net...... **$79.45**

Belden No. 8281 (Fig. N)—Has 20 (solid) copper conductor, polyethylene insul., tinned copper double braid shield, black polyethylene jkt. Nom. imped., 75 ohms. Nom. cap., 21 pF/ft. Nom. O.D., .304″.
500′ Spool, Net.................... **$169.30** **1000′ Spool,** Net.................... **$338.55**

Belden No. 9231• (Fig. N)—Same as 8281 except gray non-contaminating vinyl jacket.
500′ Spool, Net.................... **$176.35** **1000′ Spool,** Net.................... **$352.65**

Belden No. 8299 Adapter—Use with PL-259 connector and 8281, 9231 cable only. Net/25... **6.30**

AUDIO, COMMUNICATION AND INSTRUMENTATION CABLES

Multiple Quads Audio and Communication Cables (Fig. O): Polypropylene insulation, 22 AWG (7 x 30) tinned copper, cabled in quads, Beldfoil aluminum-polyester shield over black and red conductors, 24 AWG stranded tinned copper drain wire, clear polyester tape over entire quad, shields color-coded, chrome vinyl jacket. Nom. capacitance, 67 pF/ft. between one conductor and other conductors connected to shield. Nom. O.D., .330″ No. 8726; .450″ No. 8727. Cabled around common axis; request information before planning high and low level circuits in same cable.

Belden No. 8726—100′ Spool, Net... **$35.20** **500′ Spool,** Net... **$160.45** **1000′ Spool,** Net... **$320.85**
Belden No. 8727—100′ Spool, Net... **72.10** **500′ Spool,** Net... **356.35** **1000′ Spool,** Net... **713.00**

Multiple Triplets Audio, Communication and Instrumentation Cables (Fig. P): Tinned copper, polypropylene insulated, 22 AWG (7 x 30) conductors cabled in triplets, each shielded with Beldfoil aluminum-polyester shield, 22 AWG stranded tinned copper drain wire, .020″ white vinyl jacket, individual triplet jackets identified by color-coded stripes, triplets cabled, overall chrome vinyl jacket. Nom. capacitance, 60 pF/ft. between one conductor and other conductors connected to shield. Insulation, .008″ th. Working voltage, 300 V suggested. Conductors color coded black, red and green.

Belden No. 9771•—21 conductors (7 triplets); .550″ nom. diameter. **500′ Spool,** Net..... **$343.20**
Belden No. 9772•—36 conductors (12 triplets); .740″ nom. diameter. **500′ Spool,** Net.... **583.00**

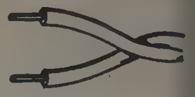
Telephone Cables (Fig. B): Bare copper 22 AWG (solid), polyethylene insulated, conductors cabled, rose gray vinyl jacket. Insulation, .016″ thick; jacket, .022″ thick.

Belden No. 8795—Two conductor color-coded red, green. Nom. O.D., .160″. U.L. Listed.
500′ Convert-a-Pak, Net............... **$18.85** **1000′ Spool,** Net.................. **$37.65**

Belden No. 8794—Three conductor color-coded red, green, yellow. Nom. O.D., .168″. U.L. Listed.
500′ Convert-a-Pak, Net............... **$23.40** **1000′ Spool,** Net.................. **$46.80**

Belden No. 9794—Four conductor color-coded green, red, yellow, black. Nom. O.D., .190″; jacket, .025″ th. **500′ Convert-a-Pak,** Net............ **$28.90** **1000′ Spool,** Net............. **$57.75**

®TM: Beldfoil of Belden. •Passes the FR-1 vertical flame test. U.L. Listed.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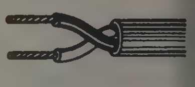
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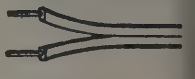
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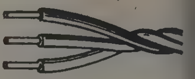
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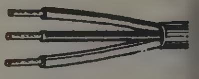
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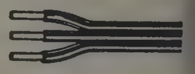
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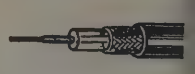
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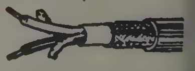
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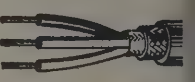
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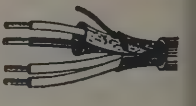
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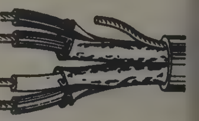
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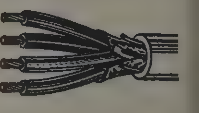
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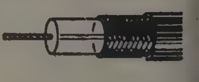
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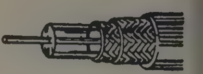
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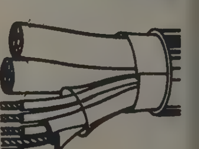
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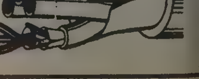
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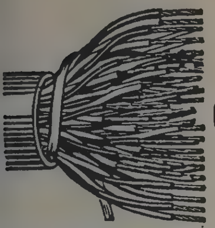

A

MULTIPLE PAIR UNSHIELDED SOUND CABLES (FIG. A)

Made with 80°C vinyl plastic compounds for high dielectric strength and best physical properties. Conductors are paired with a short-lay twist for conductor balance. Tinned copper, vinyl insulated, cabled in color-coded pairs, chrome vinyl jacket. Voltage, 200 V working except 18 gauge, 400 V. U.L. Listed.

Belden No.	No. of Pairs	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 100′	500′	1000′
8740•	1	22 (Solid)	.150″	$ 5.40	$ 16.50	$ 33.00
8741•	2	22 (Solid)	.205″	9.05	30.85	61.65
9744•	2	22 (7 x 30)	.234″	....	36.30	72.60
9156	2	18 (16 x 30)	.282″	....	66.30	132.60
9750	3	20 (10 x 30)	.301″	17.50	67.50	135.00
8742•	3	22 (Solid)	.240″	12.00	43.05	86.10
9745•	3	22 (7 x 30)	.280″	....	53.95	107.85
8690•	3	18 (16 x 30)	.362″	25.00	103.35	206.70
8757•	4	22 (Solid)	.255″	....	57.10	114.15
9746•	4	22 (7 x 30)	.295″	....	68.95	137.85
9157	4	18 (16 x 30)	.353″	....	124.90	249.75
9158	5	22 (Solid)	.298″	....	68.65	137.25
9159	5	18 (16 x 30)	.409″	....	165.70	331.35
9751	6	20 (10 x 30)	.370″	28.00	127.65	255.30
8743•	6	22 (Solid)	.305″	19.60	75.90	151.80
8747•	6	22 (7 x 30)	.320″	23.65	92.65	185.25
8691•	6	18 (16 x 30)	.550″	47.50	216.45	432.90
9160	8	22 (Solid)	.336″	....	106.15	212.25
9161	8	18 (16 x 30)	.469″	....	267.45	535.00
9752	9	20 (10 x 30)	.447″	41.40	193.90	387.75
8744•	9	22 (Solid)	.354″	25.00	113.65	227.25
8748•	9	22 (7 x 30)	.389″	30.25	142.05	284.10
8692•	9	18 (16 x 30)	.590″	66.75	315.60	632.00
8753•	11	22 (Solid)	.384″	31.05	146.40	292.80
9747•	12	22 (7 x 30)	.440″	....	195.45	390.90
9741•	12	18 (16 x 30)	.690″	....	419.25	839.00
8754•	13	22 (Solid)	.409″	34.80	165.25	330.45
9755	15	20 (10 x 30)	.535″	65.20	301.95	604.00
8745•	15	22 (Solid)	.420″	42.10	195.85	391.65
8749•	15	22 (7 x 30)	.455″	50.55	238.80	477.60
9742•	15	18 (16 x 30)	.800″	....	523.00	1046.00
8755•	19	22 (Solid)	.445″	....	244.80	489.60
9748•	19	22 (7 x 30)	.520″	....	300.75	602.00
9743•	19	18 (16 x 30)	.880″	....	661.00	1322.00
8756•	23	22 (Solid)	.510″	....	296.65	594.00
9749•	23	22 (7 x 30)	.570″	....	386.25	773.00
8746‡•	27	22 (Solid)	.550″	....	.79†	677.00
8750‡•	27	22 (7 x 30)	.595″	....	1.06†	903.00

*In self-dispensing Convert-a-Pak. †Less than 1000′, per foot. ‡Available 250′, 500′, 1000′ or 2000′ spools: All spools one piece; lengths may vary +20%, −0%. •Pass FR-1 vertical flame test.

UNSHIELDED SOUND CABLES

Belden No. 8751 (Fig. B)—51 pairs of shielded cable, #22 solid tinned copper, vinyl insulated, Beldfoil aluminum-polyester shield over color-coded cabled pairs, #22 (7 x 30) stranded ground drain wire, chrome vinyl jacket. Working volts, 200. Nom. O.D., .700″. Specify length§.

1000 ft., Net.......$1754.00
Less than 1000′, per ft. 2.05

Belden No. 9753 (Fig. C)—Same as 8751 except: 102 pairs; nom. O.D., 1.100″. Specify length§.

1000 ft., Net.......$3392.00
Less than 1000′, per ft. 3.93

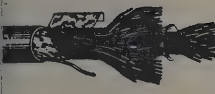
§Available 250′, 500′, 1000′ or 1500′ spools: All spools one piece; lengths may vary +20%, −0%.

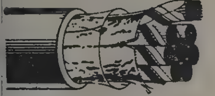
Belden No. 8752 (Fig. B)—38 pairs of shielded cable, same as 8751 but polypropylene insulated. Nom. O.D., .600″. Specify length♦.

1000 ft., Net.......$1491.00
Less than 1000′, per ft. 1.74

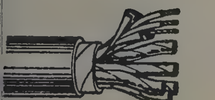
♦Available 250′, 500′ or 1000′ spools: All spools one piece; lengths may vary +20%, −0%. Above cables pass FR-1 vertical flame test.

WRITE FOR COLOR CODING


B


C

MULTIPLE PAIR INDIVIDUALLY SHIELDED CABLES (FIG. D)

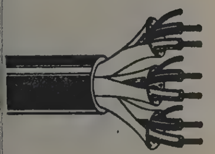

D

Conductors 22 gauge vinyl or 18 and 22 gauge polypropylene insulated, cabled in color-coded pairs, each pair and its ground wire under Beldfoil® aluminum-polyester shield, overall chrome vinyl jacket. Working voltage, 300 V, 22 AWG; 350 V, 20 AWG; 400 V, 18 AWG. Nom. capacitance between conductors, 77 pF/ft., vinyl; 55 pF/ft., polypropylene. Pass FR-1 vertical flame test.

*Vinyl; all others polypropylene insulation. †Also available in 250′ and 500′. All spools one piece; lengths may vary +20%, −0%. U.L. Listed.

Belden No.	No. of Pairs	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 100′	250′	500′	1000′
8767*	3	22 (Solid)	.279″	$ 21.70	......	$ 84.25	$ 168.45
8768*	6	22 (Solid)	.394″	37.90	......	175.80	351.60
8764*	9	22 (Solid)	.440″	51.45	......	249.90	499.80
8765*	11	22 (Solid)	.485″	61.95	......	296.55	594.00
8766*	15	22 (Solid)	.540″	85.30	......	406.50	813.00
8777	3	22 (7 x 30)	.295″	24.50	$49.00	97.90	195.75
8778	6	22 (7 x 30)	.410″	42.45	102.00	205.45	410.85
8774	9	22 (7 x 30)	.450″	68.80	150.70	301.30	603.00
8775	11	22 (7 x 30)	.495″	74.95	178.60	357.15	715.00
9768	12	22 (7 x 30)	.495″	81.70	191.65	383.25	767.00
8776	15	22 (7 x 30)	.570″	98.35	236.65	473.25	947.00
9769	17	22 (7 x 30)	.620″	119.50	276.00	552.00	1104.00
8769	19	22 (7 x 30)	.630″	133.35	315.75	632.00	1263.00
8773†	27	22 (7 x 30)	.760″	183.40	449.00	998.00	1796.00
9873	3	20 (10 x 30)	.350″	26.05	58.95	117.85	235.65
9874	6	20 (10 x 30)	.480″	52.20	119.55	239.05	478.05
9875	9	20 (10 x 30)	.560″	77.20	174.25	348.45	697.00
9876	11	20 (10 x 30)	.585″	90.70	209.65	419.25	839.00
9877	12	20 (10 x 30)	.605″	97.50	225.75	451.50	903.00
9878	13	20 (10 x 30)	.620″	104.35	241.50	483.00	966.00
9879	15	20 (10 x 30)	.660″	117.85	273.00	546.00	1092.00
9773	3	18 (16 x 30)	.392″	33.40	......	151.20	302.40
9774	6	18 (16 x 30)	.575″	68.05	......	309.25	619.00
9775	9	18 (16 x 30)	.630″	103.35	......	466.50	933.00
9776	12	18 (16 x 30)	.765″	136.60	......	621.00	1242.00
9777	15	18 (16 x 30)	.830″	170.25	......	776.00	1550.00

MULTIPLE PAIR INDIVIDUALLY SHIELDED DIRECT BURIAL, AUDIO AND DATA CABLE (FIG. E)

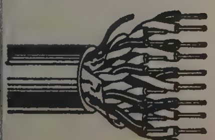

E

Especially designed for direct burial installation. Tinned copper, polypropylene insulated, Beldfoil aluminum-polyester shield over individually twisted pairs with 22 AWG stranded tinned copper drain wire, black high density polyethylene jacket.

Belden No.	No. of Pairs	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 100′	500′	1000′
9883	3	20 (10 x 30)	.340″	....	$124.65	$249.30
9886	6	20 (10 x 30)	.480″	....	262.45	525.00
9890	10*	20 (Solid)	.310″	....	133.45	266.85
9894	15*	20 (Solid)	.390″	....	173.35	346.65

*Not paired.

MULTIPLE PAIR SHIELDED SOUND AND CONTROL CABLE (FIG. F)


F

Tinned copper, vinyl insulated twisted pairs, overall Beldfoil aluminum-polyester shield, stranded tinned copper drain wire, chrome vinyl jacket. UL Listed.

9302	2	22 (Solid)	.211″	$10.60	$ 38.35	$ 76.65
9306	6	22 (Solid)	.310″	21.55	84.10	168.15
9309	9	22 (Solid)	.360″	26.70	121.30	242.55
9315	15	22 (Solid)	.435″	46.80	215.80	431.55
9319	19	22 (Solid)	.470″	57.75	265.00	530.00
9327	27	22 (Solid)	.563″	78.25	360.25	721.00

BELDEN Electronic Wire and Cable

DATA AND INSTRUMENTATION CABLES

Belden No. 9640* (Fig. A)—28 AWG solid copper, Geosol3 insulated, conductors cabled, 3 conductor group (blk, red, blue) shielded from 2 conductor group (grn, wht), overall Beldfoil® aluminum-polyester shield, white vinyl jacket. Nom. O.D., .087″; nom. cap. between cond., 60 pF/ft. WV, 100V.

25′ Spool, Net........................**$4.22** **50′ Spool,** Net........................**$7.25**

Belden No. 9784* (Fig. B)—Six pair; 24 AWG (7 x 32) stranded tinned copper, foam polypropylene insulation, cond. cabled, each pair has separate aluminum-polyester shield with 24 AWG drain wire, chrome vinyl jacket. Nom. O.D., .494″; nom. cap. between cond., 12 pF/ft. WV, 60 V.

500′ Spool, Net....................**$202.80** **1000′ Spool,** Net....................**$405.60**

Belden No. 8725* (Fig. B)—Four pair; 20 AWG (7 x 28) tinned copper cond., polypropylene insulated. four groups of 2 conductors with 22 AWG drain wire. Each group individually Beldfoil aluminum-polyester shield with polyester tape wrap, chrome vinyl jacket. Nom. O.D., .345″; cap. between cond., 27 pF/ft. WV, 400 V. Cabled around common axis.

500′ Spool, Net....................**$195.10** **1000′ Spool,** Net....................**$390.15**

Belden No. 8700 (Fig. C)—28 AWG (Solid) tinned copper, polypropylene insul., bare copper braid shield, black vinyl jacket. Shield coverage, 91%. Nom. O.D., .054″. Nom. cap., 48 pF/ft.

25′ Spool, Net........................**$4.29** **50′ Spool,** Net........................**$7.20**

100′ Spool, Net......................**$12.25** **250′ Spool,** Net......................**$24.30**

Belden No. 9272 (Fig. E)—Two 20 AWG (7 x 28) tinned copper cond., polyethylene color coded insulation, tinned copper braid shield, blue vinyl jacket. Nom. O.D., .242″; cap., 19.7 pF/ft. U.L. Listed.

100′ Spool, Net....**$17.35** **500′ Spool,** Net...**$59.85** **1000′ Spool,** Net........**$119.70**

Belden No. 9271 (Fig. F)—Two 28 (Solid) tinned copper cond., polyethylene color coded insulation Beldfoil aluminum-polyester shield with stranded tinned copper drain wire, blue vinyl jacket. Nom. cap., 12.2 pF/ft. 25 AWG (7 x 33); nom. O.D., .242″. U.L. Listed.

100′ Spool, Net....**$9.30** **500′ Spool,** Net....**$31.90** **1000′ Spool,** Net..........**$63.75**

HI-FI, STEREO AND PHONOGRAPH CABLES

Belden No. 8430* (Fig. G)—Phono arm cable has two 32 AWG, 7 x 40 stranded, tinned copper conductors, vinyl insulated, twisted pair. O.D., .050″ nominal. Coded black, red. Capacitance, 21 pF/ft., nom.

10′ Spool, Net.......**$1.53** **25′ Spool,** Net.......**$2.12** **250′ Spool,** Net.......**$10.60**

Belden No. 9435* (Fig. G)—Same as 8430 except: Three conductors color coded blk, red, wht; O.D., .058″ nom.; capacitance between conductors 22 pF/ft.

10′ Spool, Net..........**$2.12** **25′ Spool,** Net........**$3.03** **100′ Spool,** Net.......**$7.25**

Belden No. 9436* (Fig. G)—Same as 8430 except: Four conductors color coded blk, red, wht, grn; O.D., .065″ nom.; capacitance between conductors 22 pF/ft.

10′ Spool, Net..........**$2.63** **25′ Spool,** Net.........**$3.73** **100′ Spool,** Net.......**$8.65**

Belden No. 8429* (Fig. H)—Phono arm cable same as above, but Tith tinned copper braid shield. Capacitance 50 pF/ft. one conductor to other conductor and shield. Nom. O.D., .057″.

10′ Spool, Net..........**$2.03** **25′ Spool,** Net.........**$3.35** **250′ Spool,** Net......**$19.50**

Belden No. 8419* (Fig. H)—Similar to the above but has three conductors for three-wire systems. Capacitance one cond. to other cond. and shield, 50 pF/ft. O.D., .067″ nom. Coded blk, red, wht.

10′ Spool, Net..........**$2.23** **25′ Spool,** Net.........**$3.96** **250′ Spool,** Net......**$24.00**

Belden No. 9437• (Fig. H)—Same as 8429 except 4 cond. color coded blk. red, wht, grn. Nom. O.D., .072″

10′ Spool, Net..........**$2.80** **25′ Spool,** Net.........**$4.52** **100′ Spool,** Net......**$13.60**

Belden No. 8431 (Fig. I)—Single 24 AWG, 16 x 36 stranded, tinned copper cond., rubber insul., with tinned copper braid shld. and brown cotton braid overall. O.D., .095″ nom. Cap., 96pF/ft. nom.

10′ Spool, Net............................**$1.93** **15′ Spool,** Net............................**$2.44**

25′ Spool, Net............................**$3.15** **100′ Spool,** Net..........................**$10.15**

Belden No. 8421 (Fig. J)—Hi-Fi connecting cable has single 25 AWG, 7 x 33 stranded of 3 strands tinned copper, 4 strands copper covered steel; cellular polyethylene insulated for low loss, tinned copper spiral wrapped shield and chrome vinyl jacket. O.D., .180″ nominal. Capacitance, 18 pF/ft., nominal.

15′ Spool, Net.........**$2.82** **25′ Spool,** Net.........**$3.78** **50′ Spool,** Net.........**$6.80**

100′ Spool, Net..........................**$11.20** **250′ Spool,** Net..........................**$21.40**

Belden No. 8416 (Fig. K)—Stereo, language lab. Same as 8421 except: Polyethylene insulated; color coded red, clear (polarity rib on red); individually shielded. O.D., .106″ x .213″. Nom. cap., 35 pF/ft. between conductors, each channel. **15′ Spool,** Net.......**$ 3.28** **25′ Spool,** Net.......**$ 4.10**

50′ Spool, Net.........**$7.65** **100′ Spool,** Net...... **13.50** **250′ Spool,** Net...... **26.10**

Belden No. 8417• (Fig. L)—Min. audio connecting cable, totally shielded. Same as 8416 except single cond. with double Beldfoil aluminum-polyester shield, inner shield folded, 26 AWG stranded tinned copper, grd. drain wire. Nom. O.D., .140″. Nom. cap., 25 pF/ft. between cond.

15′ Spool, Net.........**$2.63** **25′ Spool,** Net.........**$3.12** **50′ Spool,** Net.......**$ 4.82**

100′ Spool, Net..........................**$9.10** **250′ Spool,** Net.......................... **16.95**

Belden No. 9264 (Fig. V)—Hi-fi cable has one 24 AWG, 7 x 32 stranded conductor, flame retardant polyethylene ins. Beldfoil aluminum-polyester shield, white vinyl jacket. No. O.D., .122 x .146″″. Nom. impedance, 50 ohms. Nom. cap between cond's., 34 pF/ft. UL Listed. **100′ Spool, Net**..**$ 8.30**

250′ Spool, Net.......**$15.15** **500′ Spool,** Net......**$30.30** **1000′ Spool,** Net..... **60.60**

SPECIAL AUDIO AND SOUND CABLES

Belden No. 8734• (Fig. M)—Tinned copper, vinyl insulated, 1 white coded conductor with tinned copper braid shield, 3 conductors cabled, chrome vinyl jacket; unshielded conductors coded black, red. Conductors 22 AWG, 7 x 30 stranded. O.D., .194″ nominal. Suggested 350 V working.

100′ Spool, Net.......**$12.00** **500′ Spool,** Net......**$41.55** **1000′ Spool,** Net.....**$83.10**

Belden No. 8763 (Fig. N)—Three 20 AWG, 7 x 28 stranded, tinned copper conductors polyethylene insulated; 2 conductors (black red) shielded in Beldfoil aluminum-polyester shield; unshielded conductor coded clear, #20 stranded tinned copper ground drain wire, chrome vinyl jacket. O.D., .210″ nominal. Suggested 350 V working. **500′ Spool,** Net......**$46.65** **1000′ Spool,** Net.....**$93.30**

Belden No. 8732 (Fig. O)—Four 22 AWG, 7 x 30 stranded tinned copper conductors polyethylene insulated; tinned copper braid shield over 2 (black, clear) conductors; unshielded conductors coded black, clear; overall chrome vinyl jacket. O.D., .188″ x .296″ nominal. Suggested 350 V working. U.L. Listed.

100′ Spool, Net......**$15.00** **500′ Spool,** Net.....**$52.90** **1000′ Spool,** Net.....**$105.75**

Belden No. 8722• (Fig. P)—Four 20 AWG, 7 x 28 stranded, tinned copper conductors vinyl insulated; Beldfoil aluminum-polyester shield over 2 conductors (black, red); unshielded conductors coded green, white; #22 stranded tinned ground drain wire, chrome vinyl jkt. O.D., .230″ nom. Suggested 350 WV. Pairs cabled on common axis to reduce dia. **500′ Spool,** Net. **$60.45** **1000′ Spool,** Net. **$120.90**

Belden No. 8724• (Fig. P)—Same as 8722, but 22 AWG, 7 x 30 stranded, 24 AWG stranded tinned copper ground drain wire, 200 working volts; polypropylene insulated, nominal O.D., .165″.

250′ Spool, Net.......**$24.15** **500′ Spool,** Net......**$48.30** **1000′ Spool,** Net.....**$96.60**

Belden No. 9155 (Fig. P)—Same as 8724 but 20 AWG, 7 x 28 shielded, and 18 AWG, 16 x 30 unshielded, 22 AWG stranded tinned copper drain wire; rose gray vinyl jacket. O.D., .256″ nominal. Suggested 300 V. working. U.L. Listed **500′ Spool,** Net......**$63.00** **1000′ Spool,** Net...**$126.00**

Belden No. 8728 (Fig. Q)—Four 22 AWG, 7 x 30 stranded, tinned copper, polypropylene insulated, cabled in pairs, each pair has Beldfoil aluminum-polyester shield with copper drain wire and polyester film over shields, overall Beldfoil aluminum-polyester shield, stranded tinned copper drain wire, chrome vinyl jacket. Color coded red, blk, grn, wht. Pairs cabled on common axis to reduce diameter. O.D., .198″ nom. 400 WV, suggested. U.L. Listed. **500′ Spool,** Net. **$74.10** **1000′ Spool,** Net. **$148.20**

Belden No. 8730 (Fig. R)—Four 22 AWG, 7 x 30 stranded, tinned copper, polypropylene insulated; Beldfoil aluminum-polyester shield over one pair (red, blk) with stranded tinned copper drain wire; unshielded coded green, white; chrome vinyl jacket. Pairs cabled on separate axis for reduced magnetic coupling. O.D., .205″ nom. 200 WV suggested.

500′ Spool, Net..........................**$57.60** **1000′ Spool,** Net..........................**$115.20**

Belden No. 8733 (Fig. S)—Three 22 AWG, 7 x 30 stranded, tinned copper conductors, polyethylene insulated, each has separate Beldfoil aluminum-polyester shield; ground wire for each conductor is tinned cadmium bronze ribbon under Beldfoil aluminum-polyester shield; conductors cabled and color coded, black red and clear. Overall chrome vinyl jacket. Nominal .205″ O.D. Suggested 350 V working.

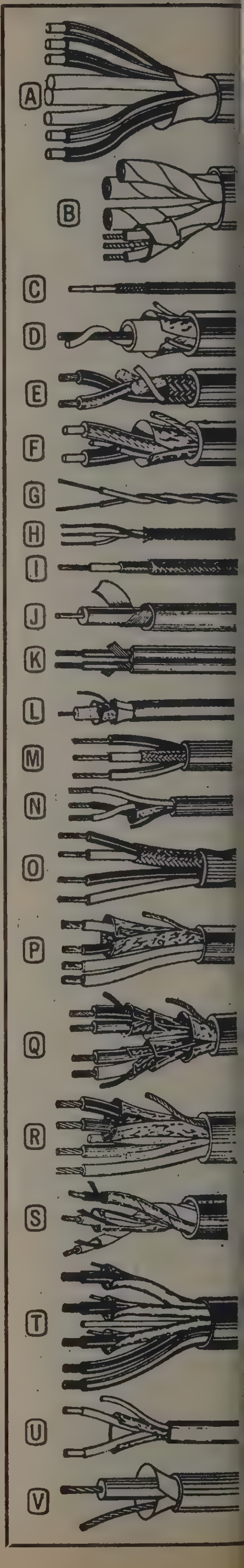
100′ Spool, Net..........................**$14.10** **500′ Spool,** Net..........................**$47.95**

Belden No. 8788 (Fig. T)—Same as 8733 but vinyl insul., color coded blk, red, grn, plus 2 cond. unshielded. cabled around vinyl filler (yel., blue). Nom. O.D., .236″. **500′ Spool,** Net........**$79.60**

Belden No. 8640• (Fig. U)—Two 28 AWG solid copper, Geosol™ insulated, conductors cabled in pairs, Beldfoil aluminum-polyester shield each pair, 30 AWG solid tinned copper covered steel drain wire, white vinyl jacket. Color coded blk, red. Nom. O.D., .090″; cap. between cond. 55 pF/ft.

250′ Spool, Net..........................**$11.70** **500′ Spool,** Net..........................**$23.35**

®TM: Beldfoil of Belden. •Passes the FR-1 vertical flame test.

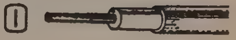


RG/U TRANSMISSION LINE CABLES

eet JAN-C-17A specs and polyethylene insulation over conductors except as otherwise indicated.

lden No.	Fig.	No. RG-	AWG and (Stranding)	Shields No.	Shields Type	Jack-et	Nom. O.D.	Net Each, Spool of 25′	50′	100′	500′	1000′
37•	M	8/U	13 (7 x 21) **b**	1	**b**	BV	.405″	......	$16.40	$26.20	$104.35	$208.65
51*•ɪ	M	8A/U	13 (7 x 21) **b**	1	**b**	BN	.405″	......	......	30.75	119.80	239.55
12•ɪ	N	9/U	13 (7 x 21) **a**	2	**a, b**	GN	.420″	......	......	74.40	....	677.00
38•	M	11/U	18 (7 x 26) **c**	1	**b**	BV	.405″	......	......	25.00	92.50	184.95
32	N	11/U	14 (19 x 26½) **b**	2	**b**	B	.520″	......	......	....	313.15	627.00
51*•	M	11A/U	18 (7 x 26) **c**	1	**b**	BN	.405″	......	......	....	106.60	213.15
50*•	O	22B/U	18 (7 x .0152) **d**	2	**c**	BN	.420″	......	......	51.70	215.10	430.20
59	M	58A/U	20 (19 x .0071) **c**	1	**c**	BV	.195″	$4.43	6.80	12.90	38.80	77.55
10ɪ	M	58/U	20 (Solid) **b**	1	**c**	BV	.195″	4.19	6.45	11.20	34.90	69.75
52*	M	58C/U	20 (19 x .0071) **c**	1	**c**	BN	.195″	......	......	....	45.90	91.80
53*	M	59B/U	.023 (Solid)‡	1	**b**	BV	.242″	......	......	....	48.60	97.20
55*	P	62B/U	24 (7 x 32)†‡	1	**b**	BN	.242″	......	......	....	58.45	116.85
52*ɪ	M	122/U	22 (27 x 36) **c**	1	**c**	BN	.160″	......	......	13.15	43.15	86.25
16*ɪ	M	174/U	26 (7 x 34)‡	1	**c**	BN	.100″	......	......	8.60	27.00	54.00
18	M	....	27 (7 x 35)‡	1	**c**	BV	.150″	......	......	11.55	36.75	73.50
57*•ɪ	M	213/U	13 (7 x 21) **b**	1	**b**	BN	.405″	......	......	....	119.80	239.55
58*•ɪ	N	214/U	13 (7 x .0296) **a**	2	**a**	BN	.425″	......	......	....	405.00	810.00
73*ɪ	N	223/U	19 (Solid) **a**	2	**a**	BN	.206″	......	......	34.65	150.25	300.45
22	Q	....	20 (7 x 28) **c**	2	**c**	YV	.260″	......	......	21.45	78.55	....
57	Q	59/U	20 (Solid) **b**	2	**b**	B	.360″	......	......	36.15	168.00	336.00

IL-C-17D spec. †Semi-solid polyethylene insulation. ‡Bare copper covered steel. **a**—Silver-coated pper. **b**—Bare copper. **c**—Tinned copper. **d**—Bare copper, one cond. has tinned center strand. —Black non-contaminating vinyl. BV—Black vinyl. GN—Gray non-contam. vinyl. YV—Yellow yl. B—Black neoprene. •Passes the FR-1 vertical flame test. ɪU.L. Listed.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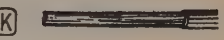
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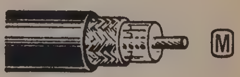
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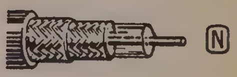
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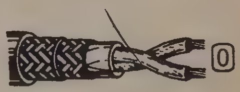
FOAM CORE TRANSMISSION LINE (FIG. M)

den No. 9221—Tinned copper 30 AWG, 7 x 38 stranded conductor, cellular polypropylene insula- ı, tinned copper shield, black vinyl jacket. Nom. cap., 17.4 pF/ft. O.D., .097″ nom. U.L. Listed. **Spool,** Net.........**$3.47** **100′ Spool,** Net........**$9.45** **500′ Spool,** Net......**$30.70**

den No. 8214•—RG-8/U for citizens' band and amateur radio as 50-ohm antenna cable. Copper AWG, 7 x 19 stranded conductor, cellular polyethylene foam insulation, bare copper braid shield h black vinyl jacket overall. Nom. cap., 26 pF/ft. Vel. of propag. 78%, nom. Nom. O.D., .405″. . Listed. **50′ Spool,** Net...........**$18.05** **100′ Spool,** Net.....................**$ 26.85** **′ Spool,** Net.................. **125.85** **1000′ Spool,** Net.................... **251.70**

den No. 8219—Same, but RG-58/AU with tinned copper 20 AWG, 19 x 32 stranded conductor, ned copper braid shield; nom. O.D., .195″. U.L. Listed. **100′ Spool,** Net...............**$13.60** **′ Spool,** Net.......................**$44.40** **1000′ Spool,** Net...................... **88.80**

M: Permohm, Weldohm, Beldfoil and Celluline of Belden. •Passes the FR-1 vertical flame test.


O

MISCELLANEOUS SPECIAL DUTY WIRES

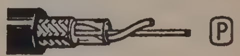
den No. 8868 High Voltage CRT Lead (Fig. I)—Tinned copper 22 AWG, 7 x 30 stranded, con- tive polyethylene, polyethylene insulated, red vinyl jacket; extra flexible and small. Rated 50,000 V akdown; 25,000 V working. O.D., .150″ nominal. **25′ Spool,** Net.....................**$ 2.87** **′ Spool,** Net.........................**$7.25** **500′ Spool,** Net..................... **23.55**

den No. 8866 High Voltage CRT Lead (Fig. I)—Tinned copper 18 AWG, 16 x 30 stranded, con- tive polyethylene, polyethylene insulated, red vinyl jacket. Rated 110 kV breakdown; 40,000 V rking. O.D., .208″ nom. **25′ Spool,** Net.**$4.34** **100′ Spool,** Net.**$12.45** **500′ Spool,** Net.**$45.00**

den No. 8869 High Voltage CRT Lead (Fig. I)—Tinned copper 22 AWG, 7 x 30 stranded, con- tive polyethylene, polyethylene insulated, black vinyl jacket. Rated 35,000 V breakdown, 17,000 V rking. Nom. O.D., .120″. **25′ Spool,** Net.**$2.35** **100′ Spool,** Net.**$5.85** **500′ Spool,** Net.**$18.30**

den No. 8014• Indoor Aerial Wire (Fig. K)—Tinned copper 25 AWG, 13 x 36 stranded, chrome vinyl ılation. O.D., .044″ nom. **25′ Spool,** Net...........**$1.65** **500′ Spool,** Net...........**$7.80**

M: Celenamel, Duofoil of Belden; Hypalon of DuPont. •Passes the FR-1 vertical flame test.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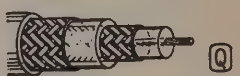
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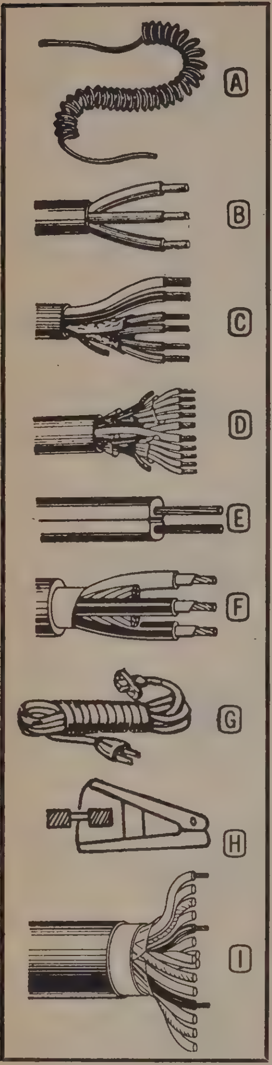
MAGNET WIRE

gle Beldsol®: Dual film insulated magnet wire combines the excellent dielectric characteristics of polyurethane and toughness and vent resistance offered by an overcoat of nylon. Rated by IEEE tests for 130° C usage and will solder without insulation removal at ° F. Complies with MIL-W-583 specs. 40 AWG is Beldure® 105° C polyurethane film. **Heavy Armored Poly-Thermaleze:** Dual ted magnet wire. Base coat cross-linked, modified polyester; top coat amide-imide polymer; rated for 180° C usage. Exceptional ability resist solvents and abuse in difficult windings. Complies with MIL-W-583 specs. 36, 38 and 40 AWG 180° C single polyester-imide, e color.

e	Single Beldsol® ¼ lb. Spool Belden No.	Lgth., Ft.	Net Each	Single Beldsol® ½ lb. Spool Belden No.	Lgth., Ft.	Net Each	Heavy Poly-Thermaleze ½ lb. Spool Belden No.	Lgth., Ft.	Net Each	Heavy Poly-Thermaleze 1 lb. Spool Belden No.	Lgth., Ft.	Net Each	Heavy Poly-Thermaleze 3 and 5 lb. Spools Belden No.	Spool Lbs.	Lgth. Ft.	Net Each
	......	......	....	......	......	....	8059	40	$3.35	8073	80	$ 5.60	9040	5	410	$25.00
	......	......	....	8048	63	$3.38	8060	63	3.43	8074	126	5.85	9041	5	630	25.00
	......	......	....	8049	100	3.56	8061	100	3.49	8075	199	6.05	9042	5	995	25.20
	......	......	....	8050	160	3.56	8062	157	3.68	8076	315	6.10	9043	5	1570	25.20
	......	......	....	8051	254	3.56	8063	250	3.73	8077	501	6.15	9044	5	2500	25.20
	......	......	....	8052	404	3.64	8064	396	3.89	8078	793	6.30	9045	3	2380	18.40
	......	......	....	8053	645	3.80	8065	630	4.01	8079	1260	6.60	9046	3	3770	19.45
	8040	510	$2.44	8054	1020	3.89	8066	995	4.19	8080	1990	7.20	9047	3	5970	20.95
	8041	807	2.59	8055	1615	4.26	8067	1570	4.57	8081	3140	8.15	9048	3	9430	23.75
	8042	1257	2.84	8056	2515	4.61	8068	2440	4.99	8082	4880	9.30	......	......	......	....
	8043	2030	2.96	8057	4060	4.92	8069	3930	5.45	8083	7860	10.50	......	......	......	....
	8044	3200	3.28	8058	6400	5.60	8070	6200	6.15	8084	12400	12.55	......	......	......	....
	8045	5070	4.01	......	......	....	8071	9700	7.30	8085	19400	14.65	......	......	......	....
	8046	8050	5.50	......	......	....	8072	16050	8.95	8086	32100	19.00	......	......	......	....

M: Beldsol and Beldure of Belden.

BELDEN Electronic Wire and Cable



STRIP-IT TOOL (FIG. H)

Belden No. 8196—A precision tool, simple in design and foolproof in operation. Indispensable for electronic technicians, assemblers and electricians. Adjustment bar set with a touch of the finger. Engineered for thousands of operations with one set of blades. Can also be used to cut small size wires.
Net Each..............**$7.90**

CB-AMATEUR RADIO COAXIAL CABLE

Individually packaged and fitted with PL-259 connectors on both ends, RG 58A/U (Models 9350 thru 9352), or 8/U (all others) cables for use with two way systems. Low loss foam; 50 ohms impedance. Outer diameter, .195″ for RG 58A/U, and .405″ for 8/U. All in black color.

Belden No.	Length	Net Each
9350	15′	$ 5.45
9351	25′	6.20
9352	50′	8.10
9353	25′	11.20
9354	50′	15.75
9355	75′	21.75
9356	100′	27.00

®TM: Beldfoil of Belden.

RETRACTILE CABLES AND CORDS (FIG. A)

MICROPHONE CABLES

No. 8409: Tinned copper, nylon insulated, neoprene jacket. **Nos. 8415, 8490, 9415:** Five strands TCW 16 strands TC, rubber insulated, paper tape, neoprene jacket. **No. 8499:** Tinned cadmium bronz rubber insulated, spiraled TC shield, cotton wrap, neoprene jacket. **No. 8605:** Tinned copper, pol propylene insulated, spiraled TC shield, gray PVC jacket. **All Others:** Five strands TCW, 16 strand TC, rubber insulated, double Beldfoil® aluminum-polyester shield with drain wire same as conductor paper tape, neoprene jacket. **Conductor Color Coding: 1,** white; **2,** black; **3,** red; **4,** green; **5,** blu Capacitance given is of shielded conductor.

Belden No.	Conductors	AWG and (Stranding)	Nominal O.D.	Nominal Coil O.D.	Nominal Cap. pF/Cord	Length Retr.	Length Ext.	Net Each per Standard Put-Up 1	Net Each per Standard Put-Up 15
8409	4 unshielded	28 (7 x 36)	.165″	9⁄16″	....	12″	6′	$2.68	....
8415	4 unshielded	23 (21 x 36)	.250″	7⁄8″	....	11½″	6′	3.12	$2.80
9415	4 unshielded	23 (21 x 36)	.250″	7⁄8″	....	30″	15′	6.75	5.80
8499	1 shielded	24 (45 x 40)	.170″	11⁄16″	285	7½″	4′	2.26	....
8605	1 shielded	24 (19 x 36)	.160″	11⁄16″	680	21½″	12′	3,43	....
8497	1 shielded,	23 (21 x 36)	.250″	7⁄8″	510	11½″	6′	3.43	2.85
9417	2 unshielded	23 (21 x 36)	.250″	7⁄8″	1200	30″	15′	7.10	5.85
8491	2 ind. shielded,	23 (21 x 36)	.275″	1 1⁄16″	510	12″	6′	3.98	....
9416	2 unshielded	23 (21 x 36)	.275″	15⁄16″	1200	30″	15′	9.30	8.15
8490	5 unshielded	23 (21 x 36)	.265″	7⁄8″	....	11½″	6′	3.43	....

*Standard Put-Up of 50.

NEOPRENE POWER CONTROL CABLES

Bare copper, paper wrap, rubber insulation, cabled with fillers, paper tape wrap, black neopren jacket. Straight portion 12″ each end (except 6″ on 8601, 8602, 8603). **Jacket:** .045″ thick; remove 1½″ each end. **Color Coding: 1,** white; **2,** black; **3,** green; **4,** red. U.L. Listed.

Belden No.	No. of Cond.	Type	AWG and (Stranding)	Nominal O.D.	Nominal Coil O.D.	Length Retr.	Length Ext.	Net Each per Standard Put-Up 1	Net Each per Standard Put-Up 15
8601	2	SVO	18 (41 x 34)	.270″	15⁄16″	12″	6′	$2.63	....
9476	2	SVO	18 (41 x 34)	.270″	15⁄16″	24″	12′	4.78	$3.86
9477	2	SVO	18 (41 x 34)	.270″	15⁄16″	48″	25′	7.60	6.25
9478	3	SVO	18 (41 x 34)	.275″	15⁄16″	24″	12′	6.05	4.99
9479	3	SVO	18 (41 x 34)	.275″	15⁄16″	48″	25′	10.35	9.20
8602	3	SJO	18 (41 x 34)	.360″	1⅜″	12″	6′	3.98	....
9480	3	SJO	18 (41 x 34)	.360″	1⅜″	24″	12′	7.00	....
9481	3	SJO	18 (41 x 34)	.360″	1⅜″	48″	25′	11.50	....
8603	3	SJO	16 (65 x 34)	.370″	1 7⁄16″	12″	6′	4.03	....
9484	3	SJO	16 (65 x 34)	.370″	1 7⁄16″	24″	12′	7.85	....
9485	3	SJO	16 (65 x 34)	.370″	1 7⁄16″	48″	25′	13.40	....
9482	4	SJO	18 (41 x 34)	.385″	1 7⁄16″	24″	12′	8.00	....
9483	4	SJO	18 (41 x 34)	.385″	1 7⁄16″	48″	25′	13.40	....

VINYL TELEPHONE CORDS

8495: Bare cadmium bronze, vinyl insulated, conductors cabled, paper wrapped, black vinyl jacke One end stripped 2¾″, spade terminals attached and hook strain relief clamped over jacket. Other en stripped 3 7⁄16″ and spade terminals attached. **Color Coding: 1,** white; **2,** black; **3,** red. **All Others:** Tins conductors, vinyl insulated, vinyl jacket. One end stripped 7″, spade terminals attached and hook stra relief clamped over jacket. Other end has red and black conductors pulled out of jacket and cut to 3 length, spade terminals attached, molded plastic strain relief, 6¾″ jacket remains on two white con ductors, spade terminals attached. Jacket available in black, light beige or white; 8495 black only

Belden No.	No. of Cond.	Type	AWG and (Stranding)	Nominal O.D.	Nominal Coil O.D.	Length Retr.	Length Ext.	Net Each per Standard Put-Up 1	Net Each per Standard Put-Up 15
8495	3	....	23 (21 x 36)	.220″	7⁄8″	10″	4½′	$3.15	....
9443	4	....	31 (Tinsel)	.195″	¾″	10½″	5′	4.78	$4.10
9440	4	....	31 (Tinsel)	.195″	¾″	22″	10′	6.05	5.10
9441	4	....	31 (Tinsel)	.195″	¾″	33″	15′	7.75	6.65
9442	4	....	31 (Tinsel)	.195″	¾″	48″	25′	9.30	8.20

JUKE BOX CABLES

No. 8783: Tinned copper, vinyl insul., cabled, chrome vinyl jacket. **No. 8786:** Tinned copper, viny insulated, 4 conductors, cabled under Beldfoil aluminum-polyester shield; 2 unshld. cond., 22 AW drain wire; chrome vinyl jacket. **No. 8787:** Tinned copper; 8 polyethylene insulated cond., cabled in quads each has transparent polyester tape wrap and tinned copper wire, with Beldfoil aluminum polyester shield color coded red, green; 2 vinyl insulated conductors; chrome vinyl jacket. **No. 8784** 10 unshielded, tinned copper conductors, color coded vinyl insulation, cabled, chrome vinyl jacket Pass FR-1 flame test.

Belden No.	Fig.	No. Cond.	AWG and (Stranding)	Nom. O.D.	WV	Net Each, Spool of 100′	Net Each, Spool of 500′
8783	B	3	1-20 (10x30), 2-16 (26x30)	.250″	450	$15.25	$ 57.1
8786	C	6	2-22 (7x30), 4-24 (7x32)	.256″	350	16.75	64.3
8787	D	10	8-24 (7x32), 2-22 (7x30)	.290″	350	....	119.1
8784§	....	10	2-16 (26x30), 1-20 (10x30), 7-22 (7x30)	.299″	300	....	112.4

§U.L. Listed.

MULTI-CONDUCTOR PORTABLE CORDAGE

No. 8480 (Fig. I)—SJT type low leakage power cord. Bare stranded copper polyethylene insulated cabled with low dielectric fillers, low dielectric inner jacket, vinyl outer jacket. UL Listed.
Nos. 8462 and 8888 (Fig. E): Two conductors, stranded copper, parallel, insulated with one conducto polarity ribbed. **All Others:** (**Fig. F**): Stranded copper, rubber insulated, cabled with fillers, blac rubber jacket. **Color-coded:** Black and white except as noted. U.L. Listed.

Belden No.	UL Type	No. Cond.	AWG and (Stranding)	Nominal O.D.	Net Each, Spool of 25′	50′	100′	250′	500′	1000′
8480	SJT	3‡	16 (65 x 34)	.580	......	......	$76.15	$158.35	$316.60	$634.0
8462*	SP-1	2	18 (41 x 34)•	.123″ x .227″	$3.03	......	9.30	18.60	......	......
8888†	SPT-1	2	18 (41 x 34)	.110″ x .225″	2.96	......	8.25	15.15	......	......
8452	SV	2	18 (41 x 34)	.245″	......	$ 7.85	14.10	26.95	53.85	107.7
8478	SJ	2	18 (41 x 34)	.298″	......	......	15.50	31.50	......	126.0
8472	SJ	2	16 (65 x 34)	.325″	......	......	21.45	42.90	......	......
8474	....	2	14 (41 x 30)	.360″	......	......	27.05	55.75	......	......
8453	SV	3‡	18 (41 x 34)•	.265″	......	10.00	19.25	......	77.85	......
8479	....	3‡	14 (41 x 30)	.380″	......	......	25.00	66.00	......	......
8454	....	4§	18 (41 x 34)•	.265″	......	11.40	21.70	......	85.30	170.5
8455	....	5#	3-20 (26 x 34)• 2-18 (41 x 34)•	.280″	......	......	21.45	46.30	......	......

Specify: *Brown or ivory rubber; †Brown, ivory or gray vinyl. ‡Black, white, green. §Black, white brown, red. #Brown, green, white, black, red. •Tinned.

TELEVISION AND SERVICEMAN CORDS (FIG. G)

No.	Description	Each	No.	Description	Each
8874	6′ SP-1 brown rubber, male TV plug	$1.54	8889	9′ SPT-1 brn. plastic, male TV plug	$1.19
8895	6′ SPT-1 brn. plastic, male TV plug	1.00*	8875	6′ SPT-1 red plastic extension	1.11
8873	Same as 8895 but polarized	1.14†			

Available in bulk, 100-pack: ***$56.00;** †**64.00;** ‡**$67.00.** U.L. Listed.

ALUMINUM GROUND WIRE

Belden No. 8018 (Not Illus.)—Solid 8 AWG soft annealed aluminum wire packaged in counter dispensers of ten 50 ft. connected coils, or spools of 500 ft. lengths. Spooled wire marked every 100 ft
50′ Coil, Net..............................**$2.51** **500′ Spool,** Net......................**$17.4**

PRICES LISTED ARE FOR GUIDANCE ONLY

9 NEW CLOSED CIRCUIT TELEVISION CABLES THAT ANSWER MOST CCTV AND VTR CABLE APPLICATION NEEDS

elden No. 9254• (Fig. A)—13-conductor camera extension cable. Recommended for remote control, losed circuit and cue line applications. Has two 20 AWG (10 x 30) tinned copper, vinyl insulated, color oded conductors. Nine 22 AWG (7 x 30) tinned copper, vinyl insulated, 2 conductors cabled, Beldfoil® hield, 2 conductors cabled unshielded, 5 conductors unshielded. Two foam polypropylene insulated oaxial cables. Nominal impedance, 75 ohms, color coded. Tinned copper braid shield. Chrome vinyl acket, .550" nominal O.D. UL Listed, Style 2497.
00 ft., Net.......... **$84.40** **250,500, 1000 or 1500 ft.**, Net per 1000 ft.*.......... **$828.00**

elden No. 9259 (Fig. B)—RG-59 type coax cable with stranded center conductor. Recommended for amera to recorder to monitor connections. Stranded center conductor adds the flexibility needed to esist severe twisting, bending and other stresses which occur in many CCTV applications. Has 22 WG stranded bare copper conductor, cellular polyethylene insulation, bare copper braid shield, lack vinyl jacket, 75 ohm, .242" nominal O.D. UL Listed, Style 1354.
0 ft., Net . . **$8.75** **100 ft.**, Net . . **$15.00** **500 ft.**, Net . . **$44.65** **1000 ft.**, Net . . **$89.25**

elden No. 9260 (Fig. C)—6-conductor shielded remote control cable. Recommended for applications here remote switching of video camera function is required. Six 20 AWG (7 x 28) tinned copper conuctors, vinyl insulated, black, white, red, green, orange, blue. Overall tinned copper braid shield. verall gray vinyl jacket, .305" nominal O.D. UL Listed, Style 2464.
0 ft., Net . . **$20.50** **100 ft.**, Net . . **$29.20** **500 ft.**, Net . . **$119.40** **1000 ft.**, Net **$238.80**

elden No. 9261 (Fig. D)—12-conductor shielded remote control cable. Recommended for applications here remote switching of video camera function is required. Has twelve 20 AWG (7 x 28) tinned opper conductors, vinyl insulated, color coded. Overall tinned copper braid shield. Overall gray vinyl acket, .410" nominal O.D. UL Listed, Style 2464.
0 ft., Net . . **$30.30** **100 ft.**, Net . . **$48.45** **500 ft.**, Net . . **$201.90** **1000 ft.**, Net . . **$403.80**

elden No. 9262 (Fig. E)—13-conductor remote control and video cable. Recommended for use in stallations requiring external drive signals, tallies, intercom, switching and video operations. Has welve 20 AWG (7 x 28) tinned copper conductors, vinyl insulated, color coded. One 75-ohm coax, 2 AWG stranded bare copper conductor, foam polyethylene insulated, bare copper braid shield, olyester tape wrapped. Overall tinned copper braid shield. Overall gray vinyl jacket, .460" nominal .D. UL Listed.
0 ft., Net . . **$39.85** **100 ft.**, Net . . **$67.20** **500 ft.**, Net . . **$280.05** **1000 ft.**, Net . . **$561.00**

elden No. 9263—9-conductor remote control and video cable. Has 4 twisted pairs, 1 pair Beldfoil hielded, 22 (7 x 30) tinned copper conductors, vinyl insulated. One 75-ohm coax, 22 AWG (6 x 30) tranded bare copper conductor, cellular polyethylene insulated, bare copper braid shield. Overall lack vinyl jacket. 0.535" O.D. UL Listed.
00 ft., Net........ **$53.05** **500 ft.**, Net........ **$221.80** **1000 ft.**, Net........ **$443.55**

elden No. 9265—Siamese type cable, RG59/U type and twisted pair, RG59/U has 1 conuctor 22 AWG BC coax with cellular polyethylene insulation, bare copper shield. Nom. impedance, 5 ohms. Twisted pair is 2 conductor, 22 AWG TC with vinyl insulation, Beldfoil aluminum-polyester hield, black vinyl jacket. Nom. O.D., .242" x .445".
00 ft., Net........................ **$91.75** **1000 ft.**, Net........................ **$183.45**

TV CAMERA CABLES

elden No. 8280• (Fig. F)—28-conductor camera cable. Four 18 AWG (16 x 30) tinned copper, vinyl nsulated, color coded; 21-22 AWG (7 x 30) tinned copper, vinyl insulated, cabled in 3 groups of 7, color oded; 3 coaxial cables color coded, nominal impedance 51 ohms; tinned copper braid shield; chrome inyl jacket .750" nom. O.D. U.L. Listed.
00 ft., Net.......... **$158.05** **250, 500 or 1000 ft.**, Net per 1000 ft.*.......... **$1575.00**

elden No. 8286•—Similar to above, but nom. impedance 75 ohms. Additionally, the group of four 18 WG and a group of seven 22 AWG conductors are separately wrapped with Beldfoil aluminumolyester shield with stranded drain wire and polyester tape over each group. Jacket is black Hypalon®, 730" O.D.
00 ft., Net.......... **$158.05** **250, 500 or 1000 ft.**, Net per 1000 ft.*.......... **$1577.00**

elden No. 9253•—Recommended for transistorized TV cameras. UL listed. Similar to Fig. G except ith shield. 28-conductor TV camera cable has four 18 AWG (16 x 30) tinned copper, vinyl insulated, olor coded conductors, Beldfoil® aluminum-polyester shield around 4 conductors with stranded drain ire, polyester tape over this shielded group. 21-22 AWG (7 x 30) tinned copper, vinyl insulated, abled in three groups of 7, color coded, one group of 7 has Beldfoil aluminum-polyester shield overall ith a stranded drain wire, polyester tape over this shielded group. Three coaxial cables, nom. impedance 75 ohms. RG 59/U type with foam polypropylene insulation. Tinned copper braid shield, hrome vinyl jacket .810" nom. O.D.
00 ft., Net.......... **$181.35** **250, 500 or 1000 ft.**, Net per 1000 ft.*.......... **$1796.00**

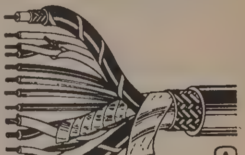
elden No. 8282• (Fig. G)—13-conductor TV eye cable. Eight 22 AWG (7 x 30) tinned copper, vinyl nsulated, color coded; one 22 AWG (7 x 30) polyethylene insulated; two 18 AWG (16 x 30) tinned opper conductors, vinyl insulated, black and red; one RG-58A/U 50-ohm coax cable, one 72-ohm oax, stranded conductor, polyester tape wrapped, chrome vinyl jacket .470" nom. O.D.
00 ft., Net.......... **$69.75** **250, 500, 1000 or 1500 ft.**, Net per 1000 ft.*.......... **$686.00**

TM: Beldfoil of Belden; Hypalon of DuPont. *One piece spools; length may vary +20% −0% rom length shown. •Passes FR-1 vertical flame test.

PAIRED TELEPHONE CABLES

inned solid copper conductors, vinyl insulated, pairs twisted, silver gray vinyl jacket.

Belden Number	No. of Pairs	AWG	O.D., Ins.	Net Each, Spools of		
				100'	500'	1000'
9561	1	24	.150	$ 4.85	$ 16.00	$ 31.95
9562	2	24	.195	8.25	27.10	54.15
9566	6	24	.285	18.40	66.00	132.00
9568	8	24	.300	23.75	83.40	166.80
9570	10	24	.350	25.00	102.25	204.45
9585	25	24	.495	71.35	297.25	595.00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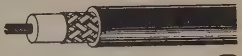
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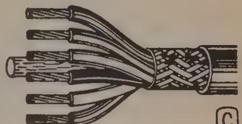
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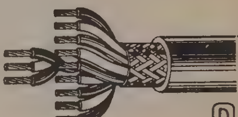
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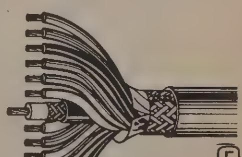
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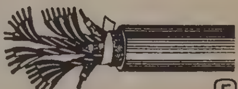
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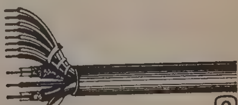
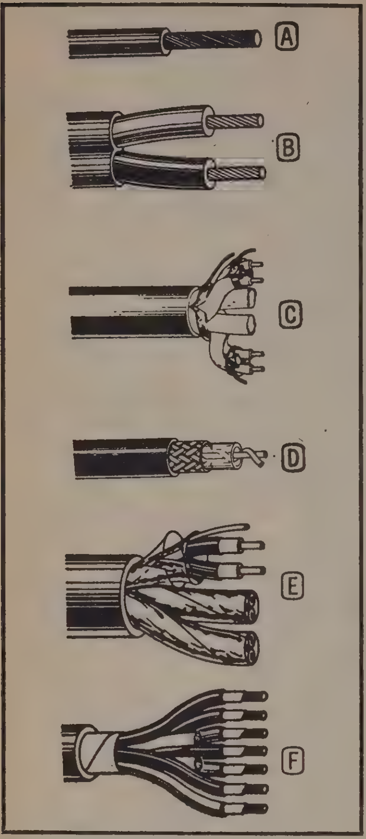

G



®TM: Beldfoil of Belden.

PRIMARY WIRE, MARINE AND AUTO

Bare copper, vinyl insulated. S.A.E. type G.P.T.

Belden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Color Code	Net Each, Spool 100′	500′
8685	A	16 (19 x 29)	.102″	Black	$ 6.75	.....
8684	A	14 (19 x 27)	.117″	Green	9.20	.....
8683	A	12 (19 x 25)	.142″	Red	13.95	.....
8682	A	10 (19 x 23)	.175″	White	19.90	.....
8681	A	8 (19 x 21)	.219″	Chrome	26.20	.....
8680	A	6 (37 x 21)	.290″	Chrome	53.20	.....

DUPLEX PRIMARY WIRE

Tinned copper, vinyl insulated, conductors parallel, chrome vinyl jacket.

Belden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Color Code	Net Each, Spool 100′	500′
8677	B	16 (19 x 29)	.164″ x .276″	Brn, Red	$13.75	$ 50.7
8675	B	14 (19 x 27)	.189″ x .326″	Brn, Red	17.85	70.7
8673	B	12 (19 x 25)	.213″ x .384″	Brn, Red	25.00	105.3
8678	B	10 (19 x 23)	.243″ x .436″	Brn, Red	31.75	157.5
9679	B	8 (19 x 21)	.317″ x .572″	Brn, Red	68.70	318.8

DATA, INSTRUMENTATION AND COMPUTER CABLES

Belden No. 9851 (Fig. C)—200 ohm video twinax. Two conductor, 29 AWG solid silv coated copper covered steel. Cellular flame retardant polyethylene insulation. Beldfoi shield, overall. Chrome vinyl jacket. Nom. O.D., .245″. U.L. Listed, Style 2606.
100′ Spool, Net..**$16.10** **500′ Spool,** Net..**$62.40** **1000′ Spool,** Net..**$124.8**

Belden No. 9852 (Fig. C)—Dual 200 ohm video twinax. Same as 9851 but four conduct Nom. O.D., .490″. U.L. Listed.
100′ Spool, Net..**$45.00** **500′ Spool,** Net..**$210.60** **1000′ Spool,** Net..**$421.2**

Belden No. 9269 (Fig. D)—IBM No. 323921. Type 62A/U. 22 AWG solid bare Copp covered steel. Semi-solid polyethylene insulation. Bare copper shield. Black, non-co taminating vinyl jacket. Nom. O.D., .242″. U.L. Listed. Style 1354.
500′ Spool, Net.**$56.40** **1000′ Spool,** Net.**$112.80** **2000′ Spool,** Net. **$225.6**

Belden No. 9268 (Fig. D)—IBM No. 5252750. Type 62A/U. 22 AWG solid bare Copp covered steel. Semi-solid flame retardant polyethylene insulation. Bare copper shiel Black vinyl jacket. Nom. O.D., .260″. U.L. Listed, Style 1354.
500′ Spool, Net.**$70.30** **1000′ Spool,** Net.**$140.55** **2000′ Spool,** Net.**$281.1**

MULTIPLE UNPAIRED TYPE SO NEOPRENE CONTROL CABLES (FIG.

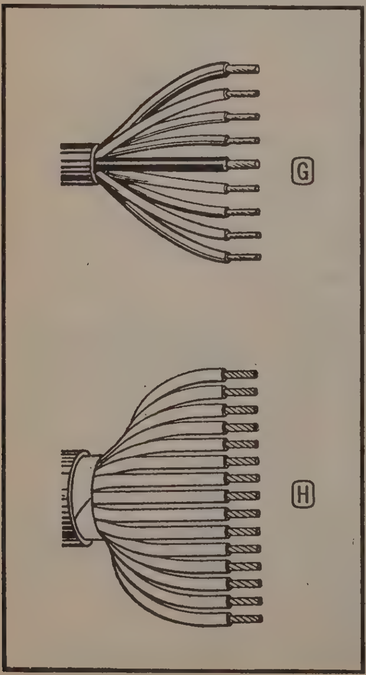
General purpose industrial and utility control applications, remote control of automatic electric equipment and motor control. Heavy duty neoprene jacket offers excellent resistance to oils, acids, oxidation, weathering, ozone abrasion and impact. Bare copper, 16 AWG (65 x 34), rubber insulated, conductors cabled with fillers, black neoprene jacket. Suggested Working Voltage: 600 V.
Color Coding available on request.

Beld. No.	*	Nom. O.D.	Net Each, Spool of 100′	500′	1000
9420	5	.520″	$ 48.75	$236.65	$473.
9422	7	.560″	63.55	311.40	623.
9424	9	.610″	81.60	396.75	794.
9425	12	.720″	110.10	542.00	1083.
9427	16	.800″	138.25	681.00	1361.
9429	20	.880″	170.05	848.00	.....

*No. of conductors. U.L. Listed.

MULTIPLE UNPAIRED CONTROL AND AUDIO CABLES

Tinned copper, vinyl insulated, conductors cabled, chrome vinyl jacket. Suggested Working Voltage: 22 AWG, 200 V; 18 AWG, 400 V; 16 AWG and 14 AWG, 600 V. **Color Coding available on request.**



Belden No.	Fig.	No. of Cond.	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 15′	25′	100′	250′	500′	1000′
8443*	G	3	22 (7 x 30)	.160″	......	$2.65	$ 6.95	$12.10	$ 24.10	$ 48.1
8444*	G	4	22 (7 x 30)	.178″	......	3.03	9.30	16.45	32.85	65.7
8445*	G	5	22 (7 x 30)	.190″	......	3.66	10.85	19.65	39.25	78.4
9430*	G	7	22 (7 x 30)	.210″	......	......	......	......	49.50	99.0
8456*	G	10	22 (7 x 30)	.260″	......	......	20.95	......	81.10	162.1
8457*	G	12	22 (7 x 30)	.260″	......	......	23.65	......	92.20	184.3
8458*	G	15	22 (7 x 30)	.320″	......	......	32.05	......	141.90	283.8
9431*	G	20	22 (7 x 30)	.345″	......	......	......	......	183.40	336.7
8459*	G	25	22 (7 x 30)	.370″	......	......	50.10	......	229.20	458.4
9432*	G	30	22 (7 x 30)	.400″	......	......	......	......	263.20	527.0
9433*	G	40	22 (7 x 30)	.455″	......	......	......	......	348.10	697.0
9434*	G	50	22 (7 x 30)	.500″	......	......	......	......	435.00	870.0
9444*	G	4	20 (10 x 30)	.208″	......	......	11.50	......	43.15	86.2
9445*	G	5	20 (10 x 30)	.230″	......	......	14.00	......	52.30	104.5
9439*	G	7	20 (10 x 30)	.250″	......	......	18.65	......	70.80	141.6
9455*	G	9	20 (10 x 30)	.310″	......	......	24.80	......	95.35	190.6
9457*	G	12	20 (10 x 30)	.330″	......	......	26.10	......	119.70	239.4
9458*	G	15	20 (10 x 30)	.380″	......	......	34.20	......	159.45	318.9
8446*	G	6	4-22 (7 x 30)	.232″	$3.54	......	15.70	29.25	58.50	117.0
			2-18 (16 x 30)		......	......	18.65	34.15	68.25	136.5
8447*	G	7	5-22 (7 x 30)	.250″						
			2-18 (16 x 30)		4.10	......	19.70	37.15	74.25	148.5
8448*	G	8	6-22 (7 x 30)	.254″						
			2-18 (16 x 30)		4.33	......	20.85	40.15	80.25	160.5
8449*	G	9	7-22 (7 x 30)	.265″						
			2-18 (16 x 30)		......	......	17.10	32.05	64.05	128.1
8489*	G	4	18 (16 x 30)	.250″						
8465*	G	5	18 (16 x 30)	.286″	......	......	20.95	40.80	81.60	163.2
8467*	G	7	18 (16 x 30)	.324″	......	......	25.00	53.85	107.70	215.4
8469*	G	9	18 (16 x 30)	.379″	......	......	30.75	71.50	142.95	285.9
8466*	G	12	18 (16 x 30)	.412″	......	......	42.40	102.40	204.75	409.5
8468*	G	15	18 (16 x 30)	.490″	......	......	57.75	......	271.90	544.0
8619*	G	19	18 (16 x 30)	.505″	......	......	......	......	321.55	644.0
9626*	H	25	18 (16 x 30)	.600″	......	......	......	......	414.00	828.0
8620	H	4	16 (19 x 29)	.375″	......	......	25.00	......	105.90	211.8
9620	H	5	16 (19 x 29)	.405″	......	......	29.80	......	124.05	248.1
8621	H	7	16 (19 x 29)	.455″	......	......	41.80	......	186.45	372.9
9621	H	9	16 (19 x 29)	.510″	......	......	......	......	230.40	460.8
8622	H	12	16 (19 x 29)	.600″	......	......	68.10	......	314.25	629.0
8623	H	15	16 (19 x 29)	.685″	......	......	95.35	......	451.50	903.0
8624	H	19	16 (19 x 29)	.715″	......	......	116.95	......	549.00	1098.0
9622	H	25	16 (19 x 29)	.820″	......	......	......	......	631.00	1262.0
8627	H	4	14 (19 x 27)	.495″	......	......	40.65	......	185.25	370.5
9623	H	5	14 (19 x 27)	.560″	......	......	49.20	......	221.05	442.0
8628	H	7	14 (19 x 27)	.630″	......	......	68.65	......	317.55	636.0
8629	H	12	14 (19 x 27)	.770″	......	......	115.30	......	557.00	1113.0

All parts listed on this page pass the FR-1 vertical flame test. *U.L. Listed.

TEST PROD WIRE (FIG. A)

xtremely limp and flexible wire has high dielectric strength. Tinned copper 18 AWG, 65 x 36 stranded, parator, rubber insulated, specify red or black. No. 8897 made per MIL-W-13169. Miniature type 90, 24 AWG, 45 x 40 stranded tinned copper, cotton separator, rubber insulated, specify red or black.

elden No.	Nom. O.D.	Breakdown Volts	Suggested Work V‡	Net Each, Spool of 10′	14′*	25′	100′	500′	1000′
8899†	.144″	20,000	5,000	$1.65	$1.84	$2.63	$8.35	$26.50	$52.95
8897	.144″	20,000	5,000					30.15	
8898	.230″	29,000	10,000	2.40		4.29	11.20	40.30	
8890	.066″	10,000	1,000			2.17	5.35	19.60	

ft. of red; 7 ft. of black. †25′; 100′ and 500′ also available in blue, white, gray, green or yellow. or intermittent duty only.

COILED TEST PROD WIRE (FIG. B)

oiled test prod wire, prevents that cluttered up work bench. Retracted length 8 inches, stretched ngth, 5 feet. Tinned copper wire, rubber insulated, red and black. Complete with prods. AWG and randing, 20 (42 x 36). Nom. O.D., .173″. Breakdown, 20,000 V; suggested working, 5,000 V.

elden No. 8878—One red and one black. Net per Pair........................$7.00

elden No. 8879—Same as above, less prods. Net per Pair........................2.98

UL HOOK-UP AND LEAD WIRES

g. C Types UL-300V-80° C (Style 1061): Tinned copper, semi-rigid vinyl insulation. Thin wall.
g. D Types UL-600V-105° C (CSA-600V-Type TEW): Tinned copper conductor vinyl insulated.

elden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Stock Colors†	Net Each, Spool of 100′	500′	1000′	4000′#
978	C	30 (Solid)	.028″	1–5, 7–10, 13			$14.85	
977	C	28 (Solid)	.031″	1–5, 7–10, 13			11.70	
976	C	26 (Solid)	.034″	1 thru 10			10.20	
975	C	24 (Solid)	.038″	1 thru 10			10.80	
924	D	24 (7 x 32)	.088″	1–5, 8–10, 13	$ 3.36		20.70	
720	D	24 (Solid)	.085″	2, 4, 5, 8–10, 13				$12.90
920‡	D	22 (7 x 30)	.094″	1–5, 9, 10, 13	3.59		22.20	17.55
822	D	22 (7 x 30)	.094″	2, 4, 5, 9, 10, 13				20.10
722	D	22 (Solid)	.090″	2, 4, 5, 8–10, 13				15.90
919‡	D	20 (10 x 30)	.100″	1–5, 9, 10, 13	4.43		28.05	22.65
820	D	20 (7 x 28)	.100″	2, 5, 9, 10, 13				25.05
918‡	D	18 (16 x 30)	.110″	1–5, 9, 10, 13	5.50		33.60	30.30
818	D	18 (16 x 30)	.110″	2, 4, 9, 10				33.75
917‡	D	16 (26 x 30)	.126″	1–5, 9, 10, 13	6.75	$24.55	49.05	40.50
916‡	D	14 (41 x 30)	.141″	1–5, 9, 10, 13	9.55	34.75		
912	D	12 (65 x 30)	.162″	10	15.85	24.25		
910	D	10 (65 x 28)	.185″	10	22.40	34.15		

tock Colors: See table below right. ‡Rated 2500 V peak for electronic circuits. Style 1015. #Per 1000′. 000′ spool. ▲250′.

BRAIDED TINNED COPPER SHIELDING AND BONDING CABLES (FIG. F)

elden No.	Stranding	Nom. I.D.	Net Each, Spool of 10′	50′	250′	Belden No.	Stranding	Nom. I.D.	Net Each, Spool of 10′	50′	250′
8676	16 x 36	1/32″	$1.54	$2.86	$10.90	8669	336 x 34	5/8″	$ 4.43	$ 18.85	$ 75.60
8674	24 x 36	3/64″	1.70	4.01	15.25	8672	528 x 36	9/16″†	5.10	21.55	87.65
8652	96 x 40	1/16″	1.96	4.76	16.65	8671	864 x 36	15/16″†	6.75	25.00	126.10
8653	48 x 36	3/32″	2.00	5.20	18.10	8662	576 x 34	19/32″†	6.25	25.00	109.45
8654	72 x 36	7/64″	2.03	5.70	20.65	8655	360 x 30	5/8″†	7.40	31.00	136.20
8664	96 x 36	1/8″	2.17	6.45	23.65	8670	480 x 30	3/4″†	9.55	40.60	176.80
8660	96 x 34	5/32″	2.07	6.10	25.15	8656	576 x 30	7/8″†	11.90	49.90	225.15
8668	120 x 34	3/16″	2.80	7.70	29.65	8657	768 x 30	1 1/16″†	15.85	67.00	
8663	168 x 34	5/16″	2.96	9.80	37.80	8658	1056 x 30	1 3/8″†	22.15	93.90	
8661	192 x 34	1/2″	2.86	9.10	37.05	8659	1680 x 30	1 1/2″†	29.05	146.10	

lat width. *Spool may contain more than one piece, minimum length of any one piece is 25 ft.

SOLID TINNED COPPER BUS BAR WIRE (FIG. G)

ade in accordance with Federal Spec QQ-W-343.

elden No.	AWG	Nom. O.D.	Net Each, Spool of 100′	1000′	Belden No.	AWG	Nom. O.D.	Net Each, Spool of 100′	1000′
8011	12	.080″	$10.15		8021	22	.025″	$2.00	$10.50
8012	14	.064″	6.75	$48.00	8022	24	.020″	1.91	8.55
8013	16	.050″	4.43	32.55	8023	26	.016″	1.86	7.80
8019	18	.040″	3.17	20.70	8024	28	.012″	1.79	6.90
8020	20	.032″	2.38	14.25	8025	30	.010″	1.79	6.45

MIL-W-16878 TYPE B MULTI-CONDUCTOR SHIELDED CABLE (FIG. I)

itable for general purpose use in communications and instrumentations applications. Stranded tinned pper conductors, vinyl insulated, clear nylon jacket, conductors cabled, tinned copper braid shield, ite vinyl jacket. Insulation .010″ thick. WV, 600 V suggested. Conductor Color Code: **1**, white; black; **3**, red; **4**, green. Pass the FR-1 vertical flame test.

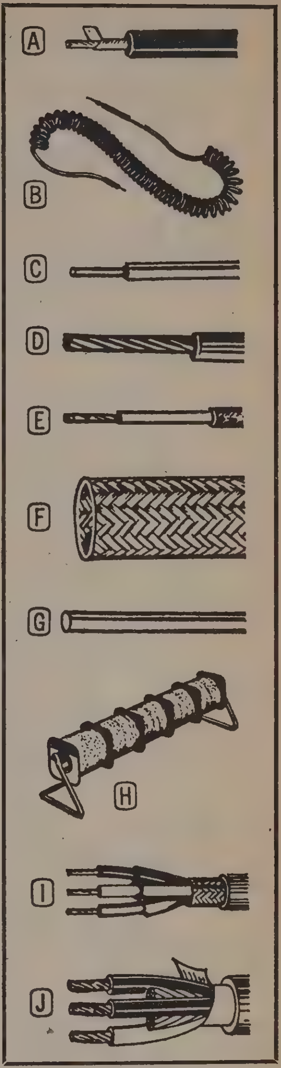
elden No.	No. of Cond.	AWG and (Stranding)	Nom. O.D.	Shield Cov. %	Nom. Cap.* pF/ft.	Net Each, Spool of 100′	500′	1000′
9965	1	22 (19 x 34)	.100″	92	90	$11.65	$ 44.70	$ 89.40
9961	1	20 (19 x 32)	.109″	93	100	12.20	47.05	94.05
9951	1	16 (19 x 29)	.139″	93	125	16.10	63.25	126.45
9966	2	22 (19 x 34)	.176″	91	87	19.55	75.85	151.65
9962	2	20 (19 x 32)	.192″	92	95	22.50	86.55	173.10
9952	2	16 (19 x 29)	.238″	92	120	25.00	112.00	223.95
9967	3	22 (19 x 34)	.184″	91	817	25.00	106.15	212.25
9963	3	20 (19 x 32)	.202″	91	95	25.00	113.85	227.70
9953	3	16 (19 x 29)	.250″	91	120	32.05	153.10	306.15
9968	4	22 (19 x 34)	.200″	90	817	25.60	116.80	233.55
9964	4	20 (19 x 32)	.212″	92	95	28.60	136.75	273.45
9954	4	16 (19 x 29)	.270″	91	120	40.50	189.10	378.15

apacitance between one conductor and other conductor connected to shield.

MIL-C-3432 600 VOLT POWER AND CONTROL CABLES (FIG. J)

tended for military applications to transmit power and control signals. Features tough flexible cket which is resistant to mechanical abuse and extreme humidity and temperature conditions. nned copper conductors, rubber insulated, cabled with fillers, cotton serve, black rubber jacket. nductor Color Coding: **1**, white; **2**, black; **3**, green.

elden No.	Type Designation	No. of Cond.	AWG and (Stranding)	Nom. O.D.	Insul. Thk.	Net Each, Spool of 500′	1000′
9215	**CO-02 MGF (2/18) 0310**	2	18 (41 x 34)	.310″	.033″	$ 73.90	$147.75
9216	**CO-02 MGF (2/16) 0335**	2	16 (65 x 34)	.335″	.033″	89.55	179.10
9217	**CO-02 MGF (2/14) 0400**	2	14 (41 x 30)	.400″	.036″	117.75	235.50
9218	**CO-03 MGF (3/18) 0340**	3	18 (41 x 34)	.345″	.033″	91.20	182.40
9219	**CO-03 MGF (3/16) 0365**	3	16 (65 x 34)	.365″	.033″	122.50	244.95



HOOK-UP WIRE KITS (FIG. H)

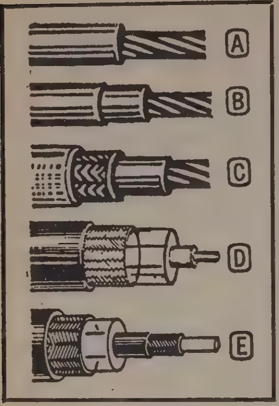
Assortments of hook-up wire colors in portable metal dispenser rack. One spool of each color is supplied. Pass the FR-1 vertical flame test.

Beld. No.	Wire Type and No.	Stock Colors†	Net Kit
8816	18 (Strnd.) 8522-25*	1-6, 9, 10	14.35
8822	20 (Solid) 8529-25*	1-10	14.35
8823	20 (Solid) 8529-100‡	2, 5, 6, 9, 10	15.40
8824	20 (Strnd.) 8523-25*	1-6, 9, 10	13.25
8825	20 (Strnd.) 8502-100‡	2, 4, 5, 9, 10	19.10
9530	22 (Solid) 8530-25*	1-10	13.30
9531	22 (Strnd.) 8524-100‡	2, 5, 6, 9, 10	15.25

*25 ft. spools. ‡100 ft. spools.

†STOCK COLORS

Code No.	Color
1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Light blue
7	Violet (purple)
8	Gray (slate)
9	White
10	Black
13	Dark blue



DC HI-VOLTAGE CABLE

Belden No. 8870 (Fig. D)—Solid copper covered steel, 22 AWG; conductive polyethylene with Korona-Guard™ polyethyene insulation; tinned copper braid equipotential sheath; black polyethylene jacket. Nom. O.D., .440″. Rated 160 kV breakdown, 80,000 V working.

100′ Spool, Net.... **$ 62.55**
250′ Spool, Net.... **156.10**

Belden No. 8871 (Fig. E)—Tinned copper braid (CMA equiv. to 16 AWG) over solid polyethylene rod, black conductive polyethylene with Korona-Guard, clear polypropylene insulation, tinned copper braid, black polyethylene jacket. Nom. O.D., .830″. Rated 400 kV breakdown, 200 kV working.

25′ Spool, Net..... **$ 70.45**
100′ Spool, Net.... **280.90**
250′ Spool, Net.... **702.00**

MIL SPEC HOOK-UP WIRE

MIL-W-16878 TYPE B VINYL (FIG. A)

Tinned copper, vinyl insulated for general purpose wiring with high resistance to moisture and solven
Rated 600 VDC at 105° C. Passes the FR-1 vertical flame test.

Belden No.	Type Desig.	AWG and (Stranding)	Nom. O.D.	Stock Colors†	Net Each, Spool of			
					Solid Colors		Striped Colors	
					100′	1000′	100′	1000′
8599	B-32	32 (7 x 40)	.029″	1–10	$3.57	$21.45	....	....
8598	B-30	30 (7 x 38)	.032″	1–10	2.86	17.10	....	....
8597	B-28	28 (7 x 36)	.035″	1–10	2.80	15.60	....	....
8505	B-26	26 (7 x 34)	.039″	1–10, 14–22	2.77	16.95	$2.95	$18.4
8509	B-24	24 (19 x 36)	.045″	1–10	3.57	19.20	....	....
8504	B-24	24 (7 x 32)	.044″	1–10, 14–22	2.77	15.75	2.95	17.2
8503	B-22	22 (7 x 30)	.050″	1–10, 14–22	3.12	17.25	3.30	18.7
8502	B-20	20 (7 x 28)	.058″	1–10, 14–22	3.82	20.85	4.00	22.3
8501	B-18	18 (7 x 26)	.068″	1–10, 14–22	4.10	26.55	4.28	28.0
8500	B-16	16 (19 x 29)	.077″	1–10, 14–22	5.20	35.25	5.40	36.7

MIL-W-16878 TYPE B VINYL-NYLON JACKET—RATED 600 VDC AT 115° C (FIG. B)

Tinned copper conductor, vinyl insulated with nylon jacket overall. Pass the FR-1 vertical flame te

Belden No.	Type Designation	AWG and (Stranding)	Nom. O.D.	Stock Colors†	Net Each, Spool of	
					100′	1000′
8515	B-26	26 (7 x 34)	.045″	1–10	$3.91	$23.40
8519	B-24	24 (19 x 36)	.051″	1–10	4.10	26.10
8514	B-24	24 (7 x 32)	.050″	1–10	3.80	22.50
8518	B-22	22 (19 x 34)	.057″	1–10	4.62	30.00
8513	B-22	22 (7 x 30)	.056″	1–10	4.15	25.35
8517	B-20	20 (19 x 32)	.065″	1–10	4.96	32.25
8512	B-20	20 (7 x 28)	.064″	1–10	4.36	28.50
8516	B-18	18 (19 x 30)	.075″	1–10	6.10	41.10
8511	B-18	18 (7 x 26)	.074″	1–10	5.50	35.55
8510	B-16	16 (19 x 29)	.083″	1–10	5.80	45.30

MIL-W-76 TYPE MW VINYL (FIG. A)

Tinned copper conductor, vinyl insulated, medium wall. Rated 1000 V at 80° C. Stock Colors†: 2
colors 1–13; all others, 1–22 except as noted. Pass the FR-1 vertical flame test.

Belden No.	MIL-W-76 Type Designation	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of				
				Solid Colors			Striped Colo	
				25′	100′	1000′	100′	1000
8538	MW-C 24(1)U	24 (Solid)	.054″	....	$ 2.61	$12.30	$2.79	$13.8
8525	MW-C 24(7)U	24 (7 x 32)	.058″	....	2.72	15.30	2.90	16.8
8530§	MW-C 22(1)U	22 (Solid)	.059″	$1.33	2.61	13.95	2.79	15.4
8524§	MW-C 22(7)U	22 (7 x 30)	.064″	1.39	3.05	17.85	3.23	19.3
8529	MW-C 20(1)U	20 (Solid)	.066″	1.44	3.08	17.55	3.26	19.0
8523§	MW-C 20(7)U	20 (10 x 30)	.070″	1.65	3.56	20.40	3.74	21.9
8528‡	MW-C 18(1)U	18 (Solid)	.074″	....	4.01	24.15	....	....
8522§	MW-C 18(16)U	18 (16 x 30)	.080″	1.79	4.22	27.15	4.40	28.6
8521	MW-C 16(19)U	16 (26 x 30)	.098″	....	5.90	39.15	6.10	40.6
8520	MW-C 14(19)U	14 (41 x 30)	.111″	....	8.30	61.20	8.45	62.7
8527*	MW-C 12(19)U	12 (65 x 30)	.130″	....	12.70	88.35	....	....
8531*	MW-C 16(1)U	16 (Solid)	.085″	....	4.97	34.05	....	....

Stock Colors†: *1–10 only; ‡1–13 only; §1–30.

MIL-W-16878 IRRADIATED PVC (FIG. A)

Tinned copper, irradiated PVC insulated. UL listed. Meets MIL-W-16878 as follows: (At 105° C max.) Type B, 600 V rms max. Type C, 1000 V rms max. **AWM:** Style 1429, 300 V peak for electronic use only, 80° C max. Style 1430, 300 V rms (600 V peak for electronic use only), 105° C max. Stock Colors†: 1 thru 10. Pass the FR-1 vertical flame test.

Belden No.	MIL-W-16878 Type	Style No.	AWG and (Stranding)	Nom. O.D.	Net Ea. Spool of 1000′
83402§	B-26*	1429	26 (Solid)	.039″	$20.70
83403§	B-24*	1429	24 (Solid)	.044″	21.25
83404§	B-22*	1429	22 (Solid)	.050″	23.40
83412§	B-26	1429	26 (7 x 34)	.039″	22.95
83413§	B-24	1429	24 (7 x 32)	.044″	23.55
83414§	B-22	1429	22 (7 x 30)	.050″	26.65
83415§	B-20	1429	20 (7 x 28)	.058″	33.15
83416§	B-18	1429	18 (7 x 26)	.068″	41.80
83423§	B-24	1429	24 (19 x 36)	.045″	27.90
83424§	B-22	1429	22 (19 x 34)	.051″	31.90
83425‡§	B-20	1429	20 (19 x 32)	.059″	33.90
83443§	C-24	1430	24 (7 x 32)	.058″	26.85
83444§	C-22	1430	22 (7 x 30)	.064″	32.55
83445§	C-20	1430	20 (7 x 28)	.072″	38.10
83446‡§	C-18	1430	18 (7 x 26)	.082″	44.70

*Solid cond. not recog. in MIL-W-16878. ‡Stock Color†: 9 only. §U.L. Listed.

MIL-W-16878 TEFLON* HOOK-UP WIRE (FIG. A)

Concentrically stranded silver coated copper conductor insulated with extruded TFE Teflon. Pass FR-1 vertical flame test. Colors 1 thru 10. ▲U.L. Listed *Registered DuPont TM.

TYPE EE, 1000 V, 200° C

Belden No.	Type Desig.	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of*		
				100′	500′	1000′
83023▲	EE-24	24 (19 x 36)	.053″	$14.30	$ 81.70	....
83025▲	EE-22	22 (7 x 30)	.058″	14.70	84.15	....
83026▲	EE-22	22 (19 x 34)	.060″	15.95	48.28	$ 95.05
83027▲	EE-20	20 (19 x 32)	.068″	18.75	56.94	112.35
83028▲	EE-20	20 (7 x 28)	.066″	17.50	53.48	....
83029▲	EE-18	18 (19 x 30)	.079″	24.60	78.57	155.65
83030▲	EE-16	16 (19 x 29)	.086″	25.00	183.15	181.65

TYPE ET, 250 V, 200° C, MINIATURE

Belden No.	Type Desig.	AWG and (Stranding)	Nom. O.D.	100′	500′	1000′
83041▲	ET-32	32 (7 x 40)	.021″	$ 7.70	....	$40.80
83043▲	ET-30	30 (7 x 38)	.024″	7.70	....	40.00
83045▲	ET-28	28 (7 x 36)	.027″	7.70	....	39.75
83046▲	ET-26	26 (7 x 34)	.031″	8.85	....	43.75
83047▲	ET-24	24 (7 x 32)	.036″	9.10	....	48.70
83048▲	ET-24	24 (19 x 36)	.037″	10.25	....	55.80
83049▲	ET-22	22 (7 x 30)	.042″	10.10	....	55.15
83050▲	ET-22	22 (19 x 34)	.044″	10.70	....	58.45

*Spools may contain more than one piece, min. lgth. of any one piece is 25 ft.: 500′ and 1000′ lgths. may vary ±10%; 100′lgt hs. exa
▲U.L. Listed.

MIL-W-76 TYPE MW SHIELDED WITH NYLON JACKET (FIG. C)

Tinned copper, vinyl insulated, medium wall, tinned copper shie
overall. Rated 1000 V at 80° C. Stock Colors†: 9 only.

Belden No.	MIL-W-76 Type Designation	AWG and (Stranding)	Nom. O.D.	Net Ea., Spo	
				100′	1000
8893	MW-C 22(7)SJ	22 (7 x 30)	.096″	$11.20	$ 76.
8896	MW-C 20(7)SJ	20 (10 x 30)	.105″	11.05	83.
8892	MW-C 18(16)SJ	18 (16 x 30)	.114″	12.60	88.
8894	MW-C 16(19)SJ	16 (26 x 30)	.132″	16.05	120.

MIL-W-76 TYPE LW VINYL (FIG. A)

Tinned copper, vinyl insulated, light wall. Rated 300 V at 80°
Stock Colors†: 1 thru 10. Pass FR-1 vertical flame test.

8571	LW-C 28(7)U	28 (7 x 36)	.037″	$2.40	$12.
8570	LW-C 26(7)U	26 (7 x 34)	.041″	2.44	13.
8569	LW-C 24(7)U	24 (7 x 32)	.046″	2.61	13.
8568	LW-C 22(7)U	22 (7 x 30)	.054″	2.68	15.
8567	LW-C 20(7)U	20 (10 x 30)	.060″	3.38	19.

MIL-W-76 TYPE HW VINYL (FIG. A)

Tinned copper, vinyl insulated, heavy wall. Gauges 16 and
rated 2500 V at 80° C; gauges 6 thru 14 rated 600 V at 80°
Stock Colors†: 2, 9 and 10. Pass FR-1 vertical flame test.

8586*	HW-C 18(16)U	18 (16 x 30)	.115″	$ 6.05	$ 36.
8585	HW-C 16(19)U	16 (26 x 30)	.128″	7.15	46.
8584	HW-C 14(19)U	14 (41 x 30)	.171″	12.10	81.
8583	HW-C 12(19)U	12 (65 x 30)	.191″	16.65	126.
8582	HW-C 10(37)U	10 (105 x 30)	.220″	24.60	189.
8581	HW-C 8(127)U	8 (133 x 29)	.261″	46.90	.....
8580	HW-C 6(127)U	6 (133 x 27)	.310″	61.90	.....

Stock Colors†: *1 thru 10.

†STOCK COLORS

Specify color when ordering. First color in stripe combination
body color; second and third are stripes.

Code No.	Color Comb.	Code No.	Color Comb.	Code No.	Color Comb.
1	Brown	11	Tan	21	Wht/Gray
2	Red	12	Pink	22	Wht/Violet
3	Orange	13	Dark Blue	23	Wht/Blk/Re
4	Yellow	14	Wht/Blk	24	Wht/Blk/Gr
5	Green	15	Wht/Red	25	Wht/Blk/Yel
6	Light Blue	16	Wht/Grn	26	Wht/Blk/Blu
7	Violet (purple)	17	Wht/Yel	27	Wht/Blk/Br
8	Gray (slate)	18	Wht/Blue	28	Wht/Blk/Or
9	White	19	Wht/Brn	29	Wht/Blk/Gra
10	Black	20	Wht/Orng	30	Wht/Blk/Vio

TEFLON HIGH TEMPERATURE WIRE AND CABLE

Belden Teflon® wire products are particularly recommended for miniature cable applications. Teflon is especially suitable for internal wiring soldering applications where insulation melt back is a specific problem. Belden Teflon wiring products are outstanding in their resistance to oil, oxidation, heat, sunlight, flame, and their ability to remain flexible at low temperatures. All have excellent resistance to ozone, water, alcohol, gasoline, acids, alkalis, aromatic hydrocarbons and solvents.

MIL-W-16878, TYPE E TEFLON HOOK-UP WIRE (FIG. A)

Concentrically stranded, silver-coated copper conductor with extruded TFE Teflon insulation rated 600 volts, 200° C. Pass the FR-1 vertical flame test. U.L. Listed.

Belden No.	Type Desig.	AWG and (Stranding)	Nom. O.D.	Ins. Thickness	Net Each, Spool of: Solid Colors† 100′*	Solid Colors† 500′*	Solid Colors† 1000′*	Striped‡ 1000′*
83000	E-30	30 (7 x 38)	.033″	.010″	$ 7.85	$19.73	$ 37.95	....
83001	E-28	28 (7 x 36)	.036″	.010″	8.20	20.83	40.15	....
83002	E-26	26 (7 x 34)	.041″	.010″	9.05	23.70	45.90	$ 68.40
83003	E-24	24 (19 x 36)	.046″	.010″	11.20	31.35	....	....
83004	E-24	24 (7 x 32)	.045″	.010″	9.55	26.23	50.95	73.45
83005	E-22	22 (7 x 30)	.051″	.010″	11.05	30.95	60.40	82.90
83006	E-22	22 (19 x 34)	.052″	.010″	12.20	35.23	68.95	91.45
83007	E-20	20 (19 x 32)	.060″	.010″	14.10	42.35	83.20	105.70
83008	E-20	20 (7 x 28)	.059″	.010″	13.15	39.60	....	....
83009	E-18	18 (19 x 30)	.071″	.010″	19.00	60.23	118.95	141.45
83010	E-16	16 (19 x 29)	.080″	.010″	23.10	75.58	149.65	172.15

MIL-W-16878, TYPES EE AND ET TEFLON HOOK-UP WIRE (FIG. A)

Same as above except Type EE rated 1000 V, 200° C; Type ET rated 250 V, 200° C. Specifications and pricing on request.

TEFLON-INSULATED RG/U TRANSMISSION LINE CABLES (FIG. B)

Meet MIL-C-17D specifications. Silver-coated copper covered steel conductors with TFE Teflon nsulation and silver-coated copper shields. Pass the FR-1 vertical flame test.

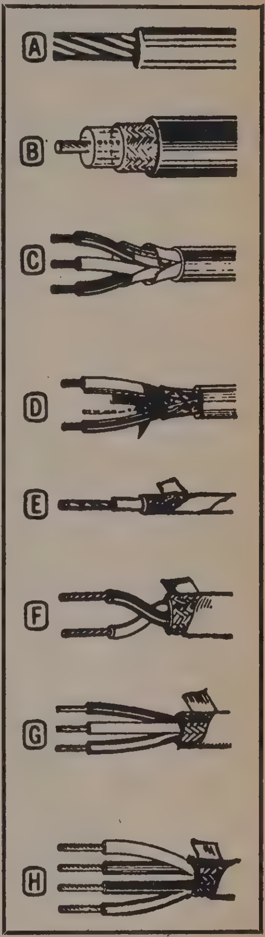
Belden No.	No. RG-	AWG and (Stranding)	No. Shields	Jacket§	Nom. O.D.	Nom. Imp., Ohms	Net Each, Spool of 100′*	500′*	1000′*
83241	141A/U	18 (Solid)	1	BF	.190″	50	$70.30	$327.87	$649.75
83242	142B/U	18 (Solid)	2	TBF	.195″	50	86.80	410.03	814.05
83265	178B/U	30 (7 x 38)	1	TBF	.070″	50	20.10	86.63	....
83264	179B/U	30 (7 x 38)	1	TBF	.100″	75	34.65	149.75	295.00
83266	180B/U	30 (7 x 38)	1	TBF	.140″	95	45.55	204.60	....
83284	316/U	26 (7 x .0067)	1	TBF	.098″	50	33.00	146.85	289.20

FEP TEFLON-INSULATED SPECIAL INSTRUMENTATION CABLES

Noise reducing tape applied over insulated conductors minimizes generated noise due to cable flexing. Shield coverage, 100%. **Operating Temperature:** −70° C to +150° C. **Jacket Working Voltage:** 1000 VDC, shield to ground. **Nos. 83394, 83395 and 83396:** Tinned copper, insulated with FEP Teflon, conductors cabled, noise reducing tape, 22 AWG (7 x 30) nickel coated copper drain wire, special Beldfoil® shield, red silicone rubber jacket. **No. 83393:** Same except 20 AWG (7 x 28) nickel coated copper drain wire and yellow silicone rubber jacket.

Belden No.	Fig.	No. of Cond.	AWG and (Stranding)	Thickness: Insulation	Thickness: Jacket	Nom. O.D.	Conductor Color Coding	Net Each, Spool of 25′	100′	500′
83394•	C	2	22 (7 x 30)	.015″	.030″	.204″	Blk, wht	$13.30	$43.60	$217.58
83395•	C	3	22 (7 x 30)	.015″	.030″	.213″	Blk, wht, red	16.80	54.15	264.00
83396•	C	4	22 (7 x 30)	.015″	.030″	.222″	Blk, wht, red, grn	19.10	63.00	305.25
83393	D	2	20 (7 x 28)	.020″	.030″	.245″	Blk, red	18.50	62.70	303.20

*Spools may contain more than one piece, minimum length of any one piece is 25 ft.; 500′ and 1000′ lengths may vary ±10%, all other lengths are exact. †Specify brown, red, orange, yellow, green, light blue, violet (purple), gray (slate), white, or black. ‡Write for information on color striping (1, 2 or 3 stripes) available at price shown. §BF indicates brown fiberglass; TBF, tinted brown FEP Teflon; WTT, white Teflon tape. ♯Manufactured to current Government specifications and subsequent revisions. •Pass the FR-1 vertical flame test.



MIL-W-16878, TYPE E SHIELDED TEFLON CABLES

Feature stranded silver-coated copper conductors, MIL-W-16878, Type E extruded TFE Teflon insulation, color-coded, cabled, braided silver-plated copper shield, and white TFE Teflon tape wrapped jacket. Temperature rating, −65° C to +200° C. Shield coverage, 90%. Suggested working voltage, 600 volts rms. Choice of 1-, 2-, 3 or 4-conductor types in 100, 500 or 1000 ft. spools.

Belden No.	Fig.	No. of Cond.	AWG and (Stranding)	Thickness: Insulation	Thickness: Jacket	Nom. O.D.	Conductor Color Coding	Net Each, Spool of 100′*	500′*	1000′*
83301	E	1	30 (7 x 38)	.010″	.010″	.070″	Wht	$ 39.30	$153.65	$ 307.30
83302	E	1	28 (7 x 36)	.010″	.010″	.073″	Wht	40.95	155.63	311.25
83303	E	1	26 (7 x 34)	.010″	.010″	.077″	Wht	43.05	161.70	323.40
83304	E	1	24 (19 x 36)	.010″	.010″	.082″	Wht	46.60	175.58	351.15
83305	E	1	22 (19 x 34)	.010″	.010″	.089″	Wht	48.70	183.68	367.35
83306	E	1	20 (19 x 32)	.010″	.010″	.100″	Wht	54.60	204.45	408.90
83307	E	1	18 (19 x 30)	.010″	.010″	.113″	Wht	65.70	266.68	533.35
83308	E	1	16 (19 x 29)	.011″	.012″	.123″	Wht	76.05	292.88	585.75
83315	F	2	30 (7 x 38)	.010″	.010″	.106″	Wht, blk	55.75	230.18	460.35
83316	F	2	28 (7 x 36)	.010″	.010″	.112″	Wht, blk	58.45	235.88	471.75
83317	F	2	26 (7 x 34)	.010″	.010″	.120″	Wht, blk	61.75	246.68	493.35
83318	F	2	24 (19 x 36)	.010″	.010″	.132″	Wht, blk	65.70	262.95	525.90
83319	F	2	22 (19 x 34)	.010″	.010″	.144″	Wht, blk	75.90	292.05	584.10
83320	F	2	20 (19 x 32)	.010″	.012″	.162″	Wht, blk	80.05	329.40	658.80
83321	F	2	18 (19 x 30)	.010″	.012″	.188″	Wht, blk	100.80	419.10	838.20
83322	F	2	16 (19 x 29)	.011″	.012″	.200″	Wht, blk	130.35	545.18	1090.35
83330	G	3	30 (7 x 38)	.010″	.010″	.111″	Wht, blk, red	74.40	295.35	590.70
83331	G	3	28 (7 x 36)	.010″	.010″	.117″	Wht, blk, red	75.45	303.15	606.30
83332	G	3	26 (7 x 34)	.010″	.010″	.126″	Wht, blk, red	80.70	332.63	665.25
83333	G	3	24 (19 x 36)	.010″	.010″	.136″	Wht, blk, red	89.25	367.50	735.00
83334	G	3	22 (19 x 34)	.010″	.012″	.156″	Wht, blk, red	99.70	410.85	821.70
83335	G	3	20 (19 x 32)	.010″	.012″	.175″	Wht, blk, red	116.35	479.75	959.50
83336	G	3	18 (19 x 30)	.010″	.012″	.196″	Wht, blk, red	138.75	568.43	1136.85
83337	G	3	16 (19 x 29)	.011″	.012″	.218″	Wht, blk, red	196.05	819.98	1639.95
83345	H	4	30 (7 x 38)	.010″	.010″	.119″	Wht, blk, red, grn	95.55	388.95	777.90
83346	H	4	28 (7 x 36)	.010″	.010″	.126″	Wht, blk, red, grn	97.75	405.50	811.00
83347	H	4	26 (7 x 34)	.010″	.010″	.135″	Wht, blk, red, grn	103.95	431.90	863.80
83348	H	4	24 (19 x 36)	.010″	.012″	.151″	Wht, blk, red, grn	119.85	490.65	981.30
83349	H	4	22 (19 x 34)	.010″	.012″	.166″	Wht, blk, red, grn	133.65	548.08	1096.15
83350	H	4	20 (19 x 32)	.010″	.012″	.185″	Wht, blk, red, grn	145.05	606.98	1213.95
83351	H	4	18 (19 x 30)	.010″	.012″	.215″	Wht, blk, red, grn	188.80	787.88	1575.75
83352	H	4	16 (19 x 29)	.011″	.014″	.235″	Wht, blk, red, grn	251.50	1039.50	2079.00

*Spools may contain more than one piece, minimum length of any one piece is 25 ft.; 500′ and 1000′ lengths may vary ±10%, but 100′ length is exact. All parts listed in above table pass the FR-1 vertical flame test. ®TM: Teflon of DuPont; Copperweld of Copperweld Steel Co.; Beldfoil of Belden.

APPLIANCE WIRING MATERIAL

Appliance wiring material is a classification of Underwriters' Laboratories, Inc., covering insulated wire and cable intended for internal wiring of appliances and equipment. Each construction satisfies the requirements for use in particular applications. Wiring materials recognized under this classification bear the Underwriters' "Appliance Wiring Material" label.

DRUM PACKAGES

Lead wire is available in two sizes of drum packages. The #30 Beldpak is 30″ high and 20″ in diam. The #42 Beldpak is 42″ high and 23″ in diam. Price and delivery information is available upon request.

O.D. of Wire	Approximate feet per #30 Beldpak	Approximate feet per #42 Beldpak
.040	160,000	350,000
.050	100,000	220,000
.060	70,000	154,000
.070	50,000	110,000
.080	40,000	88,000
.090	30,000	66,000
.100	25,000	55,000
.110	20,000	44,000
.120	18,000	39,000
.130	15,000	33,000
.140	13,000	28,000
.150	11,000	24,000
.160	10,000	22,000
.170	9,000	20,000
.180	8,000	18,000
.190	7,000	15,000
.200	6,000	13,000
.240	....	9,000

Lead wire orders for Beldpaks must be placed for footage listed above or for multiples of these quantities per color.

HYPALON

Chlorosulfonated polyethylene insulation provides excellent heat resistance, color stability and electrical properties. Recommended under IEEE Standards for Class 130C as motor leads. It may be considered as an alternate to silicone rubber to withstand 155° C baking temperatures, but is not suitable for operating temperatures above Class 130C. Recommended max. baking cycles: 300° F (24 hrs), 325° F (12 hrs), 350° F (4 hrs). Standard material is not C.S.A. labeled. Can be made to C.S.A. specifications and labeled on request. U.L. listed.

Belden No.	AWG	Stranding	Insl. O.D., Ins.	Availability Ft.	Net per 1000 Ft.		
					0-999 Ft.	1000-4999 Ft.	5000 Ft. and Over
105C—300 VOLT RATING							
34920	20	10 x 30	.104	500	$ 36.00	$ 32.00	$ 30.15
				5000	28.55	25.40	23.90
34918	18	16 x 30	.112	500	39.30	34.95	32.90
				5000	31.80	28.30	26.65
34916	16	26 x 30	.125	500	49.05	43.60	41.05
				5000	40.30	35.85	33.75
105C—600 VOLT RATING							
34418	18	16 x 30	.150	100	$ 66.80	$ 59.35	$ 55.90
				500	49.55	44.05	41.50
				5000	40.65	36.15	34.05
34416	16	26 x 30	.164	100	79.00	70.20	66.15
				500	64.20	57.10	53.75
				4000	53.80	47.85	45.05
34414	14	41 x 30	.179	100	102.50	91.10	85.80
				500	84.75	75.30	70.95
				4000	74.55	66.25	62.40
34412	12	65 x 30	.198	100	133.00	118.20	111.35
				500	116.45	103.50	97.50
				3000	107.00	95.10	89.55
34410	10	65 x 28	.224	100	178.85	158.95	149.70
				500	160.80	142.95	134.60
				2000	150.40	133.70	125.90
34408	8	84 x 27	.294	100	281.75	250.45	235.85
				250	268.05	238.30	224.40
				1000	246.45	219.10	206.30
34406	6	84 x 25	.338	100	385.70	342.85	322.85
				250	365.20	324.60	304.70
				1000	337.95	300.40	282.85
34404	4	133 x 25	.397	100	573.30	509.60	479.85
				250	546.65	485.90	457.55
				500	532.85	473.65	446.05
34403	3	133 x 24	.418	500	650.90	578.60	544.85
34402	2	262 x 26	.467	100	843.15	749.50	705.75
				250	793.70	705.50	664.35
				500	777.35	691.00	650.65
34401	1	262 x 25	.542	100	1054.05	936.90	882.25
				250	985.85	876.30	825.20
34490	1/0	262 x 24	.594	100	1349.30	1199.35	1129.40
				250	1269.10	1128.10	1062.30
34400	2/0	262 x 23	.674	100	1868.85	1661.20	1564.30
				250	1764.65	1568.60	1477.10
34430	3/0	266 x 22	.724	50	2338.00	2078.25	1957.00
				250	2222.60	1975.65	1860.40
34440	4/0	266 x 21	.784	50	2771.90	2463.90	2320.20
				250	2663.70	2367.75	2229.60
5000 VOLT RATING							
36101	1	262 x 25	.714	50	$1639.75	$1457.55	$1372.50
				500	1509.95	1324.15	1263.85
36190	1/0	262 x 24	.760	50	1768.80	1572.25	1480.55
				500	1645.40	1462.60	1377.25
36100	2/0	262 x 23	.844	50	2411.80	2143.80	2018.75
				250	2310.05	2053.40	1933.60
36140	4/0	266 x 21	.949	50	3321.35	2952.30	2780.10
				250	3217.80	2860.30	2693.45

NEOPRENE

Neoprene insulation has good heat aging characteristics and is an excellent low cost motor lead wire. It may be considered for use in hazardous locations and has been recognized for use in explosion proof motors. Recommended max. baking cycles: 300° F (24 hrs), 325° F (8 hrs), 450° F (15 min.). Standard material is not C.S.A. labeled. Can be made to C.S.A. specifications and labeled on request. U.L. listed.

Belden No.	AWG	Stranding	Insl. O.D., Ins.	Availability Ft.	Net per 1000 Ft.		
					0-999 Ft.	1000-4999 Ft.	5000 Ft. and Over
90C—300 VOLT RATING							
31520	20	10 x 30	.100	500	$ 25.15	$ 22.35	$ 21.05
				5000	19.35	17.20	16.20
31518	18	16 x 30	.110	100	45.00	40.00	37.65
				500	31.80	28.30	26.65
				2000	29.40	26.10	24.60
				10000	26.70	23.70	22.35
31516	16	26 x 30	.123	100	55.35	49.20	46.35
				500	43.00	38.25	36.00
				2000	36.60	32.55	30.65
				8500	33.15	29.50	27.75
90C—600 VOLT RATING							
32518	18	16 x 30	.143	100	$ 58.15	$ 51.70	$ 48.65
				500	43.10	38.30	36.05
				2000	37.90	33.70	31.70
				5000	34.20	30.40	28.60
32516	16	26 x 30	.156	100	68.15	60.55	57.05
				500	50.25	44.65	42.05
				2000	43.00	38.25	36.00
				5000	40.45	35.95	33.85
31514	14	41 x 30	.179	100	95.75	85.10	80.15
				500	74.45	66.20	62.35
				4000	62.40	55.45	52.25
31512	12	65 x 30	.198	100	130.35	115.90	109.10
				250	103.50	92.00	86.65
				3000	90.05	80.05	75.40
31510	10	65 x 28	.224	100	161.10	143.20	134.85
				250	154.95	137.70	129.70
				2000	124.55	110.70	104.25
31508*	8	84 x 27	.294	100	254.90	226.60	213.35
				500	232.85	206.95	194.90
31506*	6	84 x 25	.338	100	374.60	332.95	313.55
				500	350.70	311.70	293.55
31504*	4	133 x 25	.397	100	549.45	488.40	459.95
				250	518.00	460.45	433.60
31502*	2	262 x 26	.467	100	810.20	720.20	678.20
				250	748.20	665.05	626.25
31501*	1	262 x 25	.542	100	1061.20	943.30	888.25
				250	976.55	868.05	817.40
31590*	1/0	262 x 24	.594	100	1290.20	1146.85	1079.95
				250	1203.40	1069.70	1007.30
31500*	2/0	266 x 23	.674	100	1732.25	1539.80	1450.00
				250	1626.90	1446.15	1361.80
31530*	3/0	266 x 22	.724	50	2109.55	1875.15	1765.75
				250	2039.95	1813.30	1707.50
31540*	4/0	266 x 21	.784	50	2565.50	2280.45	2147.40
				250	2421.25	2152.20	2026.70

*Separator over conductor.

VINYL

Vinyl insulation is fast stripping and resists oils, solvents and ozone. The colors are bright and remain distinct after processing. Applications include motors, transformers, fluorescent ballasts and fixtures, switchboards, panels, controls, rectifiers and electronic circuits. Recommended max. baking cycles: for 105° C wires, 275° F (48 hrs), 300° F (24 hrs); for 80° C wires, 275° F (24 hrs). U.L. rated 2500 V peak for electronic use only in sizes 24 thru 10 AWG. U.L. and C.S.A. listed.

Belden No.	AWG	Stranding	Insl. O.D., Ins.	Availability Ft.	0-999 Ft.	1000-4999 Ft.	5000 Ft. and Over
80C—300 VOLT RATING							
32822	22	7 x 30	.064	5000	$ 15.60	$ 13.90	$ 13.05
32820	20	7 x 28	.070	5000	19.40	17.25	16.25
33218	18	16 x 30	.080	5000	20.25	18.00	16.95
105C—600 VOLT RATING							
34124	24	Solid	.085	5000	$ 10.55	$ 9.40	$ 8.85
34122	22	Solid	.090	5000	11.75	10.45	9.85
30622	22	7 x 30	.094	1000	16.70	14.85	14.00
				5000	13.25	11.80	11.10
32722*	22	7 x 30	.094	5000	16.55	14.70	13.85
30620	20	10 x 30	.100	1000	21.30	18.90	17.80
				4000	17.15	15.25	14.35
32720*	20	7 x 28	.100	4000	20.70	18.40	17.30
30618	18	16 x 30	.110	500	28.50	25.35	23.85
				1000	24.40	21.70	20.40
				4000	23.05	20.50	19.30
32718*	18	16 x 30	.109	4000	27.85	24.75	23.30
30616	16	26 x 30	.123	500	39.45	35.05	33.00
				1000	37.50	33.30	31.40
				4000	31.00	27.55	25.95
30614	14	41 x 30	.141	500	53.20	47.30	44.55
				5000	46.10	41.00	38.60
30612	12	65 x 30	.162	250	79.95	71.05	66.90
				2500	72.60	64.50	60.75
30610	10	65 x 28	.185	250	112.55	100.05	94.20
				1000	99.65	88.60	83.40
30608	8	84 x 27	.253	250	198.20	176.20	165.90
				1000	177.50	157.75	148.55

*Unistrand.

LISTING CONTINUED ON NEXT PAGE

APPLIANCE WIRE (CONTINUED)

SILICONE RUBBER MERCURY SWITCH LEAD WIRE

Suitable for mercury switches when protected against mechanical abuse. This wire has a tough, flexible silicone insulation that remains flexible under a wide temperature range of −55° C to +150° C and has a very low moisture absorption factor. U.L. listed.

Belden No.	AWG	Stranding	Insl. O.D., Ins.	Availability Ft.	Net per 1000 Ft.		
					0-999 Ft.	1000-4999 Ft.	5000 Ft. and Over
105C—600 VOLT RATING							
34020	20	105 x 40	.104	100	$115.40	$102.55	$ 96.60
				2000	96.60	85.90	80.85
34017	17	210 x 40	.123	100	175.60	156.10	147.00
				2000	157.10	139.65	131.50

SILICONE RUBBER GLASS BRAID LACQUERED

The silicon insulation is easy and clean stripping. The glass braid provides additional abrasion resistance and is treated to prevent fraying. Recommended for high temperature applications for motors, lighting fixtures, clothes dryers, stoves, therapeutic and electronic devices. These wires comply with IEEE requirements for Class 130C. 155C and 180C. U.L. and C.S.A. listed.

150C—600 VOLT RATING							
30822	22	7 x 30	.106	100	$ 75.15	$ 66.80	$ 62.90
				500	61.10	54.30	51.15
				5000	57.20	50.85	47.90
30820	20	10 x 30	.112	100	83.05	73.80	69.50
				500	66.10	58.75	55.35
30818	18	16 x 30	.122	100	93.10	82.75	77.95
				500	77.90	69.25	65.20
				6000	72.60	64.50	60.75
30816	16	26 x 30	.135	100	116.55	103.60	97.55
				500	98.25	87.30	82.25
				6000	91.15	81.00	76.30
30814	14	41 x 30	.163	100	152.30	135.40	127.50
				500	127.00	112.90	106.30
				4000	120.70	107.30	101.05
30812	12	65 x 30	.194	100	189.20	168.20	158.40
				500	163.55	145.40	136.90
30810*	10	65 x 28	.258	100	308.10	273.85	257.90
				500	286.40	254.60	239.75
200C—600 VOLT RATING							
32418	18	7 x 26	.124	500	$ 84.20	$ 74.85	$ 70.50
				6000	78.05	69.40	65.35
32416	16	7 x 24	.136	500	104.25	92.65	87.25
				6000	97.90	87.00	81.95
32414	14	7 x 22	.167	500	146.10	129.85	122.30
				4000	141.70	125.95	118.60
32412	12	20 x 25	.194	500	178.10	158.30	149.05
32410*	10	20 x 23	.258	500	308.95	274.65	258.60
30808*	8	54 x 25	.321	100	536.60	476.95	449.15
				500	472.45	419.95	395.45
30806*	6	84 x 25	.366	100	731.80	650.50	612.55
				500	671.70	597.10	562.25
30804*	4	133 x 25	.422	250	891.30	792.25	746.05
30802*	2	262 x 26	.497	250	1204.95	1071.10	1008.60
30801*#	1	262 x 25	.602	100	1830.90	1627.45	1532.55
				250	1707.65	1517.90	1429.35
30890*#	1/0	262 x 24	.654	100	2250.20	2000.20	1883.50
				250	2149.75	1910.90	1799.45
30800*#	2/0	266 x 23	.734	100	2631.30	2338.95	2202.50
				250	2435.60	2165.00	2038.70
30830*#	3/0	266 x 22	.784	250	3297.15	2930.80	2759.80
30840*#	4/0	266 x 21	.844	250	3746.35	3330.10	3135.85

*Separator over conductor. #Two glass braids.

VINYL COTTON BRAID LACQUERED

The cotton braid and lacquer finish over the vinyl insulation add abrasion resistance and extra protection against distortion under heat and pressure. Applications include electrical and electronic apparatus such as motors, condensers, transformers, relays, fluorescent ballasts and fixtures, coils, solenoids, chokes and rectifiers. Rcommended max. baking cycles: 250° F (48 hrs), 275° F (24 hrs), 300° F (4 hrs). U.L. rated 600V peak for electronic use, 300V other applications. Sizes 10 thru 14 U.L. rated 2500V peak for electronic use. U.L. and C.S.A. listed.

90C—300 VOLT RATING							
30522	22	7 x 30	.084	5000	$ 20.80	$ 18.50	$ 17.40
32622*	22	7 x 30	.089	5000	24.50	21.80	20.55
30520	20	10 x 30	.093	250	31.70	28.15	26.50
				4000	24.00	21.30	20.10
32620*	20	7 x 28	.093	4000	27.35	24.30	22.90
30518	18	16 x 30	.105	250	38.95	34.65	32.60
				3500	29.05	25.80	24.30
30516	16	26 x 30	.118	250	50.30	44.70	42.10
				2000	41.40	36.80	34.65
30514	14	41 x 30	.177	250	78.60	69.85	65.80
				1000	70.95	63.10	59.40
30512	12	65 x 30	.199	250	104.40	92.80	87.35
30510	10	65 x 28	.222	250	143.95	127.95	120.50
30508	8	84 x 27	.293	250	272.70	242.40	228.30
30506	6	84 x 25	.369	250	369.45	352.40	331.85

*Unistrand.

VINYL INSULATED COIL LEAD WIRE

Designed for coils, condensers, and other applications requiring small diameter, 105C insulation compound. Unistrand®, no-fray conductor means no re-twisting, no dip soldering, no broken strands and easy connections.

32926	26	7 x 34	.039	5000	$ 13.20	$ 11.70	$ 11.05
32924	24	7 x 32	.044	5000	11.25	10.00	9.40

XL-DUR^{TM}

This insulation is a chemically cross-linked polyethylene applied in a single extrusion. It provides an economical alternate to Hypalon where extreme flexibility is not required. Applications include dry type transformers, motors, switchboards, control panels and as a coil lead wire. Recommended max. baking cycles: 300° F (24 hrs), 325° F (12 hrs), 350° F (8 hrs). Type 125C is U.L. listed.

Belden No.	AWG	Stranding	Insl. O.D., Ins.	Availability Ft.	Net per 1000 Ft.		
					0-999 Ft.	1000-4999 Ft.	5000 Ft. and Over
105C—300 VOLT RATING							
35722	22	7 x 30	.066	5000	$ 16.50	$ 14.65	$ 13.80
35720	20	10 x 30	.072	5000	18.30	16.30	15.35
35718	18	16 x 30	.082	5000	25.35	22.50	21.20
35716	16	26 x 30	.109	5000	33.90	30.15	28.40
125C—600 VOLT RATING							
35622	22	7 x 30	.094	5000	$ 21.70	$ 19.30	$ 18.15
35620	20	10 x 30	.102	5000	29.40	16.10	24.60
35618	18	16 x 30	.112	5000	33.50	29.80	28.05
35616	16	26 x 30	.125	5000	41.00	36.45	34.30
35614	14	41 x 30	.143	5000	57.25	50.90	47.95
35612	12	65 x 30	.164	3000	86.70	77.05	72.55
35610	10	65 x 28	.187	2000	122.45	108.85	102.50

EL-DUR

This insulation is a chemically cross-linked ethylene, propylene, diene elastomer with an IEEE Class 130 rating. It is intended for 600 volt applications, and has excellent momentary overload resistance. Typical uses would be as a motor, generator, transformer or equipment lead when high temperature characteristics are required. It has better heat aging test results than Hypalon or Neoprene and offers a cost saving over these insulations.

36208	8	84 x 27	.300	100	$ 259.30	$ 230.50	$ 217.05
				500	233.10	207.20	195.10
36206	6	84 x 25	.340	100	355.95	316.40	297.95
				500	325.65	289.45	272.60
36204	4	133 x 25	.410	100	510.50	453.80	427.35
				500	483.05	429.40	404.35
36202	2	262 x 26	.470	100	738.55	656.50	618.20
				500	664.50	590.65	556.20
36201	1	262 x 25	.550	100	965.85	850.50	800.90
				250	889.80	790.95	744.80
36290	1/0	262 x 24	.590	100	1145.75	1018.45	959.05
				250	1067.40	948.80	893.45
36200	2/0	262 x 23	.640	100	1579.20	1403.70	1321.85
				250	1464.15	1301.50	1225.55
36240	4/0	268 x 21	.780	100	2317.75	2060.25	1940.05
				250	2148.40	1909.70	1798.30

NOMEX

This insulation is high temperature cross-linked nylon polyamide fibers formed into a continuous tape closely wrapped around the conductor and covered with an epoxy saturated glass braid, resulting in an economical Class 180C lead wire. It is recommended for continuous operating temperatures at 180° C and will withstand momentary overloads in excess of 200° C. Its low extractables make it suitable for hermetic systems. Recommended max. baking cycles: 325° F (12 hrs), 350° F (8 hrs), 400° F (8 hrs).

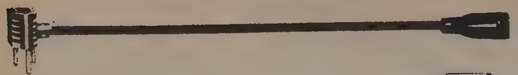
30718	18	16 x 30	.085	2000	$ 99.70	$ 88.65	$ 83.45
30716	16	26 x 30	.104	2000	111.65	99.25	93.45
30714	14	41 x 30	.118	2000	125.35	111.45	104.95
30712	12	65 x 30	.147	2000	152.30	135.40	127.50
30710	10	65 x 28	.180	2000	195.95	174.20	164.05

HERMETIC MOTOR LEAD WIRE

The combination of Dacron polyester fiber and Mylar polyester film insulation offers an improved wire for use in refrigerants. It is suitable for IEEE Class 130C temperatures, and readily stands bending around its own diameter after varnish and bake cycles. Contains low extractables required of insulation when used in hermetically sealed motors. Tracers will not fade or bleed in cleaning process or contaminate the refrigerants. Recommended max. baking cycles: 300° F (24 hrs), 325° F (16 hrs). U.L. listed.

Belden No.	AWG	Stranding	Insl. O.D., Ins.	Availability Ft.	Net per 1000 Ft.		
					0-999 Ft.	1000-4999 Ft.	5000 Ft. and Over
105C—600 VOLT RATING							
34516	16	105 x 36	.099	500	$ 62.40	$ 55.45	$ 52.25
				5000	59.75	53.10	50.00
34514	14	168 x 36	.116	500	93.30	82.95	78.10
				3000	85.70	76.15	71.70
34512	12	261 x 36	.136	500	128.45	114.20	107.55
				2000	118.80	105.60	99.45
33910	10	414 x 36	.169	500	228.50	203.10	191.25
33908	8	665 x 36	.240	250	347.80	309.15	291.10
33906	6	1050 x 36	.290	250	621.55	552.50	520.25
33904	4	1057 x 34	.325	100	768.10	682.75	642.95
33902	2	1680 x 34	.405	100	1058.00	940.45	885.60

BELDEN Special Purpose Wire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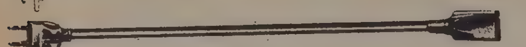
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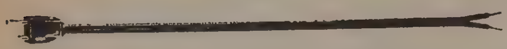
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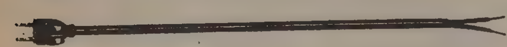
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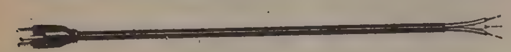
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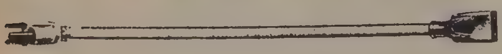
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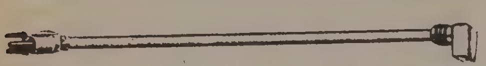
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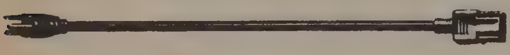
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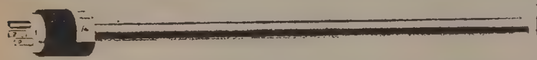
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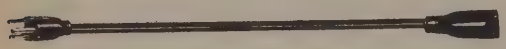

K

EXTENSION CORD SETS

THREE-CONDUCTOR ADD-A-LINE (FIG. A)

Type SJT vinyl cordage 8-ft. and 15-ft. black extension cords have added convenience of an outlet in the adapter plug so you can add a line. Molded vinyl grounding connector, PH-108. Vinyl adapter plug, PH-267. Nominal O.D., .328″. Blue Flag label. Certified to CSA Standards.

Belden Number	Length, Feet	AWG (Strands)	Rating	Net Each
17462S	8	18 (16 x 30)	1250 W, 10A–125V	$3.46
17463S	15	18 (16 x 30)	1250 W, 10A–125V	4.68

TWO-CONDUCTOR, SINGLE CONNECTOR (FIG. C)

Unbreakable, molded vinyl, cord-holder plug; unbreakable molded vinyl connector unless otherwise noted. Two-conductor rubber cordage. Blue Flag label.

Belden Number	Length, Ft.	AWG (Strands)	Cord-age	Color	Net Each
17259S‡	9	18 (41 x 34)	SV	Gray	$ 1.75
17260S	8	18 (41 x 34)	SVT	Gray	1.49
17870S‡	8	16 (65 x 34)	HP4	Black	1.48
17359B*	10	18 (16 x 30)	SJT	Gray	1.68
17361S‡	10	16 (26 x 30)	SJ	Black	2.07
17555S	25	16 (65 x 34)	S	Black	6.02
17556S	50	16 (65 x 34)	S	Black	10.66

*Has molded vinyl connector with dummy center contact. ‡Has molded vinyl female connector for blade prongs.

POWER SUPPLY CORDS

PARALLEL LAMP CORDS (FIG. D)

Unbreakable molded vinyl plug on parallel lamp cord; two conductors, AWG stranding 18 (41 x 34); conductors split 1″ and stripped and twisted ⅝″. Tan Flag label.

Belden Number	Length, Feet	Cord Type	Specify Color	Net Each
17106S	6	SPT-1 vinyl	Brown, gray, ivory	$0.73
17109S	9	SPT-1 vinyl	Brown, white	.84
17112S	12	SPT-1 vinyl	Brown, white	1.04

SVT, SV, SJ, SVO TWO-CO⅓DUCTOR CORDS (FIG. E)

Power supply type for mixers, tools, etc. Unbreakable, molded vinyl, cord-holder plug; two-conductor cord; outer jacket stripped 1½″; conductors stripped and twisted ⅝″. Tan Flag label.

Belden Number	Lgth., Ft.	AWG (Strands)	Type Cord	Color	Net Each
17205S	6	18 (41 x 34)	SVT vinyl	Gray	$1.04
17206S	6	18 (41 x 34)	SV rubber	Gray	1.22
17249S*	6	18 (41 x 34)	SVO neoprene	Black	2.29
17308S	8	18 (16 x 30)	SJ rubber	Black	1.38
17310S	10	18 (16 x 30)	SJ rubber	Black	1.56
17328S	8	16 (26 x 30)	SJ rubber	Black	1.59
17330S	10	16 (26 x 30)	SJ rubber	Black	1.81

*Coiled; conductors stripped ½″ and tinned.

THREE-CONDUCTOR CORDS (FIG. F)

Heavy-duty for tools and appliances requiring grounding. Withstands crushing, twisting and pulling. Unbreakable, molded, vinyl grounding plug; outer jacket stripped 2″; conductors stripped and twisted ⅝″. Tan Flag label.

Belden Number	Lgth., Ft.	AWG (Strands)	Type Cord	Color	Net Each
17236S†	6	18 (41 x 34)	SV rubber	Black	$1.49
17237S†	6	18 (41 x 34)	SVT vinyl	Gray	1.32
17238S†	8	18 (41 x 34)	SV rubber	Black	1.67
17239S†	8	18 (41 x 34)	SVT vinyl	Gray	1.48
17276C†	20	16 (26 x 30)	SJT vinyl	Gray	3.65
17405S	6	18 (16 x 30)	SJT vinyl	Gray	1.38
17406S	6	18 (16 x 30)	SJ rubber	Black	1.59
17407S	8	18 (16 x 30)	SJT vinyl	Gray	1.65
17408S	8	18 (16 x 30)	SJ rubber	Black	1.78
17409B	8	18 (16 x 30)	SJO neoprene	Black	1.60
17412S	12	18 (41 x 34)	SJ rubber	Black	2.42
17419S	9	16 (65 x 34)	SJ rubber	Black	2.32
17422S	12	16 (65 x 34)	SJ rubber	Black	2.84
17425S	15	16 (65 x 34)	SJ rubber	Black	3.60
17447S#	6	18 (41 x 34)	SJO neoprene	Black	3.06
17448S#	6	16 (65 x 34)	SJO neoprene	Black	3.24
17449S#	12	16 (65 x 34)	SJO neoprene	Black	4.52
17629S*	9	14 (41 x 30)	S rubber	Black	4.12
17635S*	15	14 (41 x 30)	S rubber	Black	6.53

*For heavy-duty power tools; conductors stripped and twisted ¾″. †Outer jacket stripped 1½″. #Coiled. Outer jacket stripped 1½″; conductors stripped and tinned ½″.

THREE-CONDUCTOR PROJECTOR AND BUSINESS MACHINE CORDS

All vinyl insulation on plugs and connectors. Cord is SVT vinyl. **No. 17258 (Fig. G)** can be used for Revere and Eastman Kodak projectors; Friden, Victor, Hewlett-Packard and Marchant business machines; and DuKane audio equipment. **No. 17257 (Fig. H)** can be used on Wollensak tape recorder and other equipment with 0.109″ pins. **Others (Fig. I)** can be used on electronic instruments, business machines, test equipment, desk top computers and appliances. Blue Flag label.

Belden Number	Lgth., Ft.	AWG (Strands)	Rating @ 125 VAC	Color	Net Each
17258S	8	18 (41 x 34)	7 A	Gray	$2.07
17257S	8	18 (41 x 34)	7 A	Gray	2.07
17250C	7½	18 (41 x 34)	10 A	Black	2.15
17255C	7½	16 (65 x 34)	13 A	Black	2.59
17251C	7½	18 (41 x 34)	10 A	Black	2.15
17254C*	7½	18 (41 x 34)	10 A	Black	1.99

*No male plug; ends stripped ⅝″ and twisted.

LOW-LEAKAGE POWER CORD (FIG. J)

Belden SJT Type Low-Leakage 60-Hertz Power Cord reduces the hazards of shock due to current leakage between the two conductors and from the conductors out thru the jacket. Maximum leakage at 120 VAC is 6 microamps to green and 16 microamps to the jacket. Designed for hospitals and critical medical applications. Tan Flag label.

Belden Number	Lgth., Ft.	AWG (Strands)	Rating @ 125 VAC	Color	Net Each
17301S	8	16 (65 x 34)	13 A	Gray	$12.60

THREE-CONDUCTOR EXTENSION CORD SETS (FIG. K)

For business machines, power tools and appliances. Unbreakable, molded vinyl plugs and connectors. Black only. Blue Flag label. Certified to C.S.A. standards.

Belden No.	Lgth., Ft.	AWG (Strands)	Type Cord	Rating @ 125 VAC	Net Each
17460S	10	18 (16 x 30)	SJ rubber	10 A	$ 2.52
17461S	10	16 (26 x 30)	SJ rubber	13 A	2.88
17475S*	25	16 (26 x 30)	SJO neoprene	13 A	7.43
17476S*	50	16 (26 x 30)	SJO neoprene	13 A	12.26
17675S*	25	14 (41 x 30)	SJT vinyl	15 A	14.45
17676S*	50	14 (41 x 30)	SJT vinyl	15 A	25.49

*Duplex grounding connector.

FIRE ALARM CABLES

Meet the physical and dimensional requirements of UL subject 13, low energy circuit cable. Designs are rated at 105° C and marked as "Limited Energy Circuit Cables." UL listed.

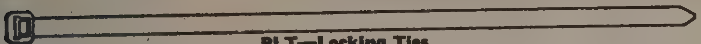
Belden No.	No. of Cond.	AWG	O.D. Ins.	Net Each, Spool of	
				500′	1000′
9596	2	19	.1 x .19	$20.80	$ 41.55
9597	4	19	.23	46.05	92.10
9598	6	19	.278	68.10	136.20

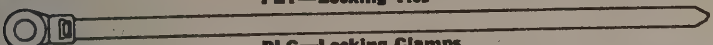
Vacuum Cleaner, Air Conditioner, Lawn Mower, Heavy Duty extensions and other specialty cords available on request.

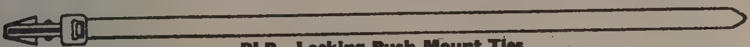
PANDUIT® Wiring Components

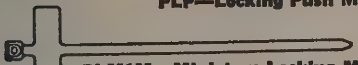
PAN-TY® ONE PIECE CABLE TIES, CLAMPS, PUSH MOUNT TIES AND MARKERS

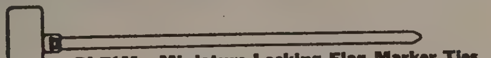
PL SELF-LOCKING TIES—TOOL OR HAND INSTALLED

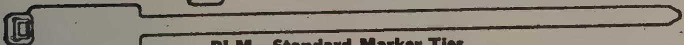

PLT—Locking Ties


PLC—Locking Clamps


PLP—Locking Push Mount Ties


PLM1M—Miniature Locking Marker Ties


PLF1M—Miniature Locking Flag Marker Ties


PLM—Standard Marker Ties

P
PANDUIT
cable ties & clamps

All packages of 50 and 100 PAN-TY cable ties; bulk packages of PLT1M-MP, PLT1.5I-MP and PLT2S-MP are supplied in convenient dispenser cartons.

PAN-TY® CABLE TIES, CLAMPS AND MARKERS

Panduit Number	Max. Bundle Dia.	Approx. Length	Std. Pkg.	Std. Ctn.	Net per 100 Std. Pkg.	Net per 100 Std. Ctn.
PLT1M-CP	¾″	4″	100	1000	$ 3.72	$ 2.98
PLT1.5M-CP	1¼″	5½″	100	500	3.88	3.10
PLT1.5I-CP	1¼″	5½″	100	1000	4.24	3.39
PLT1.5S-CP	1½″	6⅜″	100	500	5.21	4.17
PLT2M-CP	2″	8″	100	500	4.22	3.38
PLT2I-CP	2″	8″	100	500	5.10	4.08
PLT2S-CP	1¾″	7¼″	100	1000	5.35	4.28
PLT3I-CP	3″	11½″	100	500	8.76	7.01
PLT3S-CP	3″	11½″	100	500	10.47	8.38
PLT4I-CP	4″	14½″	100	500	11.10	8.88
PLT4S-CP	4″	14½″	100	500	12.35	9.88
PLT4H-LP	4″	14½″	50	500	17.61	14.09
PLT8H-LP	9″	30⅝″	50	500	36.40	29.12
PLC1M-S4-CP	¾″	4⅜″	100	500	6.25	5.00
PLC1.5I-S8-CP	1¼″	6⅜″	100	500	7.20	5.76
PLC2S-S6-CP	1¾″	7½″	100	500	8.15	6.52
PLC2S-S10-CP	1¾″	7½″	100	500	8.15	6.52
PLC4H-S25-LP	4″	15¼″	50	500	25.90	20.72
PLP1.5I-CP	1¼″	6″	100	500	7.52	6.02
PLP2S-CP	1¾″	7¾″	100	500	8.71	6.97
PLM1M-CP	¾″	4″	100	500	7.77	6.21
PLF1M-CP	¾″	4⅜″	100	500	7.77	6.21
PLM2M-CP	2″	8″	100	500	8.74	6.99
PLM2S-CP	1¾″	7¼″	100	500	15.67	12.53
PLM4S-CP	4″	14½″	100	500	19.06	15.24

STA-STRAP® CABLE TIES, CLAMPS AND MARKERS

Hand or tool installed—releasable prior to tightening.

Panduit Number	Max. Bundle Dia.	Approx. Length	Std. Pkg.	Std. Ctn.	Net per 100 Std. Pkg.	Net per 100 Std. Ctn.
SST1M-CP	¾″	4″	100	1000	$ 3.72	$ 2.98
SST1.5M-CP	1¼″	5½″	100	500	3.88	3.10
SST1.5I-CP	1¼″	5½″	100	1000	4.24	3.39
SST1.5S-CP	1¼″	5¾″	100	500	5.21	4.17
SST2I-CP	2″	8³⁄₁₆″	100	500	5.10	4.08
SST2S-CP	1¾″	6¾″	100	1000	5.35	4.28
SST2H-LP	2″	8″	50	500	12.72	10.18
SST3I-CP	3″	11″	100	500	8.76	7.01
SST3S-CP	3″	11″	100	500	10.47	8.38
SST4I-CP	4″	14¾″	100	500	11.10	8.88
SST4S-CP	4″	15″	100	500	12.35	9.88
SST4H-LP	4″	14¾″	50	500	17.61	14.09
SST8H-LP	8″	27½″	50	500	35.71	28.57
SSC2S-S6-CP	1¾″	7⁷⁄₁₆″	100	500	8.15	6.52
SSC2S-S10-CP	1¾″	7⁷⁄₁₆″	100	500	8.15	6.52
SSC4S-S6-CP	4″	15⁷⁄₁₆″	100	500	22.83	18.26
SSC4S-S10-CP	4″	15⁷⁄₁₆″	100	500	22.83	18.26
SSC4H-S25-LP	4″	15⁷⁄₁₆″	50	500	25.90	20.72
SSM2S-CP	1¾″	6¾″	100	500	16.45	13.16
SSM4S-CP	4″	14¾″	100	500	20.00	16.00
SSB2S-C	*	6¾″	100	500	9.44	7.55

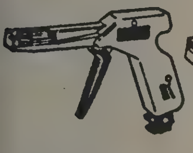
*Any two bundles up to approx. total dia. of 1¼″.

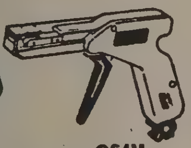
Colors: Standard color, natural nylon white; other colors available, 10% additional price.

WRITE OR CALL FOR PRICES AND INFORMATION ON BULK PRICES OF PAN-TY AND STA-STRAP, CABLE TIES

CABLE TIE ACCESSORIES

PRODUCTION INSTALLATION TOOLS


GS2B

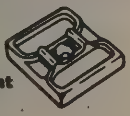

GS4H

Panduit No. GS2B Hand Tool—For uniform tensioning and cut-off. Installs miniature, intermediate and standard cable ties. Shpg. Wt., 1 lb. approx. **Prices on request.**

Panduit No. GS4H Hand Tool—Same, but installs standard and heavy cable ties. Shpg. Wt., 1½ lbs. approx. **Prices on request.**

CABLE TIE MOUNTS

Variety of cable tie mounts available as shown below. **Prices on request.**

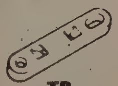

ABMS-A Adhesive Backed Mount

TM Mount

TMEH Mount

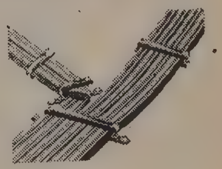
TA1 Mount

TA2 Mount


TP Mount

FLAT CABLE MOUNT

For mounting or bundling flat cable



PLATES

For bundling, use 2 plates of same size and 1 cable tie.

Panduit Number	Flat Cable Width to	Use With Cable Tie†	Std. Pkg. Qty.	Std. Ctn. Qty.	Net per 100 Std. Pkg.	Net per 100 Std. Ctn.
FCP11-C20	1″	PLT1.5I	100	500	$6.60	$5.25
FCP12-C20	2″	PLT2I	100	500	7.50	6.00
FCP13-C20	3″	PLT3I	100	500	9.90	7.95

BASES

For mounting, use 1 base and 1 plate of same sizes and 1 cable tie.

Panduit Number	Flat Cable Width to	Use With Cable Tie†	Std. Pkg. Qty.	Std. Ctn. Qty.	Net per 100 Std. Pkg.	Net per 100 Std. Ctn.
FCB11-S10-C20	1″	PLT1.5I	100	500	$ 9.15	$ 7.35
FCB12-S10-C20	2″	PLT2I	100	500	10.35	8.25
FCB13-S10-C20	3″	PLT3I	100	500	13.20	10.50
FCB11-A-C20*	1″	PLT1.5I	100	500	9.15	7.35
FCB12-A-C20*	2″	PLT2I	100	500	10.35	8.25
FCB13-A-C20*	3″	PLT3I	100	500	13.20	10.50

†Size listed is minimum.
*For adhesive mounting; adhesive supplied by user.

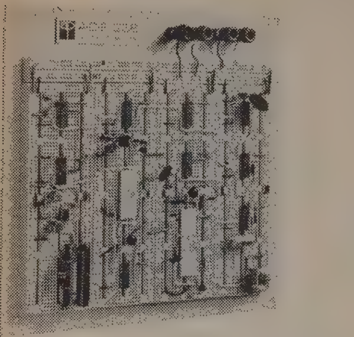
PANDUCT® PLASTIC WIRING DUCT

- **Patented snap-in slot design**
- **Eliminates threading wires through duct holes**
- **Wires may be inserted with terminations attached**
- **Meets J.I.C. requirements. CSA approved.**

Non-slip cover available for all width sizes. **Prices on request.**

A P PRODUCTS Integrated Circuit Accessories, Breadboards, Terminal Strips, Test Clips, Test Probes

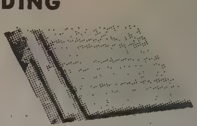
FOR DEVELOPMENT BREADBOARDING



ACE 236

ACE ALL-CIRCUIT EVALUATORS

Two kits and five assembled breadboards for quick build-up and check-out of experimental circuits. All models have integral voltage distribution system with solderless, plug-in tie points on universal .100″ x .100″ matrix for excellent circuit design flexibility. These ACE's accept all DIP's, TO-5's, discrete components and solid wire patch cords to .032″. Use buses for voltage, ground, reset and clock lines, shift command, etc. Five-way binding posts. Aluminum base serves as ground and has gold-anodized protective surface. Multi-tie-point terminals are non-corrosive nickel silver. Four rubber feet included.

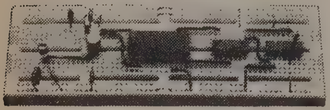


BREADBOARD II

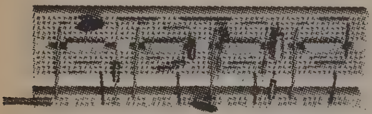
Fully assembled. Unique system of 3 distribution strips, two levels of printed circuits and 3 binding posts. 18 buses are color coded and internally connected to 3 corresponding color binding posts. High distributed capacitance and low inductance design minimizes unwanted voltage spikes, provides superior low impedance system. Same solderless, plug-in matrix features as ACE's. Laminated NEMA G-10 glass epoxy base; circuits and gnd. plane are tin-plated 2-oz. copper; terminals are gold-plated copper alloy.

AP No.	ACE's and Breadboard II	Tie-Pts.	DIP Cap.	No. Buses	No. Posts	Size (Inches)	Net Each, Lots of			
							1-9	10-24	25-49	50-99
923333	ACE 200-K (kit)	728	8(16's)	2	2	4 9/16 x 5 9/16	$18.95	$17.81	$17.06	$16.49
923332	ACE 208 (assem.)	872	8(16's)	8	2	4 9/16 x 5 9/16	28.95	27.21	26.06	25.19
923334	ACE 201-K (kit)	1032	12(14's)	2	2	4 9/16 x 7	24.95	23.45	22.46	21.71
923331	ACE 212 (assem.)	1224	12(14's)	8	2	4 9/16 x 7	34.95	32.85	31.46	30.41
923326	ACE 218 (assem.)	1760	18(14's)	10	2	6 1/2 x 7 1/8	46.95	44.13	42.26	40.85
923325	ACE 227 (assem.)	2712	27(14's)	28	4	8 x 9 1/4	59.95	56.35	53.96	52.16
923324	ACE 236 (assem.)	3648	36(14's)	36	4	10 1/4 x 9 1/4	79.95	75.15	71.96	69.56
923605	BB 11 (assem.)	2696	36(14's)	18	3	7 x 9	126.00	120.25	118.40	110.00

SUPER-STRIPS

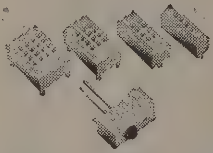


Universal, breadboarding elements have 840 solderless, plug-in tie points, integral low-impedance distribution system, accepts all DIP's, TO-5's, discretes and solid jumpers to .032″. Hold up to nine 14-pin DIP's. Choice of terminal materials. Includes integral, non-shorting, instant-mounting backing.



TERMINAL AND DISTRIBUTION STRIPS

For building custom breadboards. Solderless, plug-in matrices on .1″ x .1″ centers that accept all DIP's, TO-5's, discretes and solid wire jumpers to .032″. Terminal strips available in 4- and 5-tie-pt. single and dual rows. Distribution strips available with 2 or 6 buses. Includes integral, non-shorting, instant-mounting backing.



TIE-POINT BLOCKS

Four models available with .1″ matrix of solderless, plug-in, 4-tie-point terminals for custom layouts, attaching relays, displays, in/out patching. LED block accepts 3/16″ dia. bulb (not included). All models have solder tails and mount by press-fitting into holes.

AP No.	Tie-Point Blocks	Tie-Points	Net Each Pkg. 20, Lots of			
			1-9	10-24	25-49	50-99
923297	TB1 (single)	4	$ 3.60	$3.38	$3.24	$3.13
923299	TB2 (double)	8	6.20	5.83	5.58	5.39
923301	TB3 (triple)	12	8.80	8.27	7.92	7.66
923303	TB4 (quad)	16	10.40	9.78	9.36	9.05
923305	LB1 (LED)	1	6.00	5.64	5.40	5.22

AP No.	Terminal Strips, Distribution Strips and Super-Strips	Buses, Terminals and Tie Points	DIP Capacity	Size# (In.) L. x W.	Net Each, Lots of			
					1-9	10-24	25-49	50-99
923273	217L Terminal strip	34 five-tie-point term.	2 (16's)	1.8 x 1.36	$ 4.75	$ 4.47	$ 4.28	$ 4.13
923269	234L Terminal strip	68 five-tie-point term.	4 (16's)	3.5 x 1.36	8.50	8.00	7.65	7.40
923265	248L Terminal strip	96 five-tie-point term.	6 (14's)	4.9 x 1.36	10.00	9.40	9.00	8.70
923261	264L Terminal strip	128 five-tie-point term.	9 (14's)	6.5 x 1.36	12.50	11.75	11.25	10.88
923291	154R Terminal strip	54 four-tie-point term.	*	6.5 x .63	6.00	5.64	5.40	5.22
923289	264R Terminal strip	128 four-tie-point term.	9 (14's)	6.5 x 1.1	10.00	9.40	9.00	8.70
923725	154G Terminal strip†	54 four-tie-point term.	*	6.5 x .63	8.15	7.25	7.00	6.85
923730	264G Terminal strip†	128 four-tie-point term.	9 (14's)	6.5 x 1.1	17.55	16.20	15.10	14.45
923285	206R Distrib. strip	2 buses of 24 tie points	....	3.5 x .35	2.00	1.88	1.80	1.74
923281	209R Distrib. strip	2 buses of 36 tie points	....	4.9 x .35	2.25	2.12	2.03	1.96
923277	212R Distrib. strip	2 buses of 48 tie points	....	6.5 x .35	2.50	2.35	2.25	2.18
923293	606R Distrib. strip	6 buses of 24 tie points	....	6.5 x .43	3.50	3.29	3.15	3.05
923740	606G Distrib. strip†	6 buses of 24 tie points	....	6.5 x .43	11.55	10.60	9.95	9.45
923252	SS-2 Super-Strip	128 five-tie-point term. &	9 (14's)	6.5 x 2.25	17.00	15.98	15.30	14.79
923748	SS-1 Super-Strip†	8 buses of 25 tie points	9 (14's)	6.5 x 2.25	18.90	17.75	17.20	16.70

*Models 154R and 154G are single strips of terminals; all other strips are dual-row for DIP's. †Gold-plated copper alloy terminals.
#Height of all strips is .32 inches.

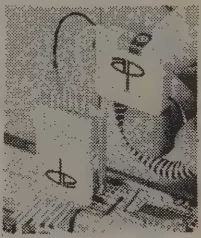
FOR IC TROUBLESHOOTING

DIGITAL TEST PROBES

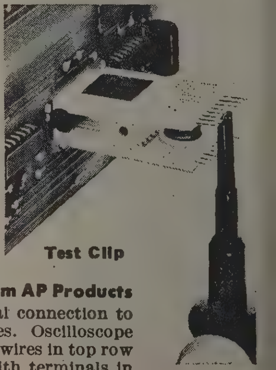
For positive detection and visual display of Logic "1" and Logic "0" voltage levels of DIP circuits in DTL, TTL and related logic groups. Provides high input impedance that eliminates loading. Attaches to AP test clip or .025″ square posts. Derives operating power from unit under test, no batteries involved. Overvoltage protection in DTP-II model.

AP No.	Digital Test Probes	Net Each, Lots of			
		1-9	10-24	25-99	100-Up
923650	DTP-1 Basic probe	$40.95	$36.90	$34.80	$33.60
923651	DTP-1 with TC-16	46.70	42.05	39.70	38.30
923655	DTP-2 Fused probe	57.75	52.00	49.10	47.35
923656	DTP-2 with TC-16	63.50	57.15	54.00	52.10
923660	DTP-2 fuses (6-pak)	6.50	6.50	6.50	6.50

AP No.	IC Test Clips	Net Each, Lots of			
		1-49	50-99	100-249	250-499
923695	TC-8	$ 7.35	$ 6.90	$ 6.60	$ 6.30
923698	TC-14	4.50	4.07	3.82	3.69
923700	TC-16	4.75	4.28	4.04	3.90
923702	TC-16 LSI	8.95	8.40	8.05	7.70
923703	TC-18	10.00	9.40	9.00	8.60
923704	TC-20	11.55	10.85	10.40	9.95
923705	TC-22	11.55	10.85	10.40	9.95
923714	TC-24	13.85	12.47	11.77	11.36
923718	TC-28	15.25	14.35	13.75	13.10
923720	TC-36	19.95	18.75	17.95	17.15
923722	TC-40	21.00	19.75	18.90	18.05



Digital Probe



Test Clip

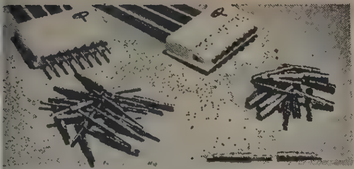
IC TEST CLIPS—The Originals from AP Products

For positive, non-shorting electrical connection to leads on dual-in-line IC packages. Oscilloscope probes hang free on longer terminal wires in top row of test clip and do not interfere with terminals in bottom row. Sizes for all DIP's, e.g., TC-14 fits 14-pin DIP, etc. Excellent DIP-removal tool. Gold-plated phosphor bronze spring contacts are designed for wiping action. Simplifies testing, troubleshooting and QC inspection.

A P PRODUCTS Integrated Circuit Accessories

Jumpers, Patch Cords, Connectors, PC Cards & Headers

FOR SPECIAL SYSTEMS AND PROTOTYPING



CONNECTOR PINS AND SOCKETS

Two sizes cover from .019" to .035" pin dia. Solder cup accepts up to 22 AWG wire. Has exceptionally secure grip. Units cannot be over-stressed, are practically indestructible. Pins are hard brass. Sockets are beryllium copper with brass sleeve, permit no contact damage. All are gold-over-nickel plated.

PATCH CORDS

PVC insulated 26 AWG stranded wire. Two pin sizes, .019" and .030". Two socket sizes, .019"–.028", and .028"–.035". E-Z Hook ends. Fit .025" sq. posts and all A P plug-in hardware. Provides integral strain relief. Metal parts are gold-plated.

MINIATURE 8-PIN CONNECTORS

Designed for flat ribbon cable. Incorporate above pins and sockets. Part 923625, female, accepts .028" to .035" dia. pins. Used on A P test clips,. 025" square posts, etc. Part 923627, female, accepts .019" to .028" dia. pins. Part 923626, male, has .030" dia. pins. Used with Part 923625 female, terminal strips, etc. Part 923628, male, has .019" dia. pins. Used with Part 923627 female, etc. Cover provides excellent strain relief. Body constructed of acetal copolymer.

AP No.	Pins and Sockets	Net per Pkg. of 100			
		1-9	10-24	25-49	50-99
923610	Connector sockets .019"/.028"	$28.85	$26.50	$24.15	$23.10
923612	Connector sockets .028"/.035"	28.85	26.50	24.15	23.10
923614	Connector pins .019"	23.10	21.25	20.20	18.40
923616	Connector pins .030"	23.10	21.25	20.20	18.40
AP No.	**8-pin Connectors**	**Net Each, Lots of**			
		1-9	**10-99**	**100-499**	**500-999**
923625	8-pin connector .028"/.035" (F)*	$2.90	$2.75	$2.65	$2.40
923626	8-pin connector .030" (M)	2.30	2.15	2.05	2.00
923627	8-pin connector .019"/.028" (F)	2.90	2.75	2.65	2.40
923628	8-pin connector .019" (M)	2.30	2.15	2.05	2.00

*Attaches to test clip.

AP No.	Patch Cord Packaging Description	Net per Pkg.	
		1-9	10-24
924961	.019" dia. pin plug to pin plug, 20/pkg., assorted*	13.85	$13.02
924962†	.030" dia. pin plug to pin plug, 20/pkg., assorted*	13.85	13.02
924963	.019"/.028" dia. socket to socket, 20/pkg., assorted*	16.20	15.23
924964†	.028"/.035" dia. socket to socket, 20/pkg., assorted*	16.20	15.23
924965	.019" dia. pin to .019"/.028" socket, 20/pkg., assorted*	15.00	14.10
924966†	.030" dia. pin to .028"/.035" socket, 20/pkg., assorted*	15.00	14.10
924967	.019" dia. pin plug to E-Z Hook, 10/pkg., 15" long, 5 red and 5 black	14.50	13.63
924968†	.030" dia. pin plug to E-Z Hook, 10/pkg., 15" long, 5 red and 5 black	14.50	13.63
924969	.019"/.028" dia. socket to E-Z Hook, 10/pkg., 15" long, 5 red and 5 black	15.00	14.10
924970†	.028"/.035" dia. socket to E-Z Hook, 10/pkg., 15" long, 5 red and 5 black	15.00	14.10
924971	E-Z Hook to E-Z Hook, 10/pkg., 15" long, 5 red and 5 black	16.80	15.79

*Length assortment: 9 at 2"; 6 at 4"; 3 at 6"; 2 at 9"; colors, black, red, yellow, blue. †Mate with A P breadboards, strips and test clips.

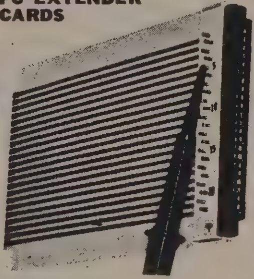
UNICARD I

Reusable, solderless, breadboarding PC card. Accepts up to 12 14-pin DIP's, discretes and solid jumper wires with leads to .032" on .1" plug-in matrix. Employs pre-drilled heavy bus and integral ground plane on NEMA G-10 glass epoxy board. 22-position double readout finger pattern on .156" centers. Circuits are tin-plated 2 oz. copper. Has low magnetic profile for high-speed circuitry. Extractor handle incld.

UNICARD II

Same construction as Unicard I except larger terminal strips are used and a dual row distribution strip is added. Accepts up to 20 14-pin DIP's. Also added is front-mounted turret post for convenient ground termination and four rubber feet for protection during bench work. Compatible with AP Extender Cards.

PC EXTENDER CARDS



Exclusive turret posts, 22 on each side, allows testing of all 44 contact positions easily from the front, in card racks, and under power. Posts are staggered to allow non-shorting attachment of test probes. Probe will not slip off turret shape during hands-free testing. Double-readout connector has contacts on .156" centers.

AP No.	Unicards & Extenders	Size, Inches	Net Each, Lots of			
			1-9	10-24	25-49	50-99
923770	Unicard I	4⅜ x 6⅜	$31.50	$30.35	$29.50	$27.60
923771	Unicard I	4½ x 6⅜	31.50	30.35	29.50	27.60
923775	Unicard II	4⅜ x 9¾	56.20	53.20	50.30	46.85
923776	Unicard II	4½ x 9¾	56.20	53.20	50.30	46.85
923790	Extender card	4½ x 8½	25.20	23.30	21.75	20.65
923792	Extender card	4⅜ x 8½	25.20	23.30	21.75	20.65
923794	Extender card	4½ x 11	30.25	26.30	24.25	23.10
923796	Extender card	4⅜ x 11	30.25	26.30	24.25	23.10

BREADBOARD JUMPER WIRE KIT

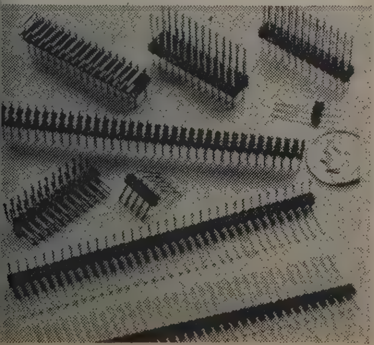
350 insulated 22-ga. wires cut to 14 color-coded lengths from 0.1" to 5". Ends are stripped and bent 90°.

TEST CLIP REMOTE CABLE ASSEMBLY

16 conductor assembly attaches to TC-14 or TC-16 (test clip not included) to connect to remote equipment. 18" long, 19 strands. Remote end open or with 16-pin DIP plug.

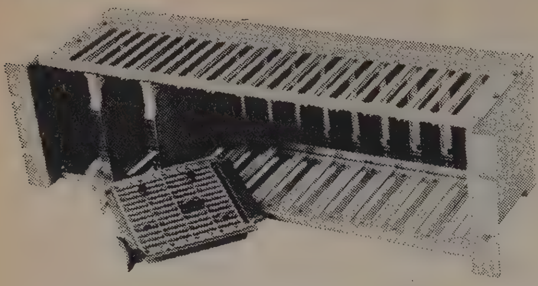
MALE AND FEMALE HEADERS

Molded-in, straight and right angle male headers have 36 posts per row. They are stackable to make up matrices of .025" sq. posts on PC boards or to use as patchboards for discrete connections. All mate with female connectors on .100" spacing. Posts extend .230" and .100" beyond .100" sq. header for wire wrapping and soldering. "Break-to-row-length" feature. Posts are tin-plated hard bronze. Female headers also are stackable and mate with matrices of .025" sq. or round posts on .100" centers. Make excellent cable connectors. 36 "tuning-fork" contacts per row are molded into header strip with .093" solder tails for PC board mounting or cable attachment. "Cut-to-row-length" feature. Contacts are tin-plated hard brass. Dual-row headers are ultra-sonically welded at factory.



AP No.	Remote Cable Assemblies and Jumper Wire Kits		Net Each, Lots of			
			1-9	10-24	25-49	50-99
923360	CA1 assembly with DIP plug		$15.00	$14.10	$13.50	$13.05
923361	CA2 assembly without DIP plug		13.00	12.22	11.70	11.31
923351	JK1 breadboard jumper wire kit		10.00	9.40	9.00	8.70
AP No.	**Headers**	**No. Rows**	**Net Each, Lots of**			
			1-99	**100-249**	**250-499**	**500-999**
929851	Female header	1	$0.92	$0.86	$0.81	$0.75
929853	Female header	2	1.96	1.84	1.74	1.64
929834-01	Male header, straight	1	.87	.79	.71	.64
929836-01	Male header, straight	2	1.82	1.65	1.50	1.35
929835-01	Male header, rt. angle	1	.94	.85	.76	.61
929838-01	Male header, rt. angle	2	2.19	1.98	1.79	1.62

AUGAT Circuit Panels and Enclosures



ENCLOSURES AND RACK ASSEMBLIES

Panel rack pivots for back panel accessibility. Specified in four ways permits application in a standard 19″ rack. Designed for 13 standard panels. Back panel easily removed for automatic wire wrapping. **Model 8160-EG10, -EG20, -EG21, -WG1,** and **-WG3:** Back panel only. **Model 8170-MG1, -RG1, -RG7, -RG14, -RG19:** Rack with back panel. **Model 8170-RG3, -RG16:** Rack only. **Size:** Enclosure, 17″ w. x 18.25″ d. x 8.75 h.; back panel, 16.4″ w. x .125″ d. x 8.25″ h.

Augat No.	Board Thck.	Net Each, Lots of		
		1-4	5-9	10-24
For M Series Boards				
8160-EG20	....	**$127.00**	**$113.50**	**$105.75**
8170-MG1	....	**177.50**	**158.75**	**147.75**
For R Series Boards				
8160-EG10	1/8	**268.50**	**240.00**	**223.25**
8160-EG21	1/16	**268.75**	**240.00**	**223.25**
8170-RG1	1/8	**311.25**	**278.25**	**258.75**
8170-RG14	1/16	**311.25**	**278.25**	**258.75**
8170-RG3	1/8	**47.75**	**42.25**	**39.50**
8170-RG16	1/16	**47.75**	**42.25**	**39.50**
For W Series Boards				
8160-WG1	1/8	**$301.75**	**$270.00**	**$250.00**
8160-WG3	1/16	**301.75**	**270.00**	**250.00**
8170-RG7	1/8	**311.25**	**278.25**	**258.75**
8170-RG19	1/16	**311.25**	**278.25**	**258.75**
8170-RG3	1/8	**47.75**	**42.25**	**39.50**
8170-RG16	1/16	**47.75**	**42.25**	**39.50**

DRAWER ASSEMBLIES

Pack up to 720 DIP's in one drawer assembly. Four panel frames are hinged from either side for accessibility or fast removal. Half drawers hold 2 frames. Top and bottom covers furnished providing protection and duct effect for blowers. Aluminum, gold iridite all frame members and front plate is of painted aluminum. **Size:** 17″ w. x 20.7″ d. x 3.5″ h. **Model 8170-DG1:** Drawer assembly with fan cut-out rear plate and perforated front plate. **Model 8170-DG2:** Drawer assembly with rear blank plate and front blank plate. **Model 8170-DG4:** ½ Drawer version of DG1. **Model 8170-DG5:** ½ Drawer version of DG2. **Model 8170-DG7:** ½ Drawer with perforated front plate and rear blank plate.

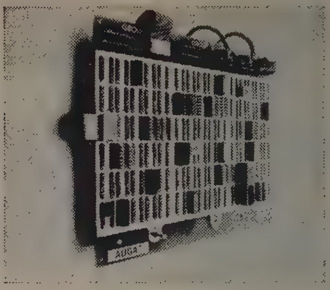
Augat No.	Net Each, Lots of		
	1-4	5-9	10-24
8170-DG1	**$65.75**	**$58.50**	**$54.50**
8170-DG2	**59.50**	**53.50**	**49.50**
8170-DG4	**54.75**	**47.75**	**44.50**
8170-DG5	**50.25**	**45.25**	**42.00**
8170-DG7	**52.25**	**46.75**	**44.00**

Augat No. 8170-14G1—Board frame to fit DG Series. Accepts boards 8136-PG1, -PG3, -PG5, -PG18, -PG19, -PG20, -UG1, -UG6, -UG56, and -UG61.

Net Each, Lots of: 1–4 .... **$20.63**
5–9 ...... **$18.45;** 10–24 ...... **17.17**

Augat No. 8170-14G2—Board frame to fit DG Series. Accepts boards 8136-ECL21, -ECL23, -ECL24, -ECL25, -ECL26, -PG13, -PG21, and -SCH1.

Net Each, Lots of: 1–4 .... **$20.63**
5–9 ...... **$18.45;** 10–24 ...... **17.17**



HIGH-DENSITY PACKAGING PANELS FOR DUAL INLINE PLUG-IN IC'S

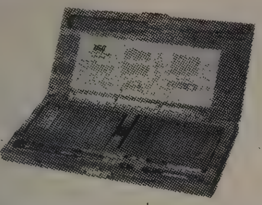
Double-sided panels accept plug-in IC packages with flat or round leads, 300-mil row spacing and 100-mil lead spacing. Large contoured, closed-entry contacts. Power and ground planes at each pattern (power plane on bottom): Types MG4, PG13, PG21, UG1 and UG6 have two dummy pins for power and ground; Types PG5 and PG20 have pin 8 power and pin 16 ground; Types UMG1 and URG1 are universal panels with 12 rows of 35 contacts and 20 rows of 50 contacts, respectively, on 300-mil centers.

Augat No. 8136-	Pins per Pat.	Pat. per Panel	Vcc & Gnd. Connections	Net Each
MG4	16 + 2	24	V & G pins	**$ 48.50**
UMG1	35	12	....	**51.75**
PG5-30	16	30	8 & 16	**42.50**
PG5-60	16	60	8 & 16	**83.25**
PG5-90	16	90	8 & 16	**124.00**
PG5-120	16	120	8 & 16	**165.75**
PG5-150	16	150	8 & 16	**206.50**
PG5-180	16	180	8 & 16	**247.00**
PG13-30	16 + 2	30	V & G pins	**45.75**
PG13-60	16 + 2	60	V & G pins	**89.25**
PG13-90	16 + 2	90	V & G pins	**133.50**
PG13-120	16 + 2	120	V & G pins	**176.75**
PG13-150	16 + 2	150	V & G pins	**221.50**
PG13-180	16 + 2	180	V & G pins	**264.25**
PG20-30	16	30	8 & 16	**41.75**
PG20-60	16	60	8 & 16	**82.00**
PG20-90	16	90	8 & 16	**123.00**
PG20-120	16	120	8 & 16	**163.25**
PG20-150	16	150	8 & 16	**203.25**
PG20-180	16	180	8 & 16	**243.50**
PG21-30	16 + 2	30	V & G pins	**45.00**
PG21-60	16 + 2	60	V & G pins	**88.00**
PG21-90	16 + 2	90	V & G pins	**131.25**
PG21-120	16 + 2	120	V & G pins	**174.00**
PG21-150	16 + 2	150	V & G pins	**217.50**
PG21-180	16 + 2	180	V & G pins	**259.75**
RG3	16	60	8 & 16	**98.25**
RG4	16 + 2	60	V & G pins	**104.25**
URG1	50	20	....	**109.75**
UG1-9	....	9	V & G pins	**41.00**
UG1-18	....	18	V & G pins	**82.75**
UG1-27	....	27	V & G pins	**124.00**
UG1-36	....	36	V & G pins	**165.00**
UG1-45	....	45	V & G pins	**206.00**
UG1-54	....	54	V & G pins	**248.00**
UG6-9	....	9	V & G pins	**41.00**
UG6-18	....	18	V & G pins	**81.25**
UG6-27	....	27	V & G pins	**122.50**
UG6-36	....	36	V & G pins	**162.50**
UG6-45	....	45	V & G pins	**203.50**
UG6-54	....	54	V & G pins	**244.00**

WE CAN QUOTE ON NEEDS FOR MRO, R&D, AND PRODUCTION QUANTITIES
IN BOTH THE SEMICONDUCTOR AND ELECTROMECHANICAL MARKETS.

AUGAT MICROPROCESSOR HARDWARE AND ACCESSORIES

HOLTITE™ SOLDERLESS, PLUGGABLE INTERCONNECTION PACKAGING SYSTEM



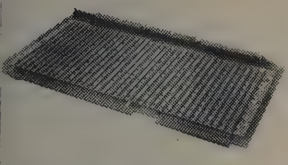
Converts plated-thru holes to plug-in sockets without soldering. Offers the low profile of direct soldering and the benefits of a totally pluggable system. Precision machined contact is press fitted into a printed circuit board plated-thru hole. Conversion to Holtite system is accomplished by simply changing drilled hole diameter prior to plating.

Augat No.	Description	Net Ea., Any Qty.
398-HK-001	Prototyping kit (with tools)—gold	$94.50
398-HK-002	Prototyping kit (with tools)—tin	88.00

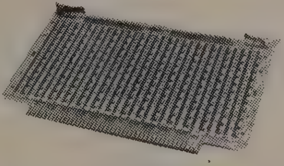
Augat No.	Description	Net Each, Lots of 1-4	5-9	10-24
322-HC-5P2-10	Card with 1008 small gold contacts	$50.00	$36.50	$30.50
322-HC-5P3-10	Card with 1008 small tin contacts	46.50	34.25	29.25
322-HC-6P2-2	Card with 196 large gold contacts	15.75	11.50	10.00
322-HC-6P2-10	Card with 1008 large gold contacts	64.50	47.00	39.25
322-HC-6P3-2	Card with 196 large tin contacts	15.00	11.00	9.50
322-HC-6P3-10	Card with 1008 large tin contacts	61.00	44.50	37.25

MICRO-DEVELOPMENT INTERFACE BOARDS

MOTOROLA M6800 EXORCISER



8136-UG159



8136-UG146

Augat Part No. 8136-UG146—Universal style, 30 rows of 44 contacts. Net Each, 1–4....................$218.50
5–9..............**$196.50**, 10–24..............**$182.00**

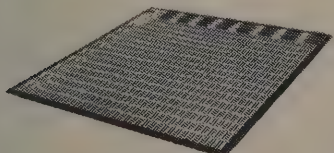
Augat Part No. 8136-SCH42—Accommodates Schottky TTL. Vcc plane sandwiched between two gnd. planes. Accommodates 64 chips. Net Each, 1–4....................**$157.50**
5–9..............**$142.25**, 10–24..............**$132.25**

Augat Part No. 8136-ECL75—Accommodates ECL logic with SIP resistor terminator positions. Gnd., −5.2 V and −2.0 V voltage planes. Accommodates 64 chips. Net Each, 1–4......**$235.00**
5–9..............**$210.00**, 10–24..............**$196.00**

INTEL SBC 80/10

Augat Part No. 8136-UG159—Universal style. 36 rows of 50 contacts. Net Each, 1–4....................**$267.00**
5–9..............**$240.25**, 10–24..............**$222.75**

3000 SERIES SCHOTTKY BIPOLAR MICROPROCESSOR



Augat Part No. 8136-MP2—Accommodates 549 chips. 18 28-pin chips. Net Each, 1–4....................**$1037.00**
5–9..............**$934.25**, 10–24..............**$867.00**

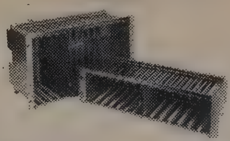
ECL 10800 4-BIT MICROPROCESSOR ADAPTER

Augat Part No. 648-HG1—Designed to fit Augat standard ECL Series boards. Automatically provides −5.2 V, −2.0 V and gnd. when plugged into the ECL board. Net Each, 1–99....**$11.75**
100–499....**$8.25**, 500–999....**$7.13**, 1000–4999....**$6.10**

MICROPROCESSOR PACKAGING HARDWARE

A 3-, 6-, 9- or 13-card position cage for packaging microprocessor systems. 3 voltages and gnd. fully bussed. CPU cards for 4-, 8- and 16-bit processors. Memory cards for RAM, ROM and PROM. Also I/0 cards. Card pinouts for I/0 is 64; 96 optional.

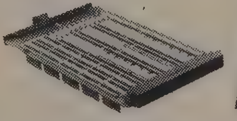
CARD CAGE



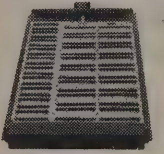
Augat Part No. 8170-VG30 (64 I/0)—25 position cage to accommodate 13 wrappable cards. Complete with back plane and 13 connectors. Bussed for 4 voltages. 64-pin, two-piece connectors for reliability. Accommodates up to 455 16-pin chips. 9 various standard "V" cards available. Net Ea., 1–4..........**$331.00**
5–9..............**$297.50**, 10–24..............**$275.75**

Augat Part No. 8170-VG31 (96 I/0)—Same as VG30 except, 96-pin connectors. Net Each, 1–4....................**$416.25**
5–9..............**$374.00**, 10–24.............. **346.75**

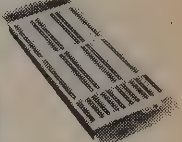
MICROPROCESSOR BOARD



8136-VCP1



8136-VME1



8136-PCP1-11

Augat Part No. 8136-VCP1 (64 I/0)—Central processor (CPU) board with combination of 16-, 24-, 28- and 40-contact patterns. Single size "V" Series board. Compatible with most microprocessor families. 64-pin connector with dedicated pins tied to Vcc and gnd. Net Each, 1–4....................**$ 73.25**
5–9..............**$65.25**, 10–24..............**$ 61.00**

Augat Part No. 8136-VCP2 (96 I/0)—Same as VCP1 except, 96-pin connector. Net Each, 1–4....................**$ 80.00**
5–9..............**$71.50**, 10–24..............**$ 66.75**

MEMORY BOARD

Augat Part No. 8136-VME1 (64I/0)—Memory (ME) board with 10 patterns of 16 contacts, 16 patterns of 22 contacts. Single size "V" Series board. 64-pin connector. Net Each, 1–4...**$ 97.25**
5–9..............**$86.75**, 10–24..............**$ 81.00**

Augat Part No. 8136-VME2 (96 I/0)—Same as VME1 except, 96-pin connector. Net Each, 1–4....................**$104.00**
5–9..............**$93.00**, 10–24..............**$ 86.75**

Augat Part No. 8136-VME3 (64 I/0)—Memory board (RAM, ROM, PROM) 32 20-pin position or 24 20's and 6 24's. Provision for 3 voltages and decoupling. Net Each, 1–4.........**$105.00**
5–9..............**$94.50**, 10–24..............**$ 87.50**

Augat Part No. 8136-VME4 (96 I/0)—Same as VME3 except, 96-pin connector. Net Each, 1–4....................**$110.25**
5–9..............**$99.00**, 10–24..............**$ 91.75**

Augat Part No. 8136-VG38 (64 I/0)—I/0 board. 8 40-pin locations, 8 16-pin locations. Provision for 3 voltages and decoupling. Net Each, 1–4....................**$ 77.00**
5–9..............**$69.25**, 10–24..............**$ 64.25**

8136-VG39 (96 I/0)—Same as VG38 except, 96-pin connector. Net Each, 1–4....................**$ 82.00**
5–9..............**$73.50**, 10–24..............**$ 62.25**

EXTENDER

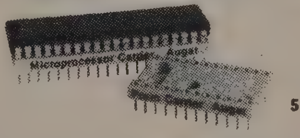
Augat Part No. 8136-VG31—Fits 8170-VG30. Accommodates 8136-V Series boards with a 64-pin connector.
Net Each, 1–4....................**$ 55.50**
5–9..............**$50.75**, 10–24..............**$ 47.00**

Augat Part No. 8136-VG33—Same as VG31 except, accommodates 96-pin connector. Net Each, 1–4....................**$ 68.25**
5–9..............**$61.25**, 10–24..............**$ 56.75**

MICROPROCESSOR BOARD—MODULAR TYPE

Augat Part No. 8136-PCP1-11—Same physical size as the 8136-PG-13. 11 patterns (up to 66 patterns) with 5 patterns of 16 contacts, 6 patterns of 40 contacts. Compatible with other standard "P" Series boards; will fit into 8170-14G2 frame. 3 patterns of 28 for high-density I/0. Also available in 22-, 33-, 44-, 55- and 66 patterns. Net Each, 1–4....................**$ 58.00**
5–9..............**$52.00**, 10–24..............**$ 48.00**

"PROM AND MICROPROCESSOR CARRIERS"



540-AG70D

524-AG70D

Ultra low profile carriers to accept 24-pin PROMs and 40-pin microprocessors. Carriers designed to plug into any standard DIL IC socket. These carriers protect the devices from damage due to multiple insertions and withdrawals. Plug the PROM into the carrier then plug and unplug the mated assembly. Thermoplastic polyester insulator. Beryllium copper, gold plated contacts and phosphor bronze sleeves, gold plated. **Terminals:** P.C., ,018" dia. x .110" h. (min.).

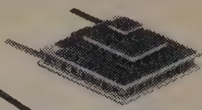
Augat No.	Contacts	Net Each, Lots of 1-99	100-499	500-999	1000-4999
524-AG70D	24	$1.96	$1.72	$1.54	$1.32
540-AG70D	40	3.26	2.86	2.55	2.18

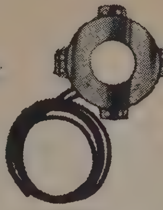
CAMBRIDGE THERMIONIC CORPORATION

CAMBION® THERMOELECTRICS— PANEL, CHASSIS HARDWARE

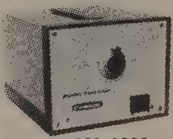
THERMOELECTRICS

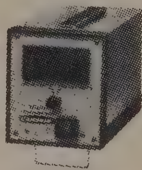
801-2000


801-1006


800-3953

802-3971


809-3020


811-7204

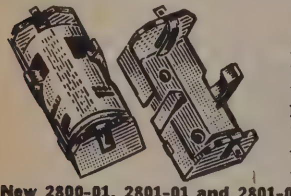
CAMBION TE components (modules) and 40-watt assemblies, listed below, may be operated by using the following **standard parts** to assemble a simple variable DC power supply: (1) autotransformer; (2) input transformer; (3) filter choke; (4) 2 silicon rectifiers; (5) rectifier heat sink.

COMPONENTS

Cambion Part No.§§	Description	Net Each
801-2000-01	8.5 ampere module; 6 VDC; Qc = 26 watts with Th at 50° C.	**$ 66.90**
801-2001-01	8.5 ampere module; 3.5 VDC; Qc = 18 watts with Th at 50° C.	**50.40**
801-1006-01	6 ampere module; 3.2 VDC; ΔT = 115° C with Th at 50° C.	**207.10**
800-3953-01	6.5 ampere annular ring; 3.5 VDC; 14 watts with Th at 50° C.	**87.30**
801-3958-01	Ceramic high performance unit; 3.6 VDC at 9 amps; 19.5 watts pumping capacity with Th at 50° C.	**99.30**
	ASSEMBLIES	
803-3970-01	6.5 ampere air cooled assembly; 12 VDC; 40 watts with Th at 50° C. With heat sink, bracket and fan assembly (115 VAC, 60 Hz).	**$233.30**
806-1001-01	9 ampere water cooled assembly; 8 VDC; Qc = 40 watts with Th at 50° C.	**202.20**
802-3971-01	Fixed output, non-regulated DC power supply for 3970-01 assembly. Other power supplies avail- for all modules.	**137.10**
	INSTRUMENTS	
809-3020-01	Bipolar controller (powers modules from 3 to 8 VDC, 9 amperes); 115/230 VAC, 130 watts max.	**$742.50**
811-7204-01	Digital temperature indicator; Temperature Range: −30° C to +125° C.	**654.50**
811-7220-01	Proportionally controlled cold or warm plate. Set point range of −10 to +60. Qc = 12 watts at cold plate temperature of 0° C.	**866.10**

§§Add suffix **-00-00** to Cambion Part No.

BATTERY HOLDERS



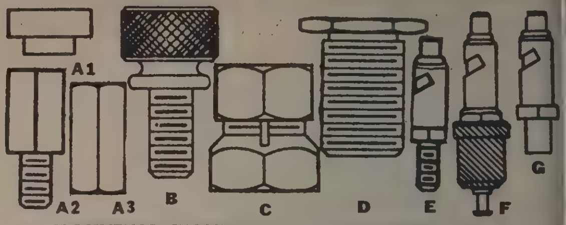
For mercury ("C" size) and zinc nickel-plated ("D" size) batteries. Snap-in holders with locking strap to hold mercury batteries under extreme vibration and shock. Body material phosphor bronze.

New 2800-01, 2801-01 and 2801-02—Low cost, glass-filled nylon molded holders. Holders interlock with each other to form single unit assemblies for any number of batteries required.

Cambion Type No. 400-§§	For Battery		Net Ea., Lots	
	Type	Size, Inches	10-99	100-499
2475-01-02	Mercury	.655 dia. x 1.960 h.	**$1.68**	**$1.43**
2800-01-00	Mercury	1.19 w. x 1.19 d. x 2.40 h.	**.44**	**.38**
2801-01-00	Zinc	1.60 w. x 1.38 d. x 2.90 h.	**.44**	**.38**
2802-01-00	Zinc	.778 w. x .739 d. x 2.40 h.	**.44**	**.37**
2870-01-02	Mercury	1.190 dia. x 2.375 h.	**2.63**	**2.24**
2890-01-02	Zinc	1.344 dia. x 2.406 h.	**2.63**	**2.24**
2895-01-02	Zinc	1.344 dia. x 2.436 h.	**1.83**	**1.56**

§§Add suffix **-00** to Cambion Part No.

PANEL AND CHASSIS HARDWARE COMPONENTS



MOUNTING STANDOFFS AND SPACERS (FIG. A)

Brass and aluminum swage mount (Fig. A1) or stud mount (Fig. A2) standoffs and spacers (Fig. A3). **1246/7408 Series**—Round; 6/32 tapped standoff section. **1247/7404 and 1249/7406 Series**—Round, thru hole. **1299/7422 Series**—Stud mount; hex, 6/32. **1300/7409 Series**—Round, 4/40 tapped standoff section. **2188/7410 Series**—Round; 2/56 tapped standoff section. **3923/7407 Series**—Round; 8/32 tapped standoff section. **3925/7411 Series**—Round; 8/32 tapped standoff section. **3927/7412 Series**—Hex; 4/40 tapped standoff section. **3928/7413 Series**—Hex; 6/32 tapped standoff section. **3934/7416 Series**—Spacer; hex; 4/40 tapped. **3935/7417 Series**—Spacer; hex; 6/32 tapped. This is a partial listing of more popular sizes. On all items, **for sizes not listed**, order by part no. and **specify above board height and/or board thickness desired.**

Cambion Part No. 350-§§		Above Board Height, Inches	For Board Thickness, Inches	Net Each, Lots of*		
Brass	Alum.			10-99	100-499	500-999
1246-09*	**7408-09***	.125	1/16	**$0.29**	**$0.22**	**$0.21**
1246-10*	**7408-10***	.188	1/16	**.29**	**.22**	**.21**
1246-11*	**7408-11***	.250	1/16	**.29**	**.22**	**.21**
1246-13*	**7408-13***	.500	1/16	**.29**	**.22**	**.21**
1246-15*	**7408-15***	.750	1/16	**.29**	**.22**	**.21**
1246-17*	**7408-17***	.125	3/32	**.29**	**.22**	**.21**
1246-19*	**7408-19***	.250	3/32	**.29**	**.22**	**.21**
1247-09*	**7404-09***	.125	1/16	**.29**	**.22**	**.21**
1247-10*	**7404-10***	.188	1/16	**.29**	**.22**	**.21**
1247-11*	**7404-11***	.250	1/16	**.29**	**.22**	**.21**
1249-09*	**7406-09***	.125	1/16	**.29**	**.22**	**.21**
1249-10*	**7406-10***	.188	1/16	**.29**	**.22**	**.21**
1249-11*	**7406-11***	.250	1/16	**.29**	**.22**	**.21**
1299-01	**7422-01**	.375	6/32 stud mount	**.25**	**.19**	**.18**
1299-02	**7422-02**	.500		**.25**	**.19**	**.18**
1300-09*	**7409-09***	.125	1/16	**.29**	**.22**	**.21**
1300-10*	**7409-10***	.188	1/16	**.29**	**.22**	**.21**
1300-11*	**7409-11***	.250	1/16	**.29**	**.22**	**.21**
1300-12*	**7409-12***	.375	1/16	**.29**	**.22**	**.21**
1300-13*	**7409-13***	.500	1/16	**.29**	**.22**	**.21**
1300-17*	**7409-17***	.125	1/32	**.29**	**.22**	**.21**
2188-01*	**7410-01***	.125	1/32	**.29**	**.22**	**.21**
2188-09*	**7410-09***	.125	1/16	**.29**	**.22**	**.21**
3923-09*	**7407-09***	.125	1/16	**.43**	**.33**	**.31**
3923-11*	**7407-11***	.250	1/16	**.43**	**.33**	**.31**
3925-09†	**7411-09†**	.125	1/16	**.25**	**.19**	**.18**
3925-11†	**7411-11†**	.250	1/16	**.25**	**.19**	**.18**
3927-09†	**7412-09†**	.125	1/16	**.25**	**.19**	**.18**
3927-11†	**7412-11†**	.250	1/16	**.25**	**.19**	**.18**
3928-09†	**7413-09†**	.125	1/16	**.29**	**.22**	**.21**
3928-11†	**7413-11†**	.250	1/16	**.29**	**.22**	**.21**
3934-04	**7416-04**	.312	Spacer; hex; 4-40 tapped	**.29**	**.22**	**.21**
3934-05	**7416-05**	.375		**.29**	**.22**	**.21**
3934-06	**7416-06**	.438		**.29**	**.22**	**.21**
3935-08	**7417-08**	.625	Spacer; hex; 6-32 tapped	**.29**	**.22**	**.21**
3935-10	**7417-10**	.875		**.29**	**.22**	**.21**
3535-11	**7417-11**	1.000		**.29**	**.22**	**.21**

*These swage-type standoffs available for board thicknesses of 1/32", 1/16", 3/32", 1/8", 3/16" and 1/4" and above board heights of .125", .188", .250", .375", .500", .625", .750" and 1.000". †These swage-type standoffs supplied in same above board heights, but only for 1/16", 3/32" and 1/8" thick boards. *Minimum standard package is 100 pieces. §§Add **-00-00** to Cambion Part No.

GENERAL HARDWARE COMPONENTS

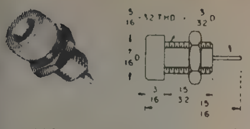
Cambion Type Number§§	Fig.	Description	Dimensions, Inches	Net Each, Lots of		
				10-99	100-499	500-999
330-1120-01-02*	B	Thumb screw	6/32 thread	**$0.71**	**$0.63**	**$0.47**
330-1120-02-02*	B		8/32 thread	**.71**	**.63**	**.47**
330-1120-03-02*	B		10/32 thread	**.71**	**.63**	**.47**
425-1774-01-02	C	Shaft lock	1/4 dia. shaft	**.71**	**.63**	**.47**
425-2038-01-02	C		1/4 dia. shaft	**.71**	**.63**	**.47**
425-2117-01-02	D	Panel bushing	1/8 board	**.56**	**.50**	**.37**
425-2117-02-02	D		1/4 board	**.56**	**.50**	**.37**
425-2117-03-02	D		3/8 board	**.56**	**.50**	**.37**
410-2146-01-02	E	Comp. clip	.040 slot	**.74**	**.66**	**.62**
410-2247-02-08	E		.040 slot	**.74**	**.66**	**.62**
410-2247-03-08	E		.040 slot	**.74**	**.66**	**.62**
410-2329-01-02	E		.055 slot	**.87**	**.78**	**.73**
410-2330-02-08	E		.055 slot	**.87**	**.78**	**.73**
410-2330-04-08	E		.055 slot	**.87**	**.78**	**.73**
410-2339-01-02	E		.085 slot	**1.16**	**1.03**	**.97**
410-2405-01-08	F	Comp. clip	.085 slot	**1.76**	**1.57**	**1.48**
410-2422-01-08	F		.055 slot	**1.45**	**1.29**	**1.22**
410-3084-02-08	G		.040 slot	**.75**	**.67**	**.63**
410-3085-02-08	G		.055 slot	**.92**	**.82**	**.77**

*Nickel finish; for black oxide finish, order by changing final suffix from 02 to 12; (e.g., 1120-01-12).

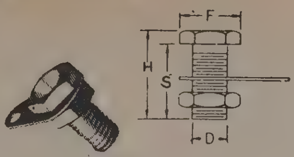
§§Add suffix **-00** to Cambion Part No.

E. F. JOHNSON COMPANY

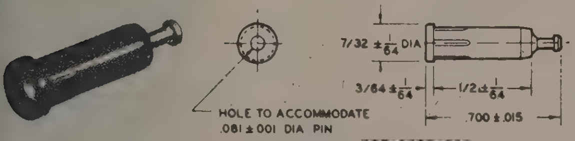
BANANA JACKS AND PLUGS, PATCHCORD STACKING PLUGS



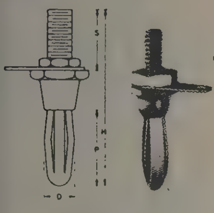
108-0900-001



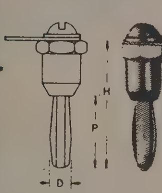
108-0740-001



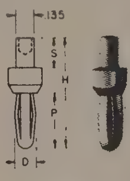
108-1100-001



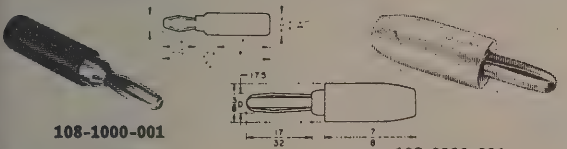
108-0750-001, 108-0750-002



108-0753-001

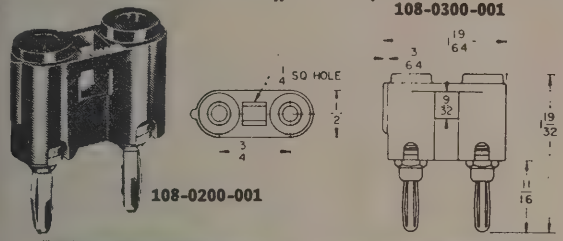


108-0754-001

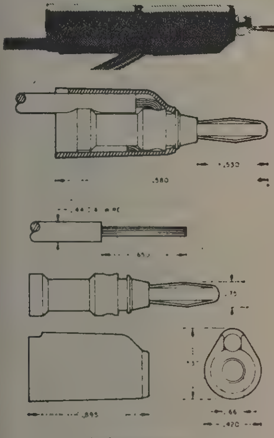


108-1000-001

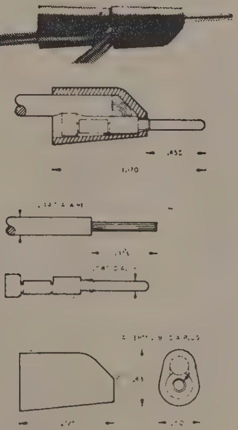
108-0300-001



108-0200-001



108-1080-001



105-1200-001

Engineering Kit

BANANA JACKS

Completely insulated molded body with cadmium-plated insert. Accommodates banana plugs of nominal .175″ dia. **Voltage Breakdown:** 10,000 VDC. Capacity to 1⁄16″ panel, 2.4 pF nom. Mounts in 21⁄64″ diameter circular, "D" or double flat hole (¼″ across flats). Single nut furnished for mounting, no other mounting hardware needed. See Color Chart* on adjacent page.

Johnson No. 108-0900-001—Net per 100 .... **$17.00**

STANDARD BANANA JACKS

High quality, machined brass banana jack. Nickel-plated, furnished complete with solder terminal and nut.

Johnson No.	Dimensions, Inches				Hole Dia.	Thread	Net per C
	F	D	S	H			
108-0740-001	⅜	¼	1⁷⁄₃₂	⅝	.166″	¼″-28	$23.00

RIB-LOC® PRESS-IN BANANA JACKS

Johnson RIB-LOC design permits substantial production line savings as no mounting hardware to handle and assemble. Installation by pressing into proper size chassis hole. Accept .120″ tip plug in recessed contact. Silver-plated brass contact. Brass solder terminal silver-plated and iridited for good solderability. Insulating body molded of low-loss polyamide. **Current Rating:** 10 amps. **Peak Withstanding Voltage:** 5000. Capacity to ⅛″ panel: 1.4 pF nom. Available in six colors, see Color Chart* on adjacent page.

Johnson No. 108-1100-001—Net per 100 .... **$14.00**

STANDARD BANANA PLUGS

Accurately machined brass studs extend the full length of plugs providing extra strength. Nickel-silver springs are highly resistant to corrosion. Bodies and hardware .0001″ nickel-plated. All banana plugs are available with beryllium copper springs and nickel, cadmium or silver plating. Wide selection of miniature solder-type plugs is also available on special order. Quantities in special platings or plugs should be sufficiently large for economical production runs. Solder terminal and nut or screw furnished.

Johnson No.	Dimensions, Inches				Thread	Net per C
	S	P	D	H		
108-0750-001	⅜	1⁷⁄₃₂	.175	1⅛	6-32	$30.00
108-0750-002	¾	1⁷⁄₃₂	.175	1½	6-32	30.00
108-0753-001	.....	1⁷⁄₃₂	.175	¹⁵⁄₁₆	6-32	31.00

Similar to standard types listed above, except designed for riveting. Springs are beryllium copper with cadmium plating.

108-0754-001	⁷⁄₃₂	1³⁄₃₂	.155	1³⁄₁₆	....	$24.00

MINIATURE BANANA PLUGS

Extremely small insulated banana plugs with precision machined phosphor bronze body, nickel-plated. One-piece springs are beryllium copper, nickel-plated, .120″ dia. Polyamide sleeve. **Current Rating:** 5 amps. Available in 6 colors, see Color Chart* on adjacent page.

Johnson No. 108-1000-001—Net per 100 .... **$49.00**

SOLDERLESS BANANA PLUGS

Compact, high voltage insulated plug for a wide variety of applications. Designed for fast, solderless connection of up to 16 gauge standard wire. Body and pin are made of one piece nickel-plated brass with high grade nickel-silver springs. Molded sleeve. **Current Rating:** 15 amps. See Color Chart* on adjacent page.

Johnson No. 108-0300-001—Net per 100 .... **$33.00**

DUAL BANANA PLUG

Extremely versatile plug for solderless connection. Molded body incorporates polarity indication and strain relief hole for wire leads. Nickel-plated body and high quality nickel-silver springs. Accurately machined brass studs extend full length of pins for extra strength. **Voltage Breakdown:** 10,000 VDC. **Current Rating:** 15 amps. Capacity plug to plug, 1.3 pF. See Color Chart* on adjacent page.

Johnson No. 108-0200-001—Solderless. Net per 100 ... **$117.00**

PATCHCORD STACKING PLUGS

Developed for custom patchboard assembly and replacement of damaged molded patchboard plugs. Assembly of patchcords with any length and color. Used with standard 0.144″ diameter rubber or extra-flexible polyvinyl insulated wire. Plug body precision machined brass with 0.0002″ nickel plating. Polyamide housing available in six colors. Operating temperature range, −55° C to +105° C.

STACKING STANDARD BANANA PLUGS

Current rating, 15 amps. Assembly tool punch and fixture is recommended. Available in 6 colors, see Color Chart* on adjacent page.

Johnson No. 108-1080-001—Net per 100 .... **$50.00**

STACKING .080″ STANDARD TIP PLUGS

Current rating, 10 amps. Available in 6 colors, see Color Chart* on adjacent page.

Johnson No. 105-1200-001—Net per 100 .... **$50.00**

ASSEMBLY PROCEDURE

First feed stripped wire through cross hole of metal contact, then insert contact and wire into housing. Finally place into fixture, place tip of tool into rear of contact and snap contact into place.

ENGINEERING KITS

Contain material to assemble 30 patchcords in six colors.

Johnson Standard Banana Patchcord Stacking Plug Engineering Kit No. 108-1299-001—Contains 10 each of white, red, black, green, yellow and blue standard banana plugs; one assembly tool and one assembly fixture. Net Each **$29.63**

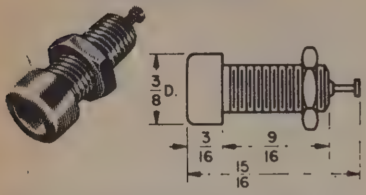
Johnson No. .080″ Tip Patchcord Stacking Plug Engineering Kit No. 105-1299-001—Contains 10 each of white, red, black, green, yellow and blue color .080″ tip plugs; one assembly tool and one assembly fixture. Net Each **$29.63**

QUANTITY PRICES AVAILABLE ON REQUEST

TIP JACKS, PLUGS AND PRINTED CIRCUIT JACKS

TIP JACKS

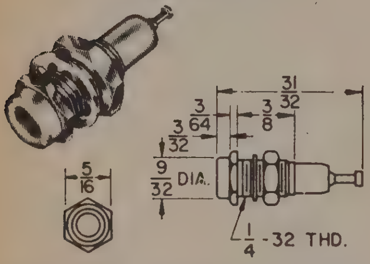
DELUXE TIP JACK



Molded body with recessed closed entry design contact. Silver-plated beryllium copper contact spring; brass solder terminal is hot tin dipped. **Current Rating:** 10 amps. **Voltage Breakdown:** 11,000 VDC. Capacity to ⅛" panel: 2 pF. ¼"-32 nut furnished. U.S. Patent No. 2,704,357. See Color Chart*.

Johnson No. 105-0600-001
Net per 100.................... **$31.00**

METAL-CLAD TIP JACKS (MILITARY)

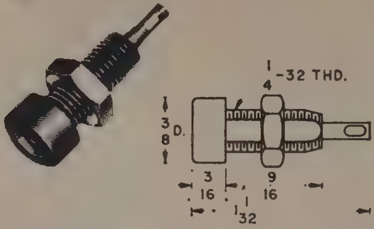


High reliability tip jack for military use or industrial applications. High quality materials withstand severe environmental temperature, vibration and salt spray conditions. Complies with MS-16108, Rev. F of MIL-STD-242A. Closed entry contact design prohibits entry of tip plug .085" or larger, preventing accidental contact damage by careless probe insertion. Heavy nickel-plated brass jacket. Gold-plated beryllium copper contact spring exceeds min. insertion/withdrawal cycle requirements of MS-16108. **Current Rating:** 5 amps. **Voltage Breakdown:** 8,000 VDC. Capacity to ⅛" panel: 3.8 pF. ¼"-32 nut and lock washer furnished. Terminal style A, terminal style C per MS-16108 available on special order. Brass solder terminal is gold plated.

Johnson No. 105-0200-200
Net per 100.................... **$44.00**

MIL Number	E. F. Johnson Number	Color
MS16108-1A	105-0201-200	White
MS16108-2A	105-0202-200	Red
MS16108-3A	105-0203-200	Black
MS16108-4A	105-0208-200	Brown
MS16108-5A	105-0204-200	Green
MS16108-6A	105-0206-200	Orange
MS16108-7A	105-0210-200	Blue
MS16108-8A	105-0207-200	Yellow
MS16108-9A	105-0213-200	Gray
MS16108-10A	105-0212-200	Violet

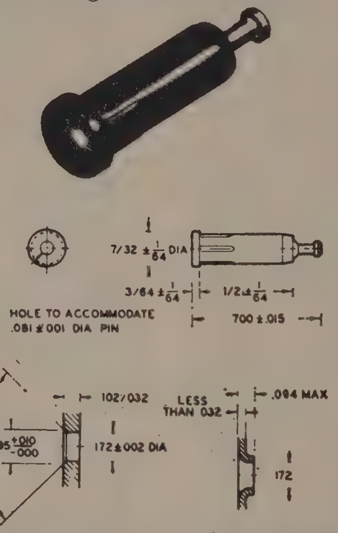
STANDARD TIP JACK



Molded body with recessed, cadmium-plated formed phosphor bronze contact. **Current Rating:** 10 amps. **Voltage Breakdown:** 9000 VDC. Capacity to ⅛" panels: 2.0 pF. ¼"-32 nut furnished. See Color Chart* below.

Johnson No. 105-0800-001
Net per 100.................... **$17.00**

RIB-LOC® PRESS-IN TIP JACKS

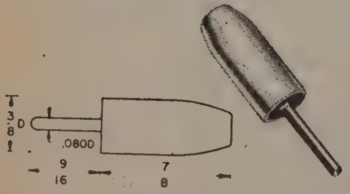


Johnson Rib-Loc design permits substantial production line savings as no mounting hardware to handle and assemble. Installation by only pressing into proper size chassis hole. Accept .080" tip plug in recessed, closed-entry type contact that rejects plugs .085" or larger to prevent accidental contact damage. Silver-plated beryllium copper contact spring. Brass solder terminal silver-plated and iridited for good solderability. Insulating body molded of low-loss polyamide. **Current Rating:** 10 amps. **Voltage Breakdown:** 5,000 VDC. Capacity to ⅛" panel: 1.4 pF nominal. See Color Chart* below.

Johnson No. 105-1040-001
Net per 100.................... **$23.00**

TIP PLUGS

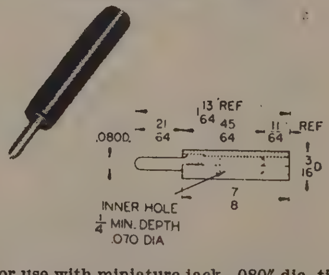
SOLDERLESS TIP PLUG



Completely insulated, molded sleeve. Recessed metal head prevents exposure of metal surfaces when engaged in any standard tip jack. All metal parts are nickel-plated brass. Designed for solderless connection of up to 16 gauge stranded wire. Fits all standard tip jacks. **Current Rating:** 10 amps. See Color Chart*.

Johnson No. 105-0300-001
Net per 100.................... **$25.00**

SUB-MINIATURE TIP PLUG



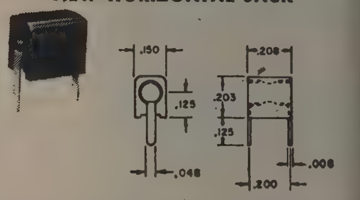
For use with miniature jack, .080" dia. tip. Nickel-plated machined brass body, solder type lead connection. See Color Chart*.

Johnson No. 105-0770-001
Net per 100.................... **$25.00**

PRINTED CIRCUIT JACKS

Sub-miniature tip jacks are rated at 5 amps max. current capacity. Operating voltage is 1500 volts rms at sea level and 350 volts rms at 50,000 feet. Contact resistance is less than 2 milliohms; capacitance between 2 adjacent jacks is less than one pF at 1 MHz. Body is of tough, low-loss polyamide per MIL-M-20693A; able to stand hard usage. Jacks equipped with beryllium copper contacts; contacts and terminals are silver-plated.

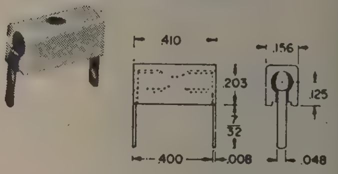
NEW HORIZONTAL JACK



New design accepts 0.080" dia. tip plug in either end. Silver-plated and iridited beryllium-copper formed contact. Two terminals. Approx. one-half size of standard jack. See Color Chart* below.

Johnson No. 105-1100-001
Net per 100.................... **$14.00**

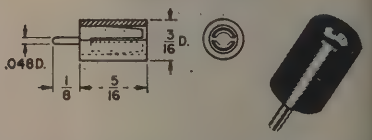
HORIZONTAL JACK



Unique design accepts .080" dia. plug in either end, or from top or bottom. Silver-plated beryllium copper formed contact. Two terminals. See Color Chart* below. U.S. Patent No. 3,208,027. Without cross hole available on special order.

Johnson No. 105-0750-001
Net per 100.................... **$12.00**

VERTICAL JACK



Mounts through single .052" hole, requires minimum mounting area. Silver-plated, machined beryllium copper contact. See Color Chart* below.

Johnson No. 105-0850-001
Net per 100.................... **$19.00**

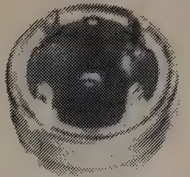
*COLOR CHART

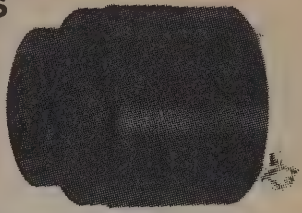
Connectors, unless otherwise specified are available in 6 molded colors to Federal Standard 595. Other colors listed are available as specials. E. F. Johnson No. for color desired is determined by adding color numbers on chart below to **6th** and **7th** digits of E. F. Johnson No. listed for series. To order 105-1040-001 in violet color, add **12** to **6th** and **7th** digits of series number and order 105-1052-001.

Color	No.	Color	No.
White†	01	Yellow†	07
Red†	02	Brown	08
Black†	03	Blue†	10
Green†	04	Violet	12
Orange	06	Gray	13

†Indicates colors available from stock. Other colors listed are available on special order for some items.

SONALERT® ELECTRONIC SIGNALS

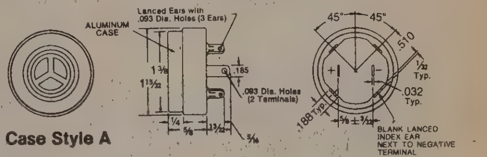




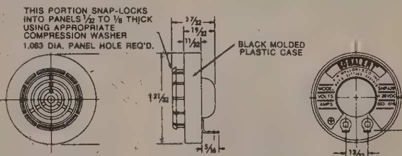
A major advance in the audible signal warning devices. Produces a penetrating sound of 1900, 2900, 3500 or 4500 Hz by utilizing the piezoelectric principle. All circuitry is solid state for maximum efficiency, lowest current requirement and high reliability. Silicon transistor oscillator drives piezoelectric transducer to produce the desired output tone. The physical characteristics of the transducer determines the output frequency; and, this cannot be altered by external means. Output intensity is directly proportional to input voltage and ranges from 55 dB at min. to 95 dB at max. C. Draws only 28 mA max. (less than an indicator lamp), there are no mechanical points to arc and require maintenance, and there is no RF field generated. The Sonalert will operate in ambient temperatures from −30° C to +65° C; and, because of its solid state design, it is reliable, with a life expectancy of 10,000 hours. Used in computer systems in which stray RF could cause false readouts; in portable mine detectors in which ruggedness, minimum current and maximum reliability are prime considerations; also in aerospace projects requiring maximum efficiency and reliability. Sonalert is also used in volatile atmospheres where high density gas vapor could cause explosion. All have special silicon transistors and nylon case. Screw can be removed and solder or arkless quick-connect connections can be made. Max. panel thk. ¼". No detailed MIL spec but widely used in military and aerospace applications; ask for Bulletin 4-10-03 for additional details. For a 48-page booklet on Sonalert uses, request Mallory Form 9-406.

Mallory Number	Freq. Hz*	Operating Power#	Sound Intensity dB	Case Style	Net Each
CONTINUOUS TONE—DC ONLY					
SC1.5	3500	4 mA @ 1.5 V	60 @ 1.5 V	A	$ 5.94
SC6	3500	12 mA @ 6.0 V	70 @ 6.0 V	A	5.94
SC12	3500	14 mA @ 12 V	70 @ 12 V	A	5.94
SC18	3500	16 mA @ 18 V	70 @ 18 V	A	5.94
SC24	3500	16 mA @ 24 V	70 @ 24 V	A	5.94
SNP428	2900	2-14 mA @ 4-28 V	64-78	B	5.94
SNP428F	2900	.5-3 mA @ 4-28 V	55-70	B	5.94
SC616N	2900	4-16 mA @ 6-16 V	80-95	C	8.97
SC628	2900	3-14 mA @ 6-28 V	68-80	C	7.01
SC628D	1900	3-14 mA @ 6-28 V	60-75	C	7.67
SC628E	1900	3-8 mA @ 6-28 V	55-68	C	7.67
SC628F	2900	.5-3 mA @ 6-28 V	55-70	C	7.01
SC628H	4500	3-14 mA @ 6-28 V	68-80	C	7.67
SC628L	2900	3-14 mA @ 6-28 V	68-80	C-3	7.01
SC648	2900	3-14 mA @ 10-48 V	68-80	C	7.01
SC648D	1900	3-14 mA % 10-48 V	60-75	C	7.67
SC648H	4500	3-14 mA @ 10-48 V	68-80	C	7.67
FAST PULSE—DC ONLY					
SC616NP	2900	4-16 mA @ 6-16 V	80-95	C	$10.11
SC616P	2900	1-4 mA @ 6-16 V	68-78	C-1	10.11
SC616P-1	2900	1-4 mA @ 6-16 V	68-78	C-2	10.11
SC628P§	2900	3-14 mA @ 6-28 V	68-80	D	11.43
SC628DP	1900	3-14 mA @ 6-28 V	60-75	D	11.43
SC628EP	1900	3-8 mA @ 6-28 V	55-68	D	11.43
SC628FP§	2900	3-14 mA @ 6-28 V	55-70	D	11.43
SC628HP	4500	3-14 mA @ 6-28 V	68-80	D	13.15
SLOW PULSE—DC ONLY					
SC616NJ	2900	4-16 mA @ 6-16 V	80-95	C	$10.11
SC616J	2900	1-4 mA @ 6-16 V	68-78	C-1	10.11
SC616J-1	2900	1-4 mA @ 6-16 V	68-78	C-2	10.11
SC628J§	2900	3-14 mA @ 6-28 V	68-80	D	11.43
SC628DJ	1900	3-14 mA @ 6-28 V	60-75	D	11.43
SC628EJ	1900	3-8 mA @ 6-28 V	55-68	D	11.43
SC628FJ§	2900	3-14 mA @ 6-28 V	55-70	D	11.43
SC628HJ	4500	3-14 mA @ 6-28 V	68-80	D	13.15
FAST WARBLE—DC ONLY					
SC628W	2900	3-16 mA @ 6-28 V	68-80	D-1	$11.43
SC628FW	2900	3-14 mA @ 6-28 V	55-70	D-1	11.43
SLOW WARBLE—DC ONLY					
SC628JW	2900	3-16 mA @ 6-28 V	68-80	D-1	$11.43
SC628FJW	2900	3-14 mA @ 6-28 V	55-70	D-1	11.43
REPEATING CHIME—DC ONLY					
SC616CP	2900	3-8 mA @ 6-16 V	68-80	D	$13.15
CONTINUOUS TONE—AC/DC					
SC628A	2900	4-16 mA @ 6-28 V	68-80	D	$10.11
SC110	2900	4-16 mA @ 30-120 V	68-80	D	10.11
SC110D	1900	4-16 mA @ 30-120 V	60-75	D	11.43
SC110E	1900	3-14 mA @ 30-120 V	55-65	D	11.43
SC110F	2900	1-4 mA @ 30-120 V	55-70	D	10.11
SC110H	4500	4-16 mA @ 30-120 V	68-80	D	13.15
SC110N	2900	8-28 mA @ 30-120 V	80-95	D	13.15
SC250	2900	4-16 mA @ 60-250 V	68-80	D	10.11
FAST PULSE—AC/DC					
SC628AP	2900	4-16 mA @ 6-28 V	68-80	E	$15.15
SC110P§	2900	4-16 mA @ 30-120 V	68-80	E	15.15
SC110DP	1900	4-16 mA @ 30-120 V	60-75	E	15.15
SC110EP	1900	3-14 mA @ 30-120 V	55-68	E	15.15
SC110FP§	2900	4-16 mA @ 30-120 V	55-70	E	15.15
SC110HP	4500	4-16 mA @ 30-120 V	68-80	E	15.15
SC110NP	2900	8-28 mA @ 30-120 V	80-95	E	15.15
SLOW PULSE‡—AC/DC					
SC628AJ	2900	4-16 mA @ 6-28 V	68-80	E	$15.15
SC110J§	2900	4-16 mA @ 30-120 V	68-80	E	15.15
SC110DJ	1900	4-16 mA @ 30-120 V	60-75	E	15.15
SC110EJ	1900	3-14 mA @ 30-120 V	55-68	E	15.15
SC110FJ§	2900	4-16 mA @ 30-120 V	55-70	E	15.15
SC110HJ	4500	4-16 mA @ 30-120 V	68-80	E	15.15
SC110NJ	2900	8-28 mA @ 30-120 V	80-95	E	15.15

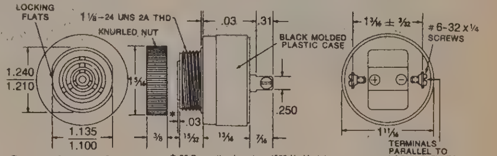
*Tolerance, ±500 Hz. #Ranges given are minimum and maximum. †Fast pulse models turn on and off at 2 to 9 Hz depending upon voltage at 50% duty cycle. ‡Slow pulse models turn on and off at 0.5 to 2 Hz depending upon voltage at 50% duty cycle. §Also available as a short pulse model; ask for details.


Lanced Ears with .093 Dia. Holes (3 Ears)
ALUMINUM CASE
1 3/8
1 13/32
.185
.093 Dia. Holes (2 Terminals)
1/4
5/8
13/32
3/16
45°
45°
.510
1/32 Typ.
.032 Typ.
.188 Typ.
5/8 ± 3/32
BLANK LANCED INDEX EAR NEXT TO NEGATIVE TERMINAL

Case Style A

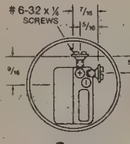

THIS PORTION SNAP-LOCKS INTO PANELS 1/32 TO 1/8 THICK USING APPROPRIATE COMPRESSION WASHER
1.063 DIA. PANEL HOLE REQ'D.
27/32
19/32
11/32
BLACK MOLDED PLASTIC CASE
1 21/32
5/16
SONALERT
5/8
13/32

Case Style B

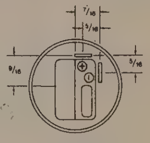

LOCKING FLATS
1 1/8–24 UNS 2A THD
KNURLED NUT
.03
.31
BLACK MOLDED PLASTIC CASE
1.240
1.210
1 5/16
*
.03
.250
1.135
1.100
3/8
15/32
13/16
7/16
1 3/16 ± 3/32
#6-32 x 1/4 SCREWS
1 11/16
TERMINALS PARALLEL TO LOCKING FLATS WITHIN ±15°

Case Style C

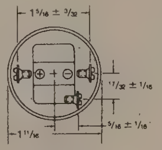
*.03 Projection is not on 4500 Hz Models


# 6-32 x 1/4 SCREWS
7/16
5/16
9/16
5/16

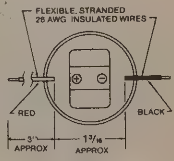
Case Style C-1


7/16
5/16
9/16
5/16

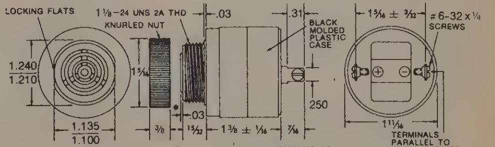
Case Style C-2


1 5/16 ± 3/32
11/32 ± 1/16
5/16 ± 1/16
1 11/16

Case Style D-1

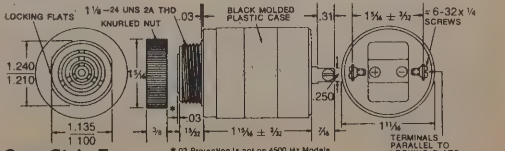

FLEXIBLE, STRANDED 26 AWG INSULATED WIRES
RED
BLACK
3" APPROX
1 3/16 APPROX

Case Style C-3


LOCKING FLATS
1 1/8–24 UNS 2A THD
KNURLED NUT
.03
.31
BLACK MOLDED PLASTIC CASE
1.240
1.210
1 5/16
*
.03
250
1.135
1.100
3/8
15/32
1 3/8 ± 1/16
7/16
1 5/16 ± 3/32
#6-32 x 1/4 SCREWS
1 11/16
TERMINALS PARALLEL TO LOCKING FLATS WITHIN ±15°

Case Style D

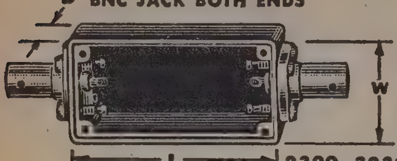
*.03 Projection is not on 4500 Hz Models


LOCKING FLATS
1 1/8–24 UNS 2A THD
KNURLED NUT
.03
BLACK MOLDED PLASTIC CASE
.31
1 5/16 ± 3/32
#6-32 x 1/4 SCREWS
1.240
1.210
1 5/16
*
.03
.250
1.135
1.100
3/8
15/32
1 13/16 ± 3/32
7/16
1 11/16
TERMINALS PARALLEL TO LOCKING FLATS WITHIN ±15°

Case Style E

*.03 Projection is not on 4500 Hz Models

Pomona Shielded “Black Boxes”

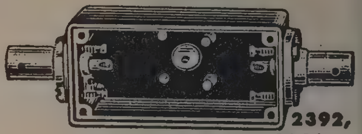


BNC JACK BOTH ENDS

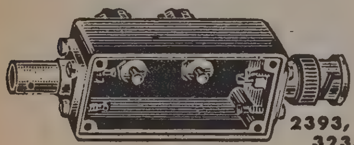
2390, 3230

BNC JACK TO BNC PLUG

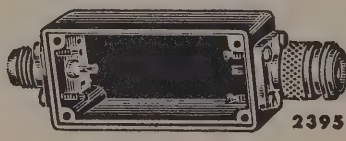
2391, 3231


BNC JACK "T"

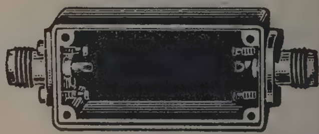
2392, 3232


BNC JACK TO BNC PLUG WITH B/P

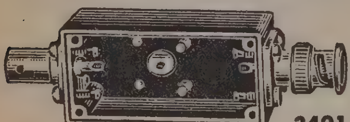
2393, 3233


TNC JACK TO TNC PLUG

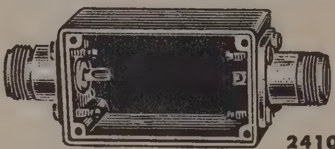
2395


TNC JACK BOTH ENDS

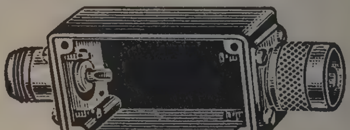
2396


BNC "T" TWO JACKS TO BNC PLUG

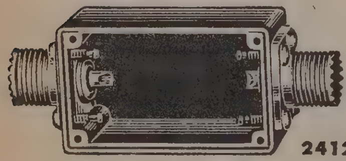
2401


TYPE "N" JACK BOTH ENDS

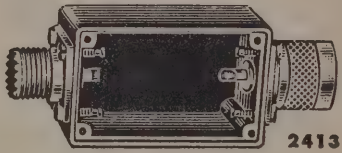
2410


TYPE "N" JACK TO TYPE "N" PLUG

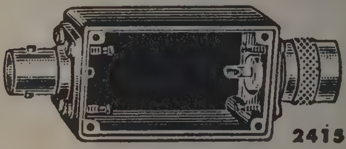
2411


UHF JACK BOTH ENDS

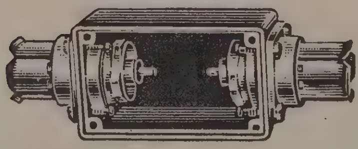
2412


UHF JACK TO UHF PLUG

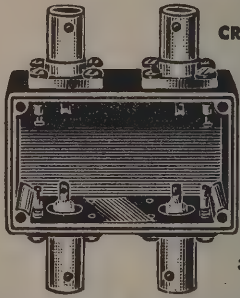
2413


TYPE "C" JACK TO TYPE "C" PLUG

2415


GR-874 BOTH ENDS

2416


CROSS CONNECTIONS

3234

Excellent for RF applications. Permit compact packaging of voltage dividers, isolation or impedance-matching networks, and various other components. Solder turret terminals provide permanent, noise-free connection. Four self-tapping screws secure cover for proper shielding. **Operating Temperature:** −55° C to +150° C. **Working Voltage:** 500 V peak (except Model 2415, 1500 V peak). **Noise Rejection:** Greater than 70 dB. **Shielded Housing:** Diecast aluminum; blue baked-enamel finish per Federal Standard 595 #25109 over phosphoric etch per MIL-C-15328A. **Cover:** .040″ aluminum #6061-T6 with clear anodized finish per MIL-A-8625A.

No.	1st End Connector	Center Connector	2nd End Connector	Size, In. L. x D. x W.	Net Each, Lots of 1-24	25-49	50-99	100-249
2390	UG290A/U type BNC jack	None	UG290A/U type BNC jack	2.25x0.88x1.13	$ 9.85	$ 8.87	$ 8.37	$ 6.90
2391	UG290A/U type BNC jack	None	UG1104A/U type BNC plug	2.25x0.88x1.13	10.85	9.77	9.22	7.60
2392	UG290A/U type BNC jack	UG290A/U type BNC jack	UG290A/U type BNC jack	2.25x0.88x1.13	11.50	10.35	9.78	8.05
2393	UG290A/U type BNC jack	Banana jack bind. posts*	UG1104A/U type BNC plug	2.25x0.88x1.13	14.85	13.37	12.62	10.40
2395	Type TNC jack	None	Type TNC plug	2.25x0.88x1.13	17.85	16.07	15.17	12.50
2396	Type TNC jack	None	Type TNC jack	2.25x0.88x1.13	14.85	13.37	12.62	10.40
2397	Diecast aluminum box with cover and mounting screws; less connectors			2.25x0.88x1.13	2.95	2.66	2.51	2.07
2401	UG290A/U type BNC jack	UG290A/U type BNC jack	UG1104A/U type BNC plug	2.25x0.88x1.13	12.85	11.57	10.92	9.00
2410	UG58A/U type N jack	None	UG58A/U type N jack	2.25x1.13x1.38	11.85	10.67	10.07	8.30
2411	UG58A/U type N jack	None	Type N plug	2.25x1.13x1.38	14.85	13.37	12.62	10.40
2412	Type UHF jack	None	Type UHF jack	2.25x1.13x1.38	11.85	10.67	10.07	8.30
2413	Type UHF jack	None	Type UHF plug	2.25x1.13x1.38	14.85	13.37	12.62	10.40
2415	UG568/U type C jack	None	Type C plug	2.25x1.13x1.38	24.95	22.46	21.21	17.47
2416	GR-874 connector	None	GR-874 connector	2.25x1.13x1.38	39.85	39.85	39.85	39.85
2417	Diecast aluminum box with cover and mounting screws; less connectors			2.25x1.13x1.38	2.95	2.66	2.51	2.07
3230	UG290A/U type BNC jack	None	UG290A/U type BNC jack	2.25x1.13x1.38	9.85	8.87	8.37	6.90
3231	UG290A/U type BNC jack	None	UG1104A/U type BNC plug	2.25x1.13x1.38	10.85	9.77	9.22	7.60
3232	UG290A/U type BNC jack	UG290A/U type BNC jack	UG290A/U type BNC jack	2.25x1.13x1.38	11.50	10.35	9.78	8.05
3233	UG290A/U type BNC jack	Banana jack bind. posts*	UG1104A/U type BNC plug	2.25x1.13x1.38	14.85	13.37	12.62	10.40
3234	Four BNC UG290A/U jacks			2.25x1.13x1.38	14.85	13.37	12.62	10.40

*One red, one black; with solder turret terminals.

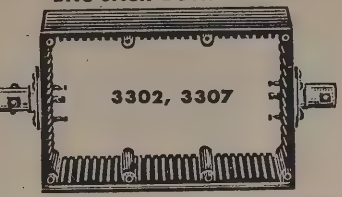
Pomona

SHIELDED "BLACK BOXES" WITH CARD GUIDES AND MOUNTING FLANGES

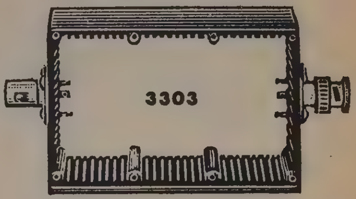
SHIELDED "BLACK BOXES" WITH CARD GUIDES

Slotted aluminum boxes accept 1/16″ circuit boards and shielding dividers. Removable top and bottom covers; solder turret terminals. **Shielded Housing:** Extruded aluminum alloy 6061-T6; blue, baked enamel finish, Fed. Std. 595 #25109 over phosphoric etch per MIL-C-15328A. **Cover:** .080″ aluminum 6061-T6 with clear anodize finish, MIL-A-8625A. **Operating Temp.:** −55° C to +150° C. **Working Voltage:** 500 volts peak. **Noise Rejection:** Better than 70 dB. **Usable Inside Space:** 4″ w. x 1½″ d. x 2″ h.

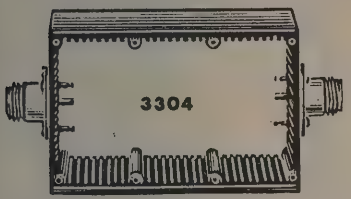
BNC JACK BOTH ENDS



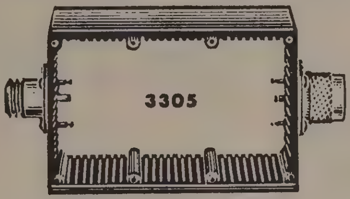
BNC JACK TO BNC PLUG



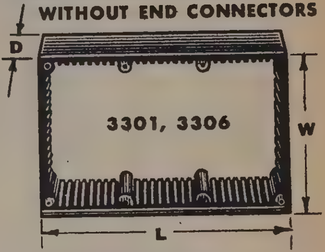
TYPE "N" JACK BOTH ENDS



TYPE "N" JACK TO TYPE "N" PLUG



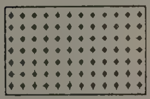
WITHOUT END CONNECTORS



Pomona Number	1st End Connector	2nd End Connector	Size, In. L. x D. x W.	Net Each, Lots of 1-24	25-49	50-99	100-249
3301	None	None	4.13 x 1.66 x 2.68	$11.85	$10.67	$10.07	$ 8.30
3302	UG290A/U type BNC jack	UG290A/U type BNC jack	4.13 x 1.66 x 2.63	17.85	16.07	15.17	12.50
3303	UG290A/U type BNC jack	UG1104A/U type BNC plug	4.13 x 1.66 x 2.63	19.95	17.96	16.96	13.97
3304	UG58A/U type N jack	UG58A/U type N jack	4.13 x 1.66 x 2.63	19.95	17.96	16.96	13.97
3305	UG58A/U type N jack	Type N plug	4.13 x 1.66 x 2.63	19.95	17.96	16.96	13.97
3306*	None	None	4.13 x 1.66 x 2.68	11.50	10.35	9.78	8.05
3307	Isolated BNC jack	Isolated BNC jack	4.13 x 1.66 x 2.63	24.95	22.46	21.21	17.47

*Unpainted.

CIRCUIT MOUNTING BOARDS

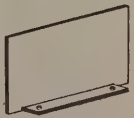


Pre-cut to proper size for rapid assembly of components. Boards slide easily into box card guides. Boards, 1/16″ thick. **Patterns: A,** .062″ dia. holes on .200″ centers; **B,** .042″ dia. holes on .100″ centers. **Size:** 2.39″ x 1.50″.

Pomona Number	Pattern	No. of Holes	Material	Net Each, Lots of 1-24	25-49	50-99	100-149
3321	A	12 x 7	Paper-Epoxy	$0.60	$0.54	$0.51	$0.42
3322	.....	None	Paper-Epoxy	.55	.50	.47	.39
3323	A	12 x 7	Glass-Epoxy	.85	.77	.72	.60
3324	.....	None	Glass-Epoxy	.55	.50	.47	.39
3325	A	12 x 7	Glass-Epoxy*	1.75	1.58	1.49	1.23
3326	B	24 x 15	Glass-Epoxy	.95	.86	.81	.67

*Copper clad, one side.

SHIELDING DIVIDERS



Aluminum divider is excellent for separating the box into shielded compartments. Made of .063″ aluminum, clear anodized per MIL-A-8625A. **Size:** 2.39″ x 1.50″; mounting flange, 1.81″ long with two #4-40 holes spaced 1.500″ apart.
Pomona No. 3327—Net, Lots 1–24. . **$1.50**
25–49. **$1.35**; 50–99. **$1.28**; 100–249. **1.05**

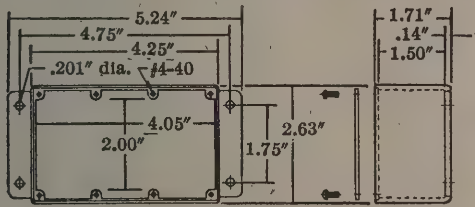
Pomona No. 3334—Same except 3.90″ lg. Net, Lots 1–24. . . **$1.90**
25–49. . . . . **$1.71**; 50–99. . . . . **$1.62**; 100–249. . . . . . . **1.33**

LARGER BOTTOM PLATE FOR MOUNTING

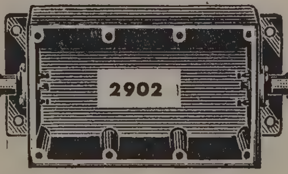
Larger plate, when attached to box, provides flanges for mounting. Made of .080″ aluminum #6061-T6, clear anodized per MIL-A-8625A. **Size:** 5.25″ x 2.50″; four mtg. holes, .201″ dia., spaced 4.75″ x 1.75″.
Pomona No. 3328—Net. Lots 1–24. . **$2.50**
25–49. **$2.25**; 50–99. **$2.13**; 100–249. **1.75**

SHIELDED "BLACK BOXES" WITH MOUNTING FLANGES

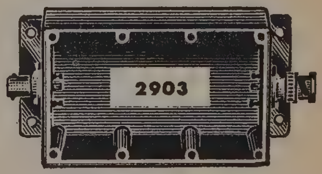
Excellent for RF applications. Permit compact packaging of voltage dividers, isolation or impedance-matching networks, and various other components. **Two flanges for rapid mounting.** Solder turret terminals provide permanent, noise-free connection. Eight #4-40 x ¼″ screws secure cover for proper shielding. **Operating Temperature:** −55° C to +150° C. **Working Voltage:** 500 V peak. **Noise Rejection:** Greater than 70 dB. **Shielded Housing:** Diecast aluminum; blue baked-enamel finish per Federal Standard 595 #25109 over phosphoric etch per MIL-C-15328A. **Cover:** .080″ aluminum #6061-T6 with clear anodized finish per MIL-A-8625A.



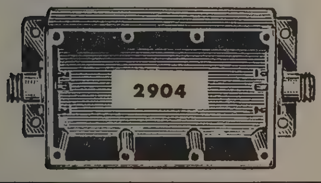
BNC JACK BOTH ENDS



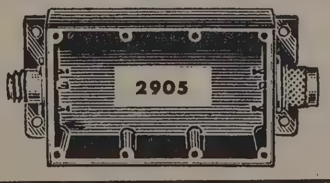
BNC JACK TO BNC PLUG



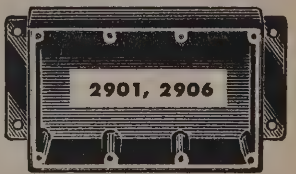
TYPE "N" JACK BOTH ENDS



TYPE "N" JACK TO TYPE "N" PLUG



WITHOUT END CONNECTORS

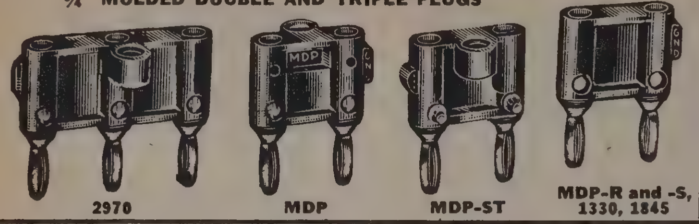


Pomona Number	1st End Connector	2nd End Connector	Net Each, Lots of 1-24	25-49	50-99	100-249
2901	None	None	$ 7.85	$ 7.07	$ 6.67	$ 5.50
2902	UG290A/U type BNC jack	UG290A/U type BNC jack	14.85	13.37	12.62	10.40
2903	UG290A/U type BNC jack	UG1104A/U type BNC plug	15.85	14.27	13.47	11.10
2904	UG58A/U type N jack	UG58A/U type N jack	12.85	11.57	10.92	9.00
2905	UG58A/U type N jack	Type N plug	18.85	16.97	16.02	13.20
2906*	None	None	7.50	6.75	6.38	5.25

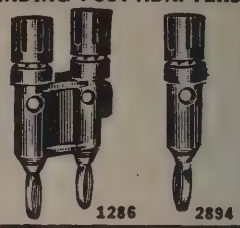
*Unpainted.

Pomona Plugs and Adapters

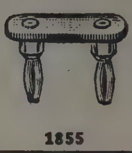
¾" MOLDED DOUBLE AND TRIPLE PLUGS



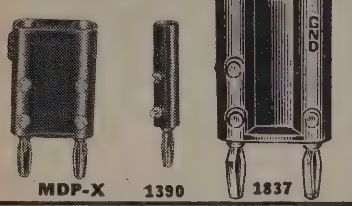
BINDING POST ADAPTERS



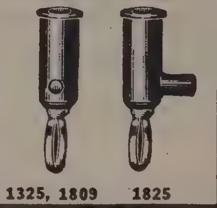
METAL SHORTING BAR



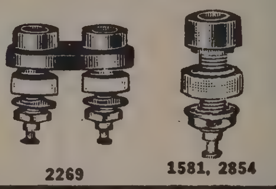
ISOLATION PLUGS



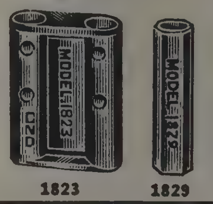
SOLDERLESS PLUGS



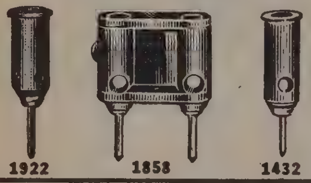
BANANA JACKS



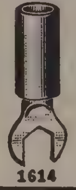
SPLICES



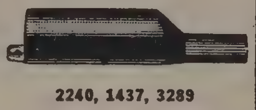
PIN TIP PLUGS



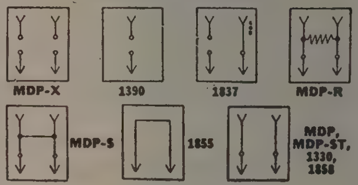
LUG



ALLIGATOR CLIPS



CIRCUIT DIAGRAMS



Model 2970 ¾" Triple Banana Plug—Ideal for balanced line 2-conductor shielded cable assemblies. Banana jacks permit top stack-up for multiple connections. Set screws for leads. **Colors:** Red or black.

Model MDP ¾" Double Banana Plug—Similar to 2970 but double plug on ¾" ctrs. Top stack-up type with set screws. **Colors:** Black, brown, red, orange, yellow, green, blue, violet, gray, white.

Model MDP-ST—Similar to MDP but solder turret terminals. **Color:** Black.

Model MDP-S ¾" Double Banana Plug with Insulated Shorting Bar—Banana plugs internally solder-bonded with 14 ga. wire. Jacks for top stack-up; body cross holes for side stack-up. Resistance under 1.5 milliohms installed. **Colors:** Natural, red, black.

Model MDP-R ¾" Double Banana Plug with Precision Resistor—For uses requiring rapid interchange of resistances. Deposited carbon, ½-watt, 1% resistor molded internally. **Specify** 50, 75, 120, 130, 150, 200, 250, 500, 600, 900, 1K, 5K, 10K, 20K, 50K, 100K, 200K, 250K or 500K ohms; 1, 2, 5 or 10 megohms (value stamped on plug top). **Color:** Red.

Model 1845 Tip Jacks to ¾" Double Banana Plug Adapter—Permits .080" tip plugs to be used with equipment having ¾" banana jacks. Body cross holes for side stack-up. **Color:** Black.

Model 3600 Cable Plug—For use with RG 108A/U and Belden 9272. Length, 1.50", dia., .50".

Model 1330 Component-Mounting ¾" Double Banana Plug—Features recess for mounting small components, set screws for leads, and banana jacks for top stack-up of multiple connections. **Colors:** Red or black.

Model 1330-ST—Similar to 1330 but solder turret terminals. **Colors:** Red or black.

Model 1286 Binding Posts to ¾" Double Banana Plug Adapter—Has insulated binding posts on ¾" ctrs. for rapid mounting and interchangeability of components and top stack-up. Thru-holes in plug body provide side stack-up. **Color:** Black body; red and black posts.

Model 2894 Binding Post to Single Banana Plug Adapter—Features insulated binding post for top stack-up and .166" cross hole in body for side stack-up. Single banana plug is for use with standard .166" banana jack. **Colors:** Red or black.

Model 1855 Metal Shorting Bar to ¾" Double Banana Plugs—Low profile, nickel-plated brass shorting bar. Double plugs on ¾" ctrs. swaged to 3/32" thick bar. Resistance under 1.5 milliohms installed.

Model MDP-X ¾" Double Banana Plug with Four Terminal Isolation—Top stack-up receptacles isolated from plugs. Ideal for inserting matching networks in lab VTVM's, signal generators, etc. Gold-flashed solder turret terminals. **Color:** Red.

Model 1390 Single Banana Plug with Two Terminal Isolation—Top stack-up receptacle (.166" jack) isolated from lower plug to permit addition of series resistors, diodes, etc. Gold-flashed solder turret terminals. **Colors:** Red or black.

Model 1837 ¾" Double Banana Plug with Three Terminal Isolation—Excellent for L and Pi-networks. Gold-flashed solder turret terminals. Straight feed-thru ground; hot side isolated. Receptacles, .166" jacks on ¾" ctrs. **Color:** Blue.

Model 1325 Stack-Up Solderless Banana Plug—Upper .166" banana jack to single banana plug. Set screw for wire. **Colors:** Black, brown, red, orange, yellow, green, blue, violet, gray, white.

Model 1825—Same as 1325 but with integral safety collar to cover exposed wire leads. **Colors:** Black, brown, red, orange, yellow, green, blue, violet, gray, white.

Model 1809 Tip Jack to Banana Plug Adapter—Permits .080" pin tip patch cords to be used with banana jack equipment. .166" cross hole in body for side stack-up. **Colors:** Red or black.

Model 2269 Insulated ¾" Double Banana Jack Assembly—Solder turret terminals. Lexan insulators. Two ⅜" holes on ¾" ctrs. Mounts in panels .035" to .275" thick. With washers, nuts. One red, one black jack. **Plate Colors:** Black, **2269**; or red, **2269-2.**

Model 1581 Insulated Banana Jack Assembly—Single banana jack version of 2269 with Lexan insulator, solder turret, etc. Insulator head molded to body. Rated 2500 WVDC. **Colors:** Black, brown, red, orange, yellow, green, blue, violet, gray, white.

Model 2854 Gold-Plated Insulated Banana Jack Assembly—Similar to Model 1581.

Model 1823 ¾" Double Banana Plug Splice—Offers rapid method for splicing cables. Thermoplastic body; .166" jacks on each end on ¾" ctrs. **Colors:** Red or black.

Model 1829 Single Banana Plug Splice—Single splice version of 1823. One jack on each end. **Colors:** Red or black.

Model 1922 Stack-Up Solderless Pin Tip Plug—Internal set screw for wire. Gold-flashed tip jack accepts .080" pin. **Colors:** Black or red.

Model 1858 ¾" Banana Jacks to Double Pin Tip Adapter—Permits use of single or double banana plugs with tip jack equipment. .080" pin tips on ¾" ctrs. Internal set screws. **Color:** Black.

Model 1432 Banana Jack to Pin Tip Adapter—.166" jack to .080" pin tip with .166" cross hole in body for side stack-up. **Colors:** Red or black.

Model 1614 Insulated Spade Lug Adapter—.166" banana jack to lug with .26" opening. Fits ¼" stud. **Colors:** Red, black.

Model 2240 Insulated Alligator Clip to Banana Jack—Vinyl-insulated, cadmium plated clip to banana jack. **Colors:** Red or black. Unassembled.

Model 3289 Gold-Plated Insulated Alligator Clip to Banana Jack—Similar to No. 2240.

Model 1437 Insulated Alligator Clip to Pin Tip Jack—Vinyl-insulated clip to gold-flashed, beryllium-copper tip jack. **Colors:** Red or black. Unassembled.

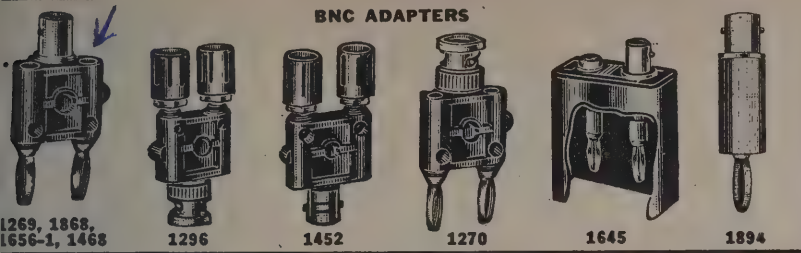
When item is available in choice of colors, please specify color desired.

Pomona Model	Net Each, Lots of				Pomona Model	Net Each, Lots of			
	1-24	25-49	50-99	100-249		1-24	25-49	50-99	100-249
MDP	$1.10	$0.99	$0.94	$0.77	1825	$6.00*	$5.40*	$5.10*	$4.20*
MDP-R	3.50	3.15	2.98	2.45	1829	4.00*	3.60*	3.40*	2.80*
MDP-S	1.50	1.35	1.28	1.05	1837	2.95	2.66	2.51	2.07
MDP-ST	1.25	1.13	1.06	.88	1845	1.25	1.13	1.06	.88
MDP-X	3.85	3.47	3.27	2.70	1855	1.25	1.13	1.06	.88
1286	2.95	2.66	2.51	2.07	1858	1.25	1.13	1.06	.88
1325	6.00*	5.40*	5.10*	4.20*	1922	15.00*	13.50*	12.75*	10.50*
1330	.95	.81	.77	.63	2240	2.95‡	2.66‡	2.51‡	2.07‡
1330-ST	1.25	1.13	1.06	.88	2269-0	6.25†	5.63†	5.31†	4.38†
1390	1.95	1.76	1.66	1.37	2269-2	6.25†	5.63†	5.31†	4.38†
1432	3.50*	3.15*	2.98*	2.45*	2854	7.50*	6.75*	6.38*	5.25*
1437	9.50*	8.55*	8.08*	6.65*	2894	1.75	1.58	1.49	1.23
1581	3.50*	3.15*	2.98*	2.45*	2970	1.85	1.67	1.57	1.30
1614	5.00*	4.50*	4.25*	3.50*	3289	9.50‡	8.65‡	8.08‡	6.65‡
1809	7.50*	6.75*	6.38*	5.25*	3600	7.85	7.07	6.67	5.50
1823	7.50*	8.55*	8.08*	6.65*					

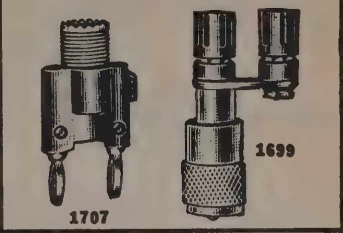
*Pkg. of 10. †Pkg. of 5. ‡Pkg. of 5 red and 5 black.

Pomona Test Adapters

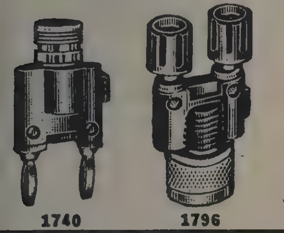
BNC ADAPTERS



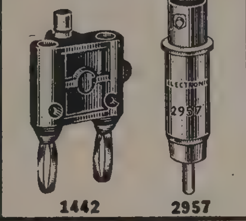
UHF ADAPTERS



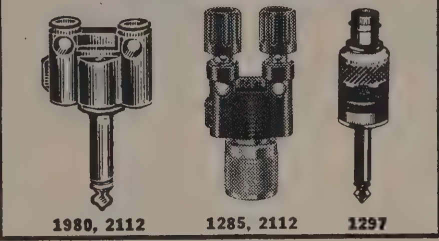
TYPE N ADAPTERS



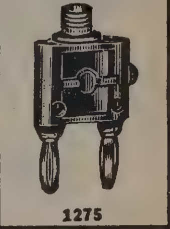
PHONO PLUG ADAPTERS



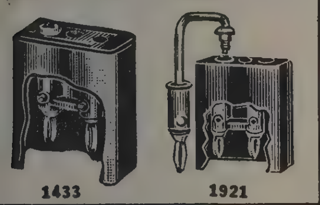
PHONE PLUG ADAPTERS



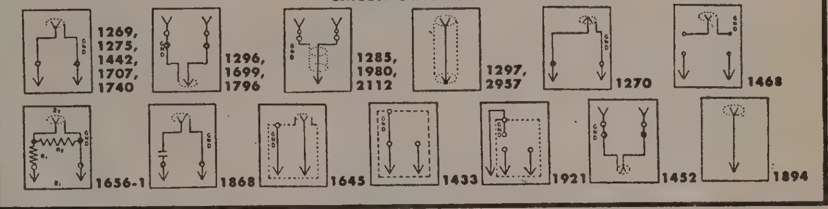
MICRODOT ADAPTER



SHIELDED CAN ADAPTERS



CIRCUIT DIAGRAMS



Model 1269 BNC Receptacle to ¾″ Double Banana Plug—Permits BNC plug to be sed with banana jack equipment. Body ross holes for side stack-up. **Color:** Black.

Model 1868 BNC Receptacle to ¾″ Double Banana Plug Signal Isolation Adapter—Same as 1269, but molded-in eramic capacitor rated .01 μF at 200 WVDC, ±20%. Isolates DC signals from VTVM or signal generator. **Color:** Blue.

Model 1656-1 BNC Matching Pad—Same s 1269, but with built-in deposited carbon ¼-watt, 1% resistor.

Model	Color	Range, Ohms
1656-1	Yellow	600 to 50
1656-2	Red	600 to 75
1656-3	White	600 to 93
1656-4	Blue	300 to 50

Model 1468 BNC Receptacle to ¾″ Double Banana Plug with Four Terminal Isolation—Similar to 1269, but isolation on all onnections. Ideal for matching pad networks. Gold-flashed solder turret terminals. **Color:** Black.

Model 1296 Binding Posts to BNC Plug Adapter—Adapts BNC receptacle to ¾″ paced banana plugs. Insulated binding posts. Excellent for lab 'scopes. Body cross holes for side stack-up. **Color:** Black body; ed and black posts.

Model 1452 Binding Posts to BNC Receptacle Adapter—Similar to 1296 adapter, but adapts BNC plug to ¾″ spaced banana plugs. **Color:** Black body; red, black posts.

Model 1270 BNC Plug to ¾″ Double Banana Plug—Permits BNC receptacle to be used with banana jack equipment. Minimizes number of coaxial connections or maximum efficiency. Body cross holes or side stack-up connections. **Color:** Black.

Model 1645 BNC Receptacle to Shielded ¾″ Double Banana Plug—Adapts BNC plug to ¾″ spaced binding posts. Anodized aluminum shield reduces noise pickup more than 70 dB. Recommended for low level inputs to 'scopes, wave analyzers and similar test instruments. **Color:** Black.

Model 1894 BNC Receptacle (UG1094/U) to Single Banana Plug Adapter—Permits BNC plug to be used with banana jack equipment. Inner conductor connected only. Adapts lab VTVM, 'scope and generator inputs to readily available coaxial cables. **Color:** Black.

Model 1707 UHF Receptacle to ¾″ Double Banana Plug—Adapts ¾″ spaced banana jacks to UHF plug. Body cross holes for side stack-up. **Color:** Black.

Model 1699 Binding Posts to UHF Plug Adapter—Adapts UHF receptacle to ¾″ spaced banana plugs. **Color:** Red center conductor post; black ground.

Model 1740 N Receptacle to ¾″ Double Banana Plug—Adapts ¾″ spaced jacks to N plug, as for connecting RF equipment to conventional test equipment. Body cross holes. **Color:** Black.

Model 1796 Binding Posts to N Plug Adapter—Adapts N jack to ¾″ spaced banana plugs. Body cross holes. **Color:** Black body; red and black posts.

Model 1442 Phono Jack to ¾″ Double Banana Plug—Permits phono plug to be used with equipment having banana jacks or binding posts. Body cross holes. **Color:** Black.

Model 2957 BNC Receptacle (UG1094/U) to Phono Plug Adapter—Readily adapts phono jack equipment to available BNC coaxial cables. All metal construction reduces pickup more than 70 dB. **Color:** Natural.

Model 1980 ¾″ Double Banana Jack to Standard Phone Plug Adapter—Adapts phone jack to ¾″ banana plugs. Cross holes. Phone plug ¼″ dia. x 1³⁄₁₆″ lg. **Color:** Black.

Model 2112 ¾″ Double Banana Jack to PJ-051 Phone Plug Adapter—Permits single or double banana plugs to be used with equipment having 3-circuit phone jacks for ¼″ dia. phone plugs. Tip connected to adapter hot side, ring to ground side. Sleeve, no connection. PJ-051 plug is interchangeable with WE310. **Color:** Black.

Model 1285 Binding Posts to Standard Phone Plug Adapter—Adapts phone jack to ¾″ spaced banana plugs. Insulated binding posts. Body cross holes. Phone plug ¼″ dia. x 1³⁄₁₆″ lg. **Color:** Black body; red and black posts.

Model 1297 BNC Receptacle (UG1094/U) to Standard Plug Adapter—Permits BNC plug to be used with phone jack equipment. Adapts equipment to available BNC coaxial cables. Phone plug ¼″ dia. x 1³⁄₁₆″ lg. All metal. **Color:** Natural.

Model 1275 Microdot Receptacle to ¾″ Double Banana Plug—Adapts ¾″ spaced jacks to miniature, screw-on coaxial plug. Body cross holes for side stack-up. Receptacle has 10-32 thread. Impedance, 50 ohms. **Color:** Green.

Model 1433 Shielded ¾″ Double Banana Plug with In-Line Cable Entry—Anodized aluminum shell; ⁷⁄₃₂″ dia. cable opening. Gold-flashed solder turret terminals. Noise pickup down 70 dB. One-piece, nickel-plated beryllium copper springs. Ground clearly molded in shell. Rated 15 amps cont. at 1,200 WVDC; capacity, 2.5 pF at 1 MHz. Size, 1¹⁄₁₆″ w. x 1″ d. x 1³¹⁄₃₂″ h. **Color:** Black.

Model 1921 Balanced Line, Shielded ¾″ Double Banana Plug—Unique 3-terminal design allows connection to shielded two-conductor cable while maintaining balanced conditions. Anodized aluminum shell. Gold-flashed solder turrets. Low noise and minimum ground loop error. Rated 15 amps cont. at 1,000 WVDC peak, line to shield and at 2,000 WVDC peak, line to line. Capacity at 1 MHz, 2.0 pF line to line and 3.0 pF lines to shield. **Color:** Black.

PRICE TABLE

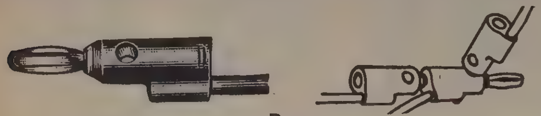
Pomona Model	Net Each, Lots of				Pomona Model	Net Each, Lots of			
	1-24	25-49	50-99	100-249		1-24	25-49	50-99	100-249
1269	$3.50	$3.15	$2.98	$2.45	1656*	$12.50	$11.25	$10.63	$8.75
1270	4.25	3.83	3.61	2.98	1699	6.85	6.17	5.82	4.80
1275	12.50	11.25	10.63	8.75	1707	6.50	5.85	5.53	4.55
1285	4.85	4.37	4.12	3.40	1740	7.50	6.75	6.38	5.25
1296	5.45	4.91	4.63	3.82	1796	9.50	8.55	8.08	6.65
1297	5.85	5.27	4.97	4.10	1868	8.50	7.65	7.23	5.95
1433	3.95	3.56	3.36	2.77	1894	2.75	2.48	2.34	1.93
1442	4.85	4.37	4.12	3.40	1921	8.50	7.65	7.23	5.95
1452	4.95	4.46	4.21	3.47	1980	4.50	4.05	3.83	3.15
1468	9.85	8.87	8.37	6.90	2112	7.85	7.07	6.67	5.50
1645	4.85	4.37	4.12	3.40	2957	3.95	3.56	3.36	2.77

*Specify color.

Pomona Patch Cords

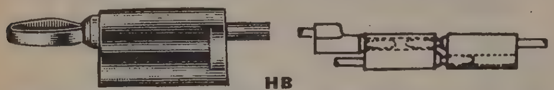
PATCH CORDS AND STACK-UP CONNECTING LEADS

Extra flexible polyvinyl insulation on all wires. Insulating jacket molds the plug, solder connection and wire insulation into a long lasting single piece. Banana plugs are one piece heat treated beryllium copper spring. Contact resistance less than 0.001 ohm per plug in standard .166″ dia. banana jacks. Model B, HB, 1440, 1743 and 1987 rated 15 amps continuous and 30 amps intermitten Wire is 18 gauge, stranding 65 x 36 T.C. with .144″ O.D. polyvin insulation; 10,000 WVDC. Reliable solder bonded connectio withstand pull test in excess of 50 lbs. **See listings and/or pri table for colors and lengths.**



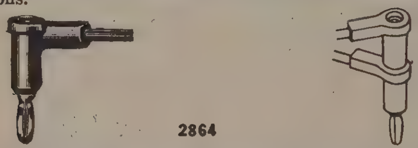
B

Model B—Vertical and horizontal stacking banana plug patch cord. Greatly simplifies circuit connections and changes. Preserves compactness even with the most complex stacking.



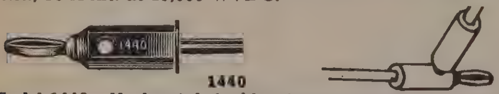
HB

Model HB—Dual purpose extension-stacking patch cord. Dual purpose. Shields all hot leads when used as extension cord. Endless extension couplings possible with any banana plug patch cord. Permits vertical stacking from any jack. Countless 2-in-1 applications.



2864

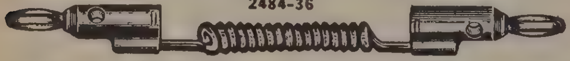
Model 2864—Vertical stacking right-angle banana plug patch cord. Vertical stacking feature allows endless circuit connections and right-angle design keeps wires close to chassis. Rated 15 A cont., 30 A int. at 10,000 WVDC.



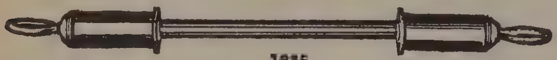
1440

Model 1440—Horizontal stacking banana plug patch cord. Similar to Model B, but without jacks; horizontal stacking only.

2484-36

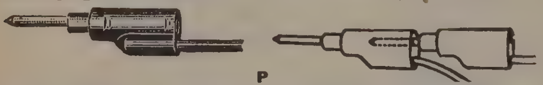


Model 2484-36—Retractile patch cord with stack-up banana plugs. Cord is 12″ retracted, 36″ extended, permitting its use in place of cords of many lengths. Tough thermoplastic molded to plug body and wire. Wire 20 ga., 41 x 36 T.C. stranded with rubber insulation .145″ O.D. Rated 4 A cont., 10 A int. at 5000 WVDC. **Colors:** Red, black.



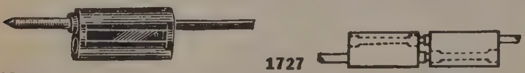
1985

Model 1985—Banana plug patch cord. Ideal for general lab work. Banana plugs at both ends.



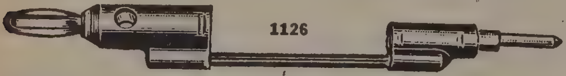
P

Model P—Pin tip vertical stacking patch cord. Ideal for most circuit designs where space is at a premium. Fits instruments with .080″ jacks. Beryllium copper contact for vertical stacking; gold flash finish. Tip .080″ dia. x ½″ extended type. Wire 20 ga., 41 x 36 T.C. stranded with polyvinyl insulation .087″ O.D. Rated 5 A continuous and 10 A intermittent; 5000 WVDC.



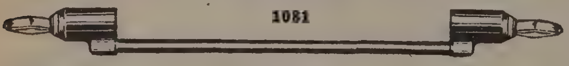
1727

Model 1727—Extension or stack-up patch cord. Dual purpose, .080″ dia. tip. Insulates exposed leads when used as extension cord. Many couplings possible. Vertical stacking from .080″ jack. Beryllium copper, heat-treated receptacle, gold flashed. Wire 20 AWG, 41 x 36 T.C. strands, .087″ O.D. Rating same as Model P.



1126

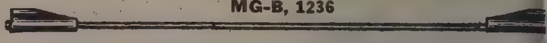
Model 1126—Banana plug to pin stack-up patch cord. Combination of Model B and P: Stack-up banana plug on one end; stack-up pin tip other end. Wire 20 ga., 41 x 36 T.C. stranded with polyvinyl insulation .087″ O.D. Rating same as Model P.



1081

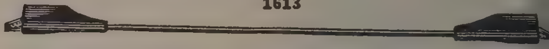
Model 1081—Miniature banana plug stack-up. Fits miniature banana jacks .104″ dia. One-piece, beryllium copper spring, gold flashed. Wire 20 ga., 41 x 36 T.C. stranded with polyvinyl insulation .087″ O.D. Rating same as Model P.

MG-B, 1236



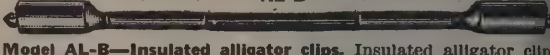
Model MG-B—Insulated minigator clips. Insulated, cadmium plated steel, miniature clips on each end. Wire 18 ga., 65 x 3 T.C. stranded, polyvinyl insulation .144″ O.D. **Colors:** Red, black
Model 1236—Insulated minigator clips. Same as Model MG- above, but wire 20 ga., 41 x 36 T.C. stranded; polyvinyl insulation, .087″ O.D. **Colors:** Red or black.

1613



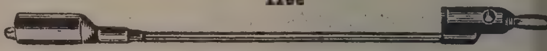
Model 1613—Insulated microgator clips. Insulated microgato clips on each end of 20 ga., 41 x 36 T.C. stranded wire with flexibl polyvinyl insulation, .087″ O.D. Clips are solid copper. **Color** Red or black.

AL-B



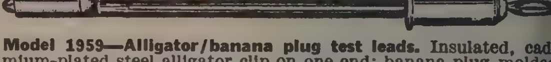
Model AL-B—Insulated alligator clips. Insulated alligator clip on each end of 18 ga. 65 x 36 stranded wire with flexible polyviny insulation .144″ O.D. Cadmium-plated steel clips. **Colors:** Re or black.

1166

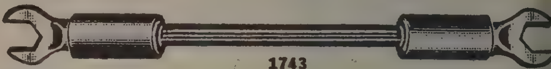


Model 1166—Alligator/stacking banana plug test leads. Adapt to equipment using standard banana jacks. Insulated, cadmium-plated steel alligator clip on one end; banana plug molded to othe end. Wire 18 ga., 65 x 36 T.C. stranded. Extra flexible polyviny insulation .144″ O.D. **Colors:** Red, black.

1959

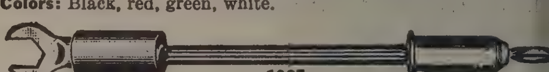


Model 1959—Alligator/banana plug test leads. Insulated, cadmium-plated steel alligator clip on one end; banana plug molde to other end. Wire 18 ga., 65 x 36 T.C. stranded. Extra flexibl polyvinyl insulation .144″ O.D. **Colors:** Red, black.



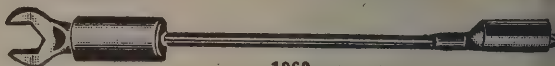
1743

Model 1743—Insulated spade lug jumper. Heavy-duty, machine 1-piece, nickel-plated brass spade lugs molded to 18 AWG, 65 x 3 T.C. stranded wire. Flexible polyvinyl insulation .144″ O.D **Colors:** Black, red, green, white.



1987

Model 1987—Insulated spade lug to banana plug jumper. Sam as 1743 except heavy-duty machined, nickel-plated brass spad lug on one end; nickel-plated banana plug other end. **Colors** Red or black.



1960

Model 1960—Insulated spade lug to alligator clip. Machine nickel-plated brass spade lug on one end; cadmium-plated stee alligator clip vinyl insulated other end. Insulated 18 ga., 65 x 3 T.C. stranded wire. Polyvinyl insulation, .144″ O.D. **Colors** Red or black.

PRICE TABLE

Specify Color: Available in black, brown, red, orange, yellow green, blue, violet, gray or white unless otherwise noted. Insulator on alligator, minigator and microgator clips supplied red on al red wire units; black on other colors of wire.

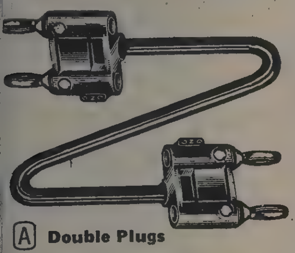
Pomona Models*	Net Each, Lots of			
	1-24	25-49	50-99	100-249
AL-B-4, -8, -12, -24, -36†	$1.75	$1.58	$1.49	$1.23
B-4, -8, -12, -18, -24, -36	1.80	1.62	1.53	1.26
HB-4, -8, -12, -18, -24, -36	2.50	2.25	2.13	1.75
MG-B-4, -8, -12, -24, -36†	1.50	1.35	1.28	1.05
P-4, -8, -12, -18, -24, -36	1.85	1.67	1.57	1.30
1081-4, -8, -12, -18, -24, -36	1.80	1.62	1.53	1.26
1126-4, -8, -12, -18, -24, -36†	1.95	1.76	1.66	1.37
1166-4, -8, -12, -24, -36†	1.95	1.76	1.66	1.37
1236-4, -8, -12, -24, -36†	1.50	1.35	1.28	1.05
1440-4, -8, -12, -18, -24, -36	1.80	1.62	1.53	1.26
1613-4, -8, -12, -24, -36†	1.50	1.35	1.28	1.05
1727-4, -8, -12, -18, -24, -36	2.50	2.25	2.13	1.75
1743-12, -24, -36‡	1.95	1.76	1.66	1.37
1959-4, -8, -12, -24, -36†	1.95	1.76	1.66	1.37
1960-12, -24, -36†	1.95	1.76	1.66	1.37
1985-4, -8, -12, -18, -24, -36	1.70	1.53	1.45	1.19
1987-12, -24, -36†	1.95	1.76	1.66	1.37
2484-36†§	4.25	3.83	3.61	2.98
2864-4, -8, -12, -18, -24, -36	2.25	2.03	1.91	1.58

*Suffix indicates length: **-4**, 4″; **-8**, 8″; **-12**, 12″, etc. All model available in 48″ length; use suffix **-48**; add **$0.10** to prices shown All models also available in 60″ length; use suffix **-60**; add **$0.2** to prices shown. †Specify red or black. ‡Specify black, red, gree or white. §Retractile type, 36″ extended, 12″ retracted only.

¾″ DOUBLE-PLUG STACK-UP PATCH CORD AND TEST LEADS

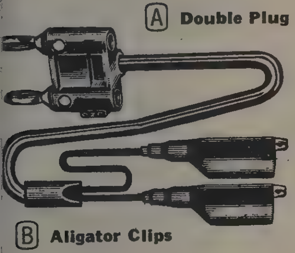
Molded plastic plug body fully insulated. Permits parallel multiple stacking. Ground connection clearly marked. Shielded double plugs ave black-anodized aluminum case. One piece beryllium copper spring. Solder bonded noise-free connection. Fits standard banana acks .166″ dia. **Cable Used: 2BA, 1368, 2184 Series**—Two cond. twisted pair, 18 AWG, stranded 65 x 36 T.C. Vinyl insul.; gray vinyl acket .250″ O.D. Nom. cap., 30 pF/ft. **2BB Series**—Shielded microphone cable, polyethylene insulation; gray vinyl jacket .205″ O.D. Nom. cap., 25 pF/ft. **2BC Series 1569-C-48**—RG-58C/U shielded coaxial cable; polyethylene insulation; black vinyl jacket .195″ O.D. Nom. cap., 30 pF/ft. (1569-C-48, 28.5 pF/ft.). Types with two single plugs or clips on one end color coded; one red, one black.

WITH STANDARD AND SHIELDED DOUBLE PLUGS


A Double Plugs

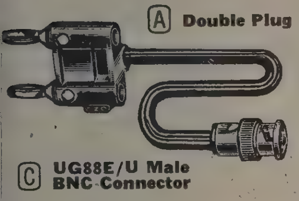
BOTH ENDS FIG. A

Cable Lgth.		Model No.	Net Each
18″	A	2BA-18	1-9 $5.95 10-24 $5.36 25-49 $5.06 50-99 $4.17
24″		2BA-24	
30″		2BA-30	
36″		2BA-36	
48″		2BA-48	
60″		2BA-60	
18″	B	2BB-18	
24″		2BB-24	
30″		2BB-30	
36″		2BB-36	
48″		2BB-48	
60″		2BB-60	
18″	C	2BC-18	
24″		2BC-24	
30″		2BC-30	
36″		2BC-36	
48″		2BC-48	
60″		2BC-60	


A Double Plug
B Aligator Clips

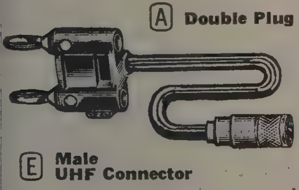
END FIGS. A AND B

Cable Lgth.		Model No.	Net Each
18″	A	2BA-AL-18	1-9 $6.95 10-24 $6.26 25-49 $5.91 50-99 $4.87
24″		2BA-AL-24	
30″		2BA-AL-30	
36″		3BA-AL-36	
48″		2BA-AL-48	
60″		2BA-AL-60	
18″	B	2BB-AL-18	
24″		2BB-AL-24	
30″		2BB-AL-30	
36″		2BB-AL-36	
48″		2BB-AL-48	
60″		2BB-AL-60	
18″	C	2BC-AL-18	
24″		2BC-AL-24	
30″		2BC-AL-30	
36″		2BC-AL-36	
48″		2BC-AL-48	
60″		2BC-AL-60	


A Double Plug
C UG88E/U Male BNC Connector

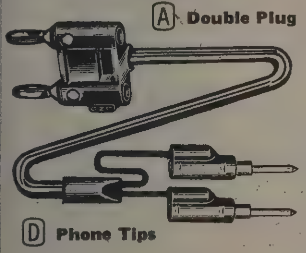
END FIGS. A AND C

Cable Lgth.		Model No.	Net Each
18″	B	2BB-BNC-18	1-9 $6.95 10-24 $6.26 25-49 $5.91 50-99 $4.87
24″		2BB-BNC-24	
30″		2BB-BNC-30	
36″		2BB-BNC-36	
48″		2BB-BNC-48	
60″		2BB-BNC-60	
18″	C	2BC-BNC-18	
24″		2BC-BNC-24	
30″		2BC-BNC-30	
36″		2BC-BNC-36	
48″		2BC-BNC-48	
60″		2BC-BNC-60	


A Double Plug
E Male UHF Connector

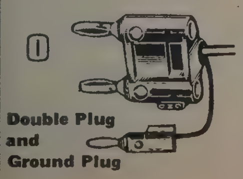
END FIGS. A AND E

Cable Lgth.		Model No.	Net Each
18″	C	2BC-UHF-18	1-9 $6.95 10-24 $6.26 25-49 $5.91 50-99 $4.87
24″		2BC-UHF-24	
36″		2BC-UHF-36	
48″		2BC-UHF-48	
60″		2BC-UHF-60	


A Double Plug
D Phone Tips

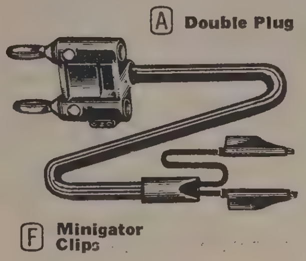
END FIGS. A AND D

Cable Lgth.		Model No.	Net Each
18″	C	2BC-PP-18	1-9 $7.50 10-24 $6.75 25-49 $6.38 50-99 $5.25
24″		2BC-PP-24	
36″		2BC-PP-36	
48″		2BC-PP-48	
60″		2BC-PP-60	


I
Double Plug and Ground Plug

BOTH ENDS FIG. I

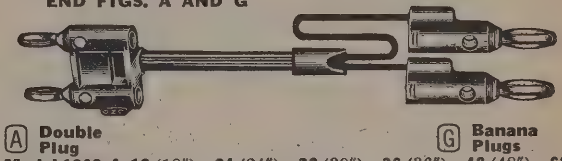
Model 1167-18 (18″), **-24** (24″), **-30** (30″), **-36** (36″), **-48** (48″), **-60** (60″)—Shielded 2-conductor mike cable, polyethylene insulation; vinyl jacket .231″ O.D. Nom. cap. between cond., 18 pF/ft.; between one cond. and remaining cond. connected to shield, 32 pF/ft. Gray cable and double plug with green single ground plug. Net Each, 1-9, **$11.85**; 10-24, **$10.67**; 25-49, **$10.07**; 50-99, **$8.30.**


A Double Plug
F Minigator Clips

END FIGS. A AND F

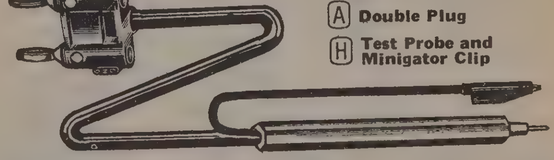
Cable Lgth.		Model No.	Net Each
18″	A	2BA-MG-18	1-9 $6.95 10-24 $6.26 25-49 $5.91 50-99 $4.87
24″		2BA-MG-24	
30″		2BA-MG-30	
36″		2BA-MG-36	
48″		2BA-MG-48	
60″		2BA-MG-60	
18″	B	2BB-MG-18	
24″		2BB-MG-24	
30″		2BB-MG-30	
36″		2BB-MG-36	
48″		2BB-MG-48	
60″		2BB-MG-60	
18″	C	2BC-MG-18	
24″		2BC-MG-24	
30″		2BC-MG-30	
36″		2BC-MG-36	
48″		2BC-MG-48	
60″		2BC-MG-60	

END FIGS. A AND G


A Double Plug
G Banana Plugs

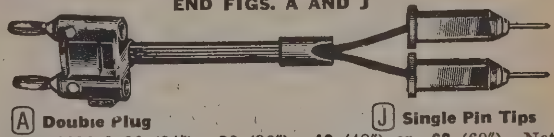
Model 1368-A-18 (18″), **-24** (24″), **-30** (30″), **-36** (36″), **-48** (48″), **-60** (60″)—Net 1-9, **$8.85**; 10-24, **$7.97**; 25-49, **$7.52**; 50-99, **$6.20**

END FIGS. A AND H

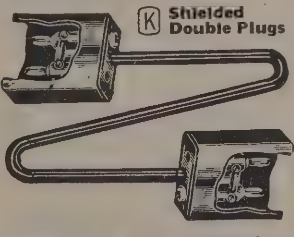

A Double Plug
H Test Probe and Minigator Clip

Model 1569-C-48 (48″)—Thermo-plastic, red, insulated handle molded to probe tip and cable. Net Each, 1-9, **$8.95**; 10-24, **$8.06**; 25-49, **$7.61**; 50-99, **$6.27**

END FIGS. A AND J

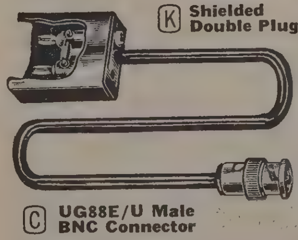

A Double Plug
J Single Pin Tips

Model 2184-A-24 (24″), **-36** (36″), **-48** (48″) or **-60** (60″)—Net Ea., 1-9, **$7.85**; 10-24, **$7.07**; 25-49, **$6.67**; 50-99, **$5.50**


K Shielded Double Plugs

BOTH ENDS FIG. K

Cable Lgth.		Model No.	Net Each
18″	C	1550-C-18	1-9 $12.85 10-24 $11.57 25-49 $10.92 50-99 $ 9.00
24″		1550-C-24	
30″		1550-C-30	
36″		1550-C-36	
48″		1550-C-48	
60″		1550-C-60	


K Shielded Double Plugs
C UG88E/U Male BNC Connector

END FIGS K AND C

Cable Lgth.		Model No.	Net Each
18″	C	1555-C-18	1-9 $11.85 10-24 $10.67 25-49 $10.07 50-99 $ 8.30
24″		1555-C-24	
30″		1555-C-30	
36″		1555-C-36	
48″		1555-C-48	
60″		1555-C-60	

NOTE: Cable color: 2BA and 2BB Series, std. color gray, matching molded plugs. Also available in 36″ length as std. color black, brown, red, orange, yellow, green, blue, violet, gray and white, molded plugs to match. Lengths other than 36″ available with colored cable. Minimum order for other lengths 25 pieces per color, per model, per length at no extra cost. 2BC Series black only, molded double plug to match.

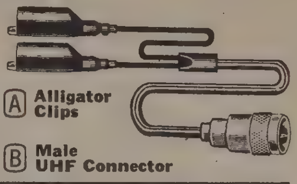
Pomona Components

CONNECTING LEADS AND CABLE ASSEMBLIES

Cable Used: B—Shielded mike cable with polyethylene insulation and gray vinyl jacket. Nom cap., 25 pF/ft. O.D., .205". **C**—RG-58C/ shielded coax with polyethylene insulation; black vinyl jacket. Nom. cap., 30 pF/ft. O.D., .195". Types with two single plugs or clips o one end color coded; one red, one black.

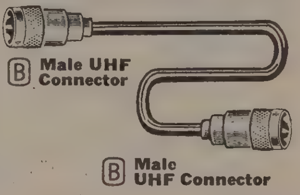
END FIGS. A AND B

Cable Lgth.		Model No.	Net Each
18"	C	AL-C-UHF-18	1-9 $7.85
24"		AL-C-UHF-24	10-24 $7.07
36"		AL-C-UHF-36	25-49 $6.67
48"		AL-C-UHF-48	50-99 $5.50
60"		AL-C-UHF-60	



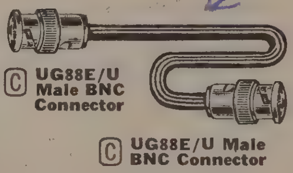
BOTH ENDS FIG. B

Cable Lgth.		Model No.	Net Each
18"	C	UHF-C-18	1-9 $7.85
24"		UHF-C-24	10-24 $7.07
36"		UHF-C-36	25-49 $6.67
48"		UHF-C-48	50-99 $5.50
60"		UHF-C-60	



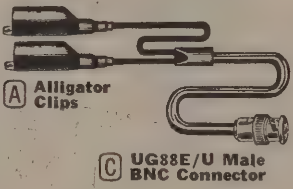
BOTH ENDS FIG. C

Cable Lgth.		Model No.	Net Each
18"	B	BNC-B-18	1-9 $6.85
24"		BNC-B-24	10-24 $6.17
30"		BNC-B-30	25-49 $5.82
36"		BNC-B-36	50-99 $4.80
48"		BNC-B-48	
60"		BNC-B-60	
18"	C	BNC-C-18	
24"		BNC-C-24	
30"		BNC-C-30	
36"		BNC-C-36	
48"		BNC-C-48	
60"		BNC-C-60	



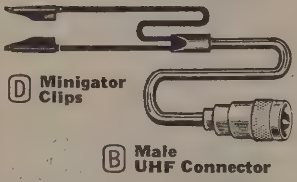
END FIGS. A AND C

Cable Lgth.		Model No.	Net Each
18"	B	AL-B-BNC-18	1-9 $6.85
24"		AL-B-BNC-24	10-24 $6.17
30"		AL-B-BNC-30	25-49 $5.82
36"		AL-B-BNC-36	50-99 $4.80
48"		AL-B-BNC-48	
60"		AL-B-BNC-60	
18"	C	AL-C-BNC-18	
24"		AL-C-BNC-24	
30"		AL-C-BNC-30	
36"		AL-C-BNC-36	
48"		AL-C-BNC-48	
60"		AL-C-BNC-60	

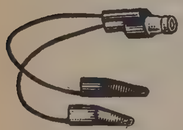


END FIGS. D AND B

Cable Lgth.		Model No.	Net Each
18"	C	MG-C-UHF-18	1-9 $7.85
24"		MG-C-UHF-24	10-24 $7.07
36"		MG-C-UHF-36	25-49 $6.67
48"		MG-C-UHF-48	50-99 $5.50
60"		MG-C-UHF-60	



MOLDED BREAKOUTS



2630, 2631

Convert standard coaxial cables to test cables. By connecting proper breakout receptacle or plug to corresponding cable plug or receptacle, any standard coaxial cable becomes a test cable equipped with clip leads. Wire: With alligator clips, 18 AWG, strand, 65 x 36 T.C. Polyvinyl insulation, .144" O.D.; with minigator clips, 20 AWG, strand 41 x 36 T.C., polyvinyl insulation, .087" O.D. Clips and plugs are one black, and one red. Overall length, 7".

BNC RECEPTACLE TO TEST CLIPS

Model 2630 Alligator Clips; **Model 2631** Minigator Clips. Net Ea., 1–24, **$3.75**; 25–49, **$3.38**; 50–99, **$3.19**; 100–249, **$2.63**

BNC PLUG TO TEST CLIPS

Model 2885 Alligator Clips; **Model 2886** Minigator Clips. Net Ea., 1–24, **$4.95**; 25–49, **$4.46**; 50–99, **$4.21**; 100–249, **$3.47**

BNC RECEPTACLE TO STACKING BANANA PLUGS

Model 3073, Wire, 18 AWG. Net Each, 1–24, **$3.85**; 25–49, **$3.47**; 50–99, **$3.27**; 100–249, **$2.70**

UHF RECEPTACLE TO TEST CLIPS

Model 2632 Alligator Clips; **Model 2633** Minigator Clips. Net Ea., 1–24, **$5.45**; 25–49, **$4.91**; 50–99, **$4.63**; 100–249, **$3.82**

BNC PLUG TO STACKING BANANA PLUGS

Model 3957, Wire, 18 AWG. Net Each, 1–24, **$4.95**; 25–49, **$4.46**; 50–99, **$4.21**; 100–249, **$3.47**

BNC RECEPTACLE TO STACKING PIN TIP PLUGS

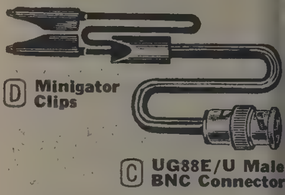
Model 3221, Wire, 20 AWG. Two single plugs, .080" dia. Net Ea., 1–24, **$3.85**; 25–49, **$3.47**; 50–99, **$3.27**; 100–249, **$2.70**

BNC PLUG TO STACKING PIN TIP PLUGS

Model 3901, Wire 20 AWG. Two single plugs, .080" dia. Net Ea., 1–24, **$4.95**; 25–49, **$4.46**; 50–99, **$4.21**; 100–249, **$3.47**

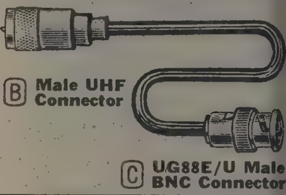
END FIGS. D AND C

Cable Lgth.		Model No.	Net Each
18"	B	MG-B-BNC-18	1-9 $6.85
24"		MG-B-BNC-24	10-24 $6.17
30"		MG-B-BNC-30	25-49 $5.82
36"		MG-B-BNC-36	50-99 $4.87
48"		MG-B-BNC-48	
60"		MG-B-BNC-60	
18"	C	MG-C-BNC-18	
24"		MG-C-BNC-24	
30"		MG-C-BNC-30	
36"		MG-C-BNC-36	
48"		MG-C-BNC-48	
60"		MG-C-BNC-60	



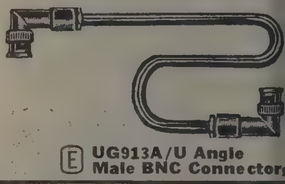
END FIGS. B AND C

Cable Lgth.		Model No.	Net Each
18"	C	1367-C-18	1-9 $6.95
24"		1367-C-24	10-24 $6.26
36"		1367-C-36	25-49 $5.91
48"		1367-C-48	50-99 $4.87
60"		1367-C-60	



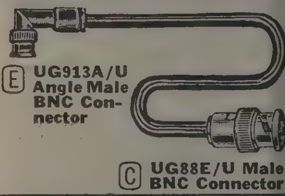
BOTH ENDS FIG. E

Cable Lgth.		Model No.	Net Each
18"	C	1155-C-18	1-9 14.50
24"		1155-C-24	10-24 13.05
36"		1155-C-36	25-49 12.33
48"		1155-C-48	50-99 10.15
60"		1155-C-60	

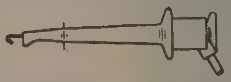


END FIGS. E AND C

Cable Lgth.		Model No.	Net Each
18"	C	1383-C-18	1-9 12.85
24"		1383-C-24	10-24 11.57
36"		1383-C-36	25-49 10.92
48"		1383-C-48	50-99 $9.00
60"		1383-C-60	


E UG913A/U Angle Male BNC Connector
C UG88E/U Male BNC Connector

DO IT YOURSELF "GRABBER"



Provides the user with the ability to build his own leads. Completely field serviceable. Gold plated contact hook connects rapidly to component leads, and tip slides down over .025" square Wire Wrap* pins. Features plunger type action between thumb and two fingers. High temperature material resists melting when soldering. Accepts wire up to .090" dia. Molded polycarbonate body. Beryllium copper contact per QQ-C-533, alloy 170. Gold plated per MIL-G-45204 type 1. Stainless steel spring. **Colors:** Black or red.

*Reg. Gardner-Denver TM.

Model 3925 Do It Yourself "Grabber"—Net Each, Lots of 1–24, **$0.85**; 25–49, **$0.77**; 50–99, **$0.72**; 100–249, **$0.60**.

MINI TEST CLIPS "GRABBER"

Mini-Test clips of beryllium copper gold plated hook tip. **Wire:** 20 AWG, stranded 41 x 36 T.C. Polyvinyl insulation .087" O.D. **Operating Temp.:** −25° C to +105° C. **Colors:** Black, red. Model No. suffix indicates length, e.g., 3780-8 is 8" long.

MINI-TEST CLIP ONE END ONLY

Models 3780-8, 3780-12, 3780-24, 3780-36. Net Each, 1–24, **$1.00**; 25–49, **$0.90**; 50–99, **$0.85**; 100–249, **$0.70**.

Model 3780-48, add **$0.05**; **Model 3780-60**, add **$0.10**.

MINI-TEST CLIP BOTH ENDS

Models 3781-8, 3781-12, 3781-18, 3781-24, 3781-36. Net Each, 1–24, **$1.65**; 25–49, **$1.49**; 50–99, **$1.40**; 100–249, **$1.16**.

Model 3781-48, add **$0.05**; **Model 3781-60**, add **$0.10**.

MINI-TEST CLIP TO STACKING BANANA PLUG

Models 3782-12, 3782-24, 3782-36. Net Each, 1–24, **$1.65**; 25–49, **$1.49**; 50–99, **$1.40**; 100–249, **$1.16**.

Model 3782-48, add **$0.05**; **Model 3782-60**, add **$0.10**.

MINI-TEST CLIP TO STACKING MINIATURE BANANA PLUG

Models 3784-12, 3784-24, 3784-36. Net Each, 1–24, **$1.85**; 25–49, **$1.67**; 50–99, **$1.57**; 100–249, **$1.30**.

Model 3784-48, add **$0.10**; **Model 3784-60**, add **$0.20**.

MINI-TEST CLIP TO STACKING PIN TIP PLUG

Pin tip plug: .080" dia., ½" long, brass, gold flashed. Stack-up: Beryllium copper, gold flashed. Accepts .080" dia. pin. **Models 3785-12, 3785-24, 3785-36.** Net Each, 1–24, **$1.85**; 25–49, **$1.67**; 50–99, **$1.57**; 100–249, **$1.30**.

Model 3785-48, add **$0.10**; **Model 3785-60**, add **$0.20**.

Pomona Patch Cords and Probes

CABLE ASSEMBLIES AND PATCH CORDS

hielded coax, RG58C/U, polyethylene insulation. Vinyl jacket, 95″ O.D. Nom. cap., 28.5 pF/ft. Model number suffix indicates ngth in inches, e.g., 2241-C-18 is 18″ long.

BNC MALE TO SINGLE BANANA PLUGS

lodels 2241-C-18, 2241-C-24, 2241-C-36, 2241-C-48. Net Each, -9, **$7.50**; 10–24, **$6.75**; 25–49, **$6.38**; 50–99, **$5.25**

BNC MALE TO GR-874

lodels 1703-C-24, 1703-C-36, 1703-C-48. Net Each, **$18.85**

BNC MALE TO SERIES "N" MALE

lodels 1366-C-24, 1366-C-36, 1366-C-48. Net Each, 1–9, **$7.85**;)–24, **$7.07**; 25–49, **$6.67**; 50–99, **$5.50**

BNC MALE TO BNC FEMALE

lodels 2223-C-12, 2223-C-24, 2223-C-36, 2223-C-48, 2223-C-60. et, 1–9, **$7.50**; 10–24, **$6.75**; 25–49, **$6.38**; 50–99, **$5.25**

BNC FEMALE BOTH ENDS

lodels 1808-C-12, 1808-C-24, 1808-C-36, 1808-C-48, 1808-C-60. et, 1–9, **$7.50**; 10–24, **$6.75**: 25–49, **$6.38**; 50–99, **$5.25**

TNC MALE BOTH ENDS

lodels 1944-C-12, 1944-C-24, 1944-C-36, 1944-C-48, 1944-C-60. et, 1–9, **$9.85**; 10–24, **$8.87**; 25–49, **$8.37**; 50–99, **$6.90**

BNC MALE TO TNC MALE

lodels 1948-C-12, 1948-C-24, 1948-C-36, 1948-C-48, 1948-C-60. et, 1–9, **$8.85**; 10–24, **$7.97**; 25–49, **$7.52**; 50–99, **$6.20**

DOUBLE PLUG TO GR-874

lodels 2243-C-24, 2243-C-36, 2243-C-48. Net Each, **$19.95**

SERIES "N" MALE BOTH ENDS

Models 2256-C-24, 2256-C-36, 2256-C-48, 2256-C-60. Net Each, 1–9, **$9.85**; 10–24, **$8.87**; 25–49, **$8.37**; 50–99, **$6.90**

SERIES "N" MALE TO GR-874

Models 2438-C-24, 2438-C-36, 2438-C-48, 2438-C-60. Net Each, **$20.95**

GR-874 TO GR-874

Models 2316-C-24, 2316-C-36, 2316-C-48, 2316-C-60. Net Each, **$34.50**

ALLIGATOR CLIPS BOTH ENDS

Models 1152-C-12, 1152-C-24, 1152-C-36, 1152-C-48, 1152-C-60. Net, 1–9, **$7.50**; 10–24, **$6.75**; 25–49, **$6.38**; 50–99, **$5.25**

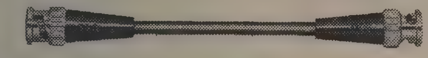
SINGLE BANANA PLUGS BOTH ENDS

Shielded coax, RG122/U polyethylene insulation. Vinyl jacket, .160″ O.D. Nom. cap. 29.5 pF/ft. **Models 2239-R-24, 2239-R-36, 2239-R-48, 2239-R-60.** Net Each, 1–9, **$7.85**; 10–24, **$7.07**; 25–49, **$6.67**; 50–99, **$5.50**

RETRACTILE PATCH CORD WITH DOUBLE BANANA PLUGS

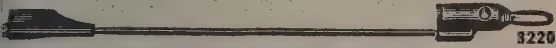
Model 3864-48—One size cord can be used in place of many various lengths. Extended, 48″; retracted, 12″. Double banana plugs on ¾″ centers. Shielded microphone cable. Center conductor 24 AWG, rubber insulated. Spiral T.C. shield with neoprene jacket, .160″ O.D. Net Each, 1–9, **$9.85**; 10–24, **$8.87**; 25–49, **$8.37**; 50–99, **$6.90**

CONNECTING LEADS AND PATCH CORDS



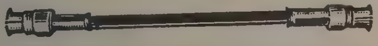
2249

lodel 2249-C BNC Male Crimp Both Ends—Connectors are on-tarnish crimp BNC males equivalent to UG88E/U. Cable, G58C/U shielded coax.; 50 ohm imp.; 28.5 pF/ft.



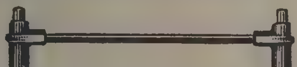
3220

lodel 3220 Minigator Clip to Stacking Banana Plug—Cadmium-lated steel clip with vinyl insulator; 1-piece nickel-plated copper pring; thermoplastic molded to plug body and wire (20 AWG, 1 x 36 T.C. strand, .087″ O.D. polyvinyl insul.). **Colors:** Specify ed or black.



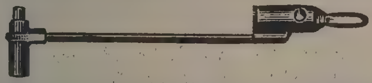
3199

lodel 3199 Push-On BNC Male Both Ends—RG-58C/U shielded oaxial cable; beryllium copper outer fingers.



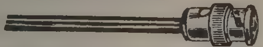
3201

lodel 3201 Push-On Stacking BNC Male Both Ends—Stacking atch cord for 'scopes, etc. connecting center conductors of BNC acks with common chassis. Wire 18 AWG, stranded 65 x 36 olyvinyl insulation. Contacts heat-treated beryllium copper, old flashed. Temp., −25° C to +125° C. **Colors:** Red or black.



3202

lodel 3202 Push-On Stacking BNC Male to Stacking Banana lug—Wire and one end same as Model 3201; other end is stacking banana plug. **Colors:** Red or black.

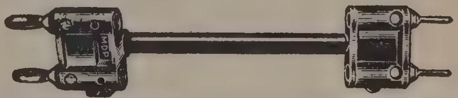


1661-C

lodel 1661-C BNC Male UG-88E/U, One End Only—Shielded oax RG-58C/U with plug on one end only.

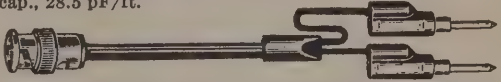
lodel 1661-E BNC Male UG-260B/U, One End Only—Shielded oax. RG-59B/U with plug on one end only.

lodel 1661-M BNC Male UG-260B/U, One End Only—Same as 661-E, but cable is RG-62A/U.



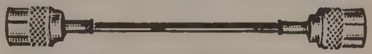
2288

Model 2288 Double Banana Plug to Double Pin Tip Plug—Both plugs ¾″ centers. Coax RG-58C/U shielded cable with polyethylene insulation, vinyl jacket; .195″ O.D., 50 ohm imp.; nom. cap., 28.5 pF/ft.



2282

Model 2882 BNC Male to Stack-Up Pin Tips—Male BNC UG-88E/U and single gold plated stack-up pin tip plugs .080″ O.D. RG-58C/U shielded coaxial cable polyethylene insulated, with vinyl jacket; 50 ohm imp.; nom. cap., 28.5 pF/ft.



3137

Model 3137 Push-On UHF Male Both Ends—With RG-58C/U shielded coaxial cable. Ideal for test interconnections without screwing on or off shell.

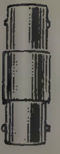
PRICE TABLE

Pomona Models*	Net Each, Lots of 1-9	10-24	25-49	50-99
1661-C-12, -24, -36, -48, -60	$3.95	$3.56	$3.36	$2.77
1661-E-12, -24, -36, -48, -60	4.85	4.37	4.12	3.40
1661-M-12, -24, -36, -48, -60	4.85	4.37	4.12	3.40
2249-C-12, -24, -36, -48, -60	5.95	5.36	5.06	4.17
2288-C-18, -24, -36, -48, -60	6.95	6.26	5.91	4.87
2882-C-18, -24, -36, -48, -60	7.50	6.75	6.38	5.25
3137-C-12, -24, -36, -48, -60	9.85	8.87	8.37	6.90
3199-C-12, -24, -36, -48, -60	6.85	6.17	5.82	4.80
3201-4, -8, -12, -18, -24, -36, -48, -60†	3.50	3.15	2.98	2.45
3202-4, -8, -12, -18, -24, -36, -48, -60†	2.50	2.25	2.13	1.75

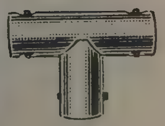
Pomona Models*	Net Each, Lots of 1-24	25-49	50-99	100-249
3220-4, -8, -12, -24, -36†	$1.95	$1.76	$1.66	$1.37
3220-48†	2.05	1.85	1.74	1.44
3220-60†	2.15	1.94	1.83	1.51

*Suffix indicates length in inches. †Specify red or black.

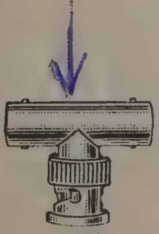
COAXIAL ADAPTERS



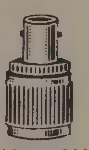
3283



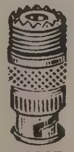
3284



3285



3286, 3288



3287

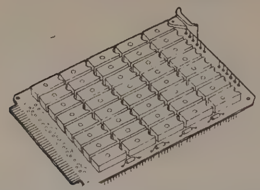
Rapidly adapt and interconnect different types of coaxial connectors. Feature non-tarnish finish and gold plated contacts.

Pomona No.	Type	Imp., Ohms	Net Each, Lots of 1-24	25-49	50-99	100-249
3283	BNC jack to jack	50	$1.85	$1.67	$1.57	$1.30
3284	BNC "T" 3 jacks	50	6.25	5.63	5.31	4.38
3285	BNC "T" jack-plug-jack	50	4.85	4.37	4.12	3.40
3286	BNC jack to UHF plug	......	2.95	2.66	2.51	2.07

Pomona No.	Type	Imp., Ohms	Net Each, Lots of 1-24	25-49	50-99	100-249
3287	UHF jack to BNC plug	50	$4.25	$3.83	$3.61	$2.98
3288	BNC jack to "N" plug	......	3.50	3.15	2.98	2.45
3533	BNC plug to plug	50	3.95	3.56	3.36	2.77
3534	Right angle BNC jack to BNC plug	50	4.95	4.46	4.21	3.47
3535	"N" jack to BNC plug	......	4.95	4.46	4.21	3.47
3778	BNC bulkhead receptacle*	50	5.45	4.91	4.63	3.82
3839	BNC jack cap with chain	......	1.50	1.35	1.28	1.05
3840	Resistor terminated plug	......	4.85	4.37	4.12	3.40
3841	"N" jack to jack	50	4.50	4.05	3.83	3.15
3842	"N" plug to plug	50	5.25	4.73	4.46	3.68
3843	Right angle "N" jack to "N" plug	50	5.85	5.27	4.97	4.10
3844	BNC jack to TNC plug	50	7.25	6.53	6.16	5.08
3845	BNC jack to "C" plug	50	5.45	4.91	4.63	3.82
3846	BNC jack* to jack	50	8.85	7.97	7.52	6.20
3847	Hermetically sealed BNC jack to jack	50	5.45	4.91	4.63	3.82

*Isolated ground.

DIP SOCKET CARDS



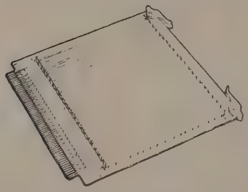
Cards contain 16-pin, discrete, Type ME-2 sockets which accept 14- and 16-pin devices and have two additional discrete pins built in for commitment to Vcc and GND. The 40-position card provides 12 test pins at the top of the card for convenient testing. Each card is available with or without capacitors mounted. Each pin is numbered on the Vcc plane, and each I/O is numbered on the wrap side of the board. Cards are made of .062" glass epoxy, Class I, and ejectors are provided for easy card removal. Sockets will accept discrete component headers when combinations of IC's and discrete components are required. Three-level warp pins are standard; 1- and 2-level wrap pins are also available.

Scanbe Number	Capacitors Mounted
11776-02	2 tantalum 1 μF, 50 WVDC 10 ceramic 0.1 μF, 50 WVDC
11767-02	8 tantalum 1 μF, 50 WVDC 16 ceramic 0.1 μF, 50 WVDC
11768-02, 11777-02	2 tantalum 1 μF, 50 WVDC 24 ceramic 0.1 μF, 50 WVDC

Scanbe Number*	No. of Positions	Size, Inches	Conn. Pins	Net Each, Lots of 1-9	10-24	25-49
11776-01	30	5.85 x 5.10	22/44	$46.05	$43.66	$41.48
11767-01	40	4.50 x 6.31	36/72	55.09	52.23	49.61
11768-01	60	7.35 x 7.00	61/122	79.40	75.26	71.49
11777-01	60	5.85 x 8.10	22/44	76.87	72.87	69.23

*Suffix **-01** indicates cards without capacitors; others with capacitors.

DIP SOCKET PANELS

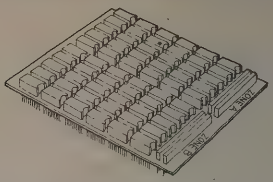


Socket panels are available with from one to six zones, with each zone having 30, Type ME-2, 16-pin, discrete sockets. Each socket has two additional discrete pins built in for commitment to Vcc and GND. Sockets are notched at one end for mounting ceramic capacitors without wasted board space. Each 30-socket zone accepts 13 ceramic, 0.1 μF, 50 WVDC, decoupling capacitors and one 50 μF, 50 WVDC, electrolytic capacitor. Panels are available with or without capacitors installed. Vcc and GND planes are on opposite sides of the panel.

Scanbe Number*	No. of Zones	Net Each, Lots of 1-9	10-24	25-49
LPS-16-D-30-F-A	1	$ 41.34	$ 39.19	$ 37.22
LPS-16-D-60-F-A	2	75.37	71.44	67.87
LPS-16-D-90-F-A	3	109.40	103.70	98.51
LPS-16-D-120-F-A	4	145.65	135.95	129.16
LPS-16-D-150-F-A	5	177.46	168.21	159.80
LPS-16-D-180-F-A	6	210.84	199.86	189.86

*Suffix **F** indicates female I/O; **A** indicates without capacitors.

N SERIES UNIVERSAL CARDS



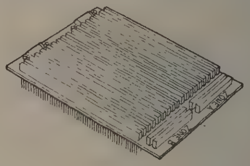
Universal cards are designed to accept 6, 8, 14, 16, 18, 24, 28,
and 40 pin DIP's or any DIP with multiples of .300" x .100" p
patterns. Each card utilizes Scanbe's NoCap™ pin strips. Plate
through holes are provided for mounting capacitors; boards a
available with or without capacitors mounted. Three models a
available: Type 11793 (7.35" x 7.00") provides 22 rows of 50 pi
each, with 6 Vcc and 6 GND pins for each 2 rows (61/122-pi
connector); Type 11792 (4.5" x 6.31") provides 12 rows of 50 pi
each, with 6 Vcc and 6 GND pins for each 2 rows (36/72-pi
connector); and Type 11794 (4.5" x 9.25") provides 14 rows of 7
pins each, with 10 Vcc and 9 GND pins for each 2 rows (36/72-pi
connector). Three-level wrap pins are standard; 1- and 2-lev
wrap pins are also available. I/O contacts are gold-plated, an
ejectors are included on each card.

Scanbe Number	Capacitors Mounted
11793-02	10 tantalum, 1 μF, 50 WVDC 15 ceramic, 0.1 μF, 50 WVDC
11792-02	6 tantalum, 1 μF, 50 WVDC 12 ceramic, 0.1 μF, 50 WVDC
11794-02	4 tantalum, 1 μF, 50 WVDC 24 ceramic, 0.1 μF, 50 WVDC

Scanbe Number*	Net Each, Lots of 1-9	10-24	25-49
11793-01	$100.92	$ 95.66	$ 90.88
11792-01	64.91	61.53	58.45
11794-01	88.62	84.00	79.80

*Suffix **-01** indicates cards without capacitors; others with capacitors.

N SERIES UNIVERSAL PANELS



Universal panels are available in one to six zones, with each zone accepting 14 ceramic, 0.1 μF, 50 WVDC, decoupling capacitors and 1, 50 μF, 50 WVDC, electrolytic capacitor. Standard female I/O systems (46 I/O pins per zone) or optional male feed-through pin types (52 I/O pins per zone) are provided. The panels offer from 9 to 54 pin rows of 50 pins, in 1 to 6 zones of 9 rows each. Each pin row consists of 50 contacts on .100" centers. Rows are spaced .300" apart, accepting any DIP with a .100" by multiple of .300" pin pattern. Panels are available with or without capacitors installed.

Scanbe Number*	Net Each, Lots of 1-9	10-24	25-49
NLPU-9-FA	$ 41.95	$ 41.22	$ 39.15
NLPU-18-FA	79.02	74.91	71.16
NLPU-27-FA	115.49	109.47	103.99
NLPU-36-FA	150.10	142.28	135.16
NLPU-45-FA	186.56	176.84	167.99
NLPU-54-FA	220.52	209.03	198.58

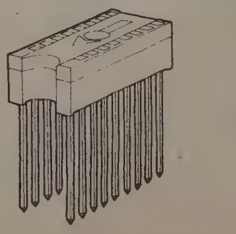
*Suffix **F** indicates female I/O; **A** indicates without capacitors.

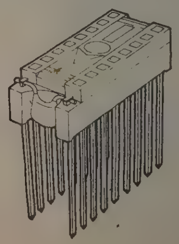
16-PIN DISCRETE SOCKETS AND SOCKET MODULES

These 16-pin sockets contain two additional discrete pins for commitment to Vcc and GND, eliminating the need for mounting separate pins into the board. Model ME-2BD has a special cap to ensure proper device location. Model ME-2F has Vcc and GND pins exposed as mounting points for a decoupling capacitor and is available with or without an 0.1 μF, 50 WVDC, ceramic capacitor.

Scanbe Number*	Net per 100★ 1-99	100-499	500-999	1000-3999
ME-2-BD-16-W-G-B-10	$ 72.24	$ 65.31	$ 58.70	$ 53.03
ME-2F-16-W-G-B-10	84.11	76.02	68.36	67.64
ME-2FC-16-W-G-B-10	183.44	165.80	149.21	134.61

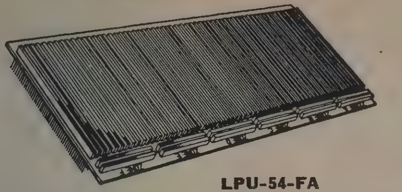
*Suffix **W** indicates wire wrap pins; **G** indicates gold-plated pins; **B** indicates black color; **10** indicates 10 mil gold plating.
★Prices will vary with the international price of gold.





SCANBE DIVISION OF ZERO CORPORATION Electronic Packaging Hardware

UNIVERSAL SOCKET PANELS

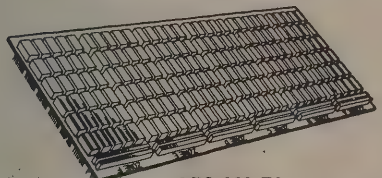


LPU-54-FA

These boards feature one to six zones and each zone contains nine pin strips of 50 contacts each. Contacts are spaced on 0.100″ centers, and rows are spaced 0.300″, allowing any DIP with a 0.300″ pin pattern to be accepted. Each zone has provisions for mounting one electrolytic, 4 axial-lead, and 14 ceramic decoupling capacitors. Vcc and GND planes are on opposite sides of the glass epoxy board with six Vcc and six GND pins for every two pin rows. A 46-pin female I/O is provided, and the pin strips have caps.

Scanbe No.	Net Each*		
	1-9	10-24	25-49
LPU-9-FA	$ 51.90	$ 49.14	$ 46.74
LPU-18-FA	94.55	89.63	85.14
LPU-27-FA	138.15	130.96	124.40
LPU-36-FA	179.88	170.50	161.97
LPU-45-FA	223.47	211.83	201.23
LPU-54-FA	264.55	250.76	238.21

STANDARD SOCKET PANELS

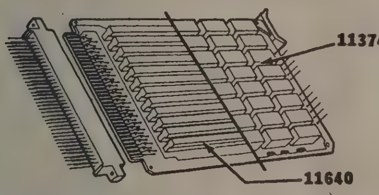


LPS-180-FA

Panels are available with either 14- or 16-pin sockets. The sockets are arranged in arrays of 30 per zone and panels are available with 1 to 6 zones. This choice gives the engineer panels with from 30 to 180 IC mounting provisions. Each zone has provisions for mounting 1 electrolytic, 4 axial-lead, and 13 ceramic decoupling capacitors. Vcc and GND planes are on opposite sides of the panels with one Vcc and one GND pin per IC position. A 46-pin female I/O is provided.

Scanbe No.	Net Each*		
	1-9	10-24	25-49
LPS-16VG-30-FA	$ 46.39	$ 43.97	$ 41.78
LPS-16VG-60-FA	84.83	80.41	76.39
LPS-16VG-90-FA	123.27	116.84	111.00
LPS-16VG-120-FA	161.70	153.28	145.61
LPS-16VG-150-FA	200.14	189.71	180.22
LPS-16VG-180-FA	237.94	225.54	214.26

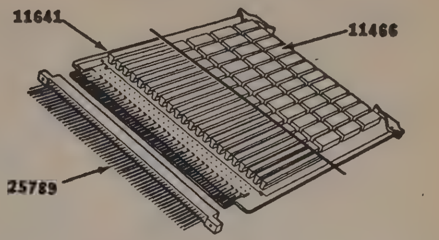
4.5″ x 6″ SOCKET CARDS



These cards are available with either forty 16-pin ME2 sockets or twelve pin strips of 50 contacts each. The sockets will accept both 14- and 16-pin devices, and the pin strips will accept any device with a multiple of 0.100″ x 0.300″ lead pattern. Each socket or pin strip has one Vcc and one GND pin allowing any device lead to be connected to either plane, which are on opposite sides of the card. Plated-through holes are provided on the socket card for mounting 16 ceramic and 8-axial-lead decoupling capacitors. The universal, pin-strip card will accept 12 ceramic and 6 axial-lead capacitors. Twelve test points are provided at the top of each card. The 72 gold-plated I/O contacts mate with No. 11302 wire-wrap connector. The pin strips are provided with caps, and card ejectors are mounted.

Scanbe No.		Net Each*		
		1-9	10-24	25-49
11374	Socket Card	$60.76	$57.60	$54.72
11640	Universal Card	61.74	58.53	55.60
11303	Extender Card	29.90	28.35	26.93
11305	Termination Card	28.13	26.67	25.34
11302	Connector	6.00	5.52	5.25

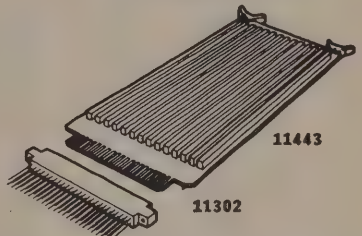
7″ x 7″ SOCKET CARDS



These cards are available with either sixty 16-pin ME-2 sockets or twenty-two pin strips of 50 contacts each. The sockets will accept 14- and 16-pin devices, and the pin strips will accept any device having a multiple of 0.100″ x 0.300″ lead pattern. Each socket or pin strip has one Vcc and one GND pin allowing any device lead to be connected to either plane, which are on opposite sides of the card. Plated-through holes are provided on the socket card for mounting 24 ceramic and 2 axial-lead decoupling capacitors. The universal, pin-strip card will accept 20 ceramic and 10 axial-lead capacitors. The 122 gold-plated I/O contacts mate with No. 25789 wire-wrap connector. The pin strips are provided with caps, and card ejectors are mounted.

Scanbe No.		Net Each*		
		1-9	10-24	25-49
11466	Socket Card	$88.22	$83.62	$79.43
11641	Universal Card	87.29	82.74	78.60
11176	Extender Card	51.78	49.08	46.62
25789	Connector	10.21	9.62	8.86

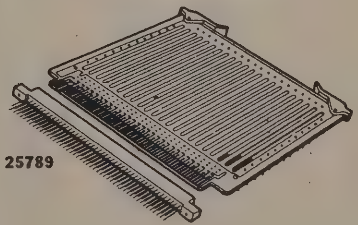
4.5″ x 9″ UNIVERSAL CARD



The No. 11443 universal card provides fourteen pin strips of 75 contacts each. There are 10 Vcc and 9 GND pins for every two rows of pin strips. These cards will accept any DIP device with a multiple of 0.100″ x 0.300″ lead pattern. The cards are made of 0.062″ glass epoxy, and Vcc and GND planes are on opposite sides of the board. The 72 gold-plated I/O contacts mate with the No. 11302 wire-wrap connector. The pin strips are provided with caps, and ejectors are mounted.

Scanbe No.		Net Each*		
		1-9	10-24	25-49
11642	Universal Card	$90.74	$86.02	$81.71
11445	Extender Card	41.20	39.06	37.11
11302	Connector	6.00	5.52	5.25

BLANK SOCKET CARDS



Use these to make custom socket cards. They are provided with mounted ejector, I/O contacts, and Vcc and GND pins ready to accept the custom socket array. The No. 11638 also provides twelve test points. Cards are made of 0.062″ glass epoxy, and solder pads are provided at each pin hole for easy socket attachment—no gluing is required. All pin positions are numbered on both sides of the board.

Scanbe No.	Size	Net Each*		
		1-9	10-24	25-49
11638	4.5″ x 6″	$29.77	$28.22	$26.81
11643	4.9″ x 9″	35.49	33.64	31.95
11639	7″ x 7″	40.25	38.16	36.25

*Due to the fluctuating price of gold, these prices are approximate. Check with the distributor for the latest prices.

H. H. Smith Spacers

3/16″ ROUND BRASS—CLEAR HOLE

Length, Ins.	H. H. Smith No.		Net per C
	For #2 Screw	For #4 Screw	
.125	9000	9015	$ 5.70
.187	9001	9016	6.20
.250	9002	9017	7.00
.312	9003	9018	7.90
.375	9004	9019	8.40
.437	9005	9020	9.00
.500	9006	9021	9.40
.562	9007	9022	10.70
.625	9008	9023	11.20
.687	9009	9024	14.00
.750	9010	9025	14.50
.812	9011	9026	15.00
.875	9012	9027	16.30
.937	9013	9028	16.80
1.000	9014	9029	18.00

3/16″ HEX BRASS—CLEAR HOLE

.125	9100	9115	$ 6.40
.187	9101	9116	6.80
.250	9102	9117	7.50
.312	9103	9118	8.90
.375	9104	9119	9.20
.437	9105	9120	9.50
.500	9106	9121	9.80
.562	9107	9122	10.80
.625	9108	9123	11.40
.687	9109	9124	14.20
.750	9110	9125	14.50
.812	9111	9126	15.70
.875	9112	9127	17.50
.937	9113	9128	19.00
1.000	9114	9129	20.00

1/4″ ROUND BRASS—CLEAR HOLE

Length, Ins.	H. H. Smith No.			Net per C
	For #4 Screw	For #6 Screw	For #8 Screw	
.125	8700	8701	8702	$ 5.70
.187	8703	8704	8705	6.20
.250	2340	2100	2105	7.00
.312	8706	8707	8708	7.90
.375	2341	2101	2106	8.40
.437	8709	8710	8711	9.20
.500	2342	2102	2107	9.40
.562	8712	8713	8714	10.70
.625	8715	8716	8717	11.20
.687	8718	8719	8720	14.00
.750	2343	2103	2108	14.50
.812	8721	8722	8723	15.00
.875	8724	8725	8726	16.30
.937	8727	8728	8729	16.80
1.000	2344	2104	2109	18.60

1/4″ HEX BRASS—CLEAR HOLE

.125	8790	8791	8792	$ 6.40
.187	8793	8794	8795	6.80
.250	2380	2300	2305	7.50
.312	8796	8797	8798	8.90
.375	2381	2301	2306	9.20
.437	8799	8800	8801	9.50
.500	2382	2302	2307	9.80
.562	8802	8803	8804	10.80
.625	8805	8806	8807	11.40
.687	8808	8809	8810	14.20
.750	2383	2303	2308	14.50
.812	8811	8812	8813	15.70
.875	8814	8815	8816	17.50
.937	8817	8818	8819	19.00
1.000	2384	2304	2309	20.00

3/8″ ROUND BRASS—CLEAR HOLE

.125	8730	8731	8732	$10.20
.187	8733	8734	8735	11.90
.250	2345	2110	2115	12.50
.312	8736	8737	8738	13.40
.375	2346	2111	2116	15.90
.437	8739	8740	8741	16.90
.500	2347	2112	2117	17.30
.562	8742	8743	8744	21.80
.625	8745	8746	8747	20.70
.687	8748	8749	8750	23.30
.750	2348	2113	2118	20.60
.812	8751	8752	8753	24.10
.875	8754	8755	8756	27.40
.937	8757	8758	8759	28.20
1.000	2349	2114	2119	29.30

3/8″ HEX BRASS—CLEAR HOLE

.125	8850	8851	8852	$10.60
.187	8853	8854	8855	11.90
.250	2385	2310	2315	12.80
.312	8856	8857	8858	14.80
.375	2386	2311	2316	16.20
.437	8859	8860	8861	19.80
.500	2387	2312	2317	20.50
.562	8862	8863	8864	21.50
.625	8865	8866	8867	23.70
.687	8868	8869	8870	24.10
.750	2388	2313	2318	25.10
.812	8871	8872	8873	26.40
.875	8874	8875	8876	29.50
.937	8877	8878	8879	29.90
1.000	2389	2314	2319	32.60

3/16″ ROUND BRASS—TAPPED HOLE

Length, Ins.	H. H. Smith No.		Net per C
	2-56 Thd.	4-40 Thd.	
.125	9030	9045	$ 7.40
.187	9031	9046	7.70
.250	9032	9047	8.80
.312	9033	9048	8.50
.375	9034	9049	9.50
.437	9035	9050	10.10
.500	9036	9051	12.40
.562*	9037	9052	13.20
.625*	9038	9053	13.70
.687*	9039	9054	17.80
.750*	9040	9055	18.00
.812*	9041	9056	18.10
.875*	9042	9057	19.10
.937*	9043	9058	19.50
1.000*	9044	9059	21.00

3/16″ HEX BRASS—TAPPED HOLE

.125	9130	9145	$ 7.50
.187	9131	9146	8.00
.250	9132	9147	8.70
.312	9133	9148	9.40
.375	9134	9149	10.60
.437	9135	9150	11.40
.500	9136	9151	12.40
.562*	9137	9152	14.50
.625*	9138	9153	17.30
.687*	9139	9154	18.30
.750*	9140	9155	19.30
.812*	9141	9156	20.00
.875*	9142	9157	20.30
.937*	9143	9158	21.30
1.000*	9144	9159	22.80

*Thread is tapped in ⅜″ from each end, not continuous through.

1/4″ ROUND BRASS—TAPPED HOLE

Length, Ins.	H. H. Smith No.			Net per C
	4-40 Thd.	6-32 Thd.	8-32 Thd.	
.125	8760	8761	8762	$ 7.40
.187	8763	8764	8765	7.70
.250	2370	2120	2125	8.00
.312	8766	8767	8768	8.50
.375	2371	2121	2126	9.50
.437	8769	8770	8771	10.10
.500	2372	2122	2127	12.40
.562	8772	8773	8774	13.20
.625	8775	8776	8777	13.70
.687	8778	8779	8780	17.80
.750	2373	2123	2128	18.00
.812	8781	8782	8783	18.10
.875	8784	8785	8786	19.10
.937	8787	8788	8789	19.50
1.000	2374	2124	2129	21.00

1/4″ HEX BRASS—TAPPED HOLE

.125	8820	8821	8822	$ 7.50
.187	8823	8824	8825	8.00
.250	2330	2320	2325	8.70
.312	8826	8827	8828	9.40
.375	2331	2321	2326	10.60
.437	8829	8830	8831	11.40
.500	2332	2322	2327	12.40
.562	8832	8833	8834	14.50
.625	8835	8836	8837	17.30
.687	8838	8839	8840	18.30
.750	2333	2323	2328	19.30
.812	8841	8842	8843	20.00
.875	8844	8845	8846	20.30
.937	8847	8848	8849	21.30
1.000	2334	2324	2329	22.80

1/4″ ROUND ALUMINUM—CLEAR HOLE

Length, Ins.	H. H. Smith No.			Net per C
	For #4 Screw	For #6 Screw	For #8 Screw	
.125	8480	8500	8520	$5.00
.187	9200	9207	9214	5.50
.250	8481	8501	8521	6.00
.312	9201	9208	9215	6.50
.375	8482	8502	8522	7.00
.437	9202	9209	9216	7.50
.500	8483	8503	8523	8.00
.562	9203	9210	9217	8.50
.625	8484	8504	8524	9.00
.687	9204	9211	9218	9.50
.750	8485	8505	8525	10.00
.812	9205	9212	9219	10.50
.875	8486	8506	8526	11.00
.937	9206	9213	9220	11.50
1.000	8487	8507	8527	12.00
1.250	8488	8508	8528	15.00
1.500	8489	8509	8529	16.00
1.750	8490	8510	8530	17.00
2.000	8491	8511	8531	18.00

1/4″ HEX ALUMINUM—CLEAR HOLE

.125	8560	8580	8600	$ 6.00
.187	9256	9263	9270	6.50
.250	8561	8581	8601	7.00
.312	9257	9264	9271	7.50

1/4″ HEX ALUMINUM—CLEAR HOLE

Length, Ins.	H. H. Smith No.			Net per C
	For #4 Screw	For #6 Screw	For #8 Screw	
.375	8562	8582	8602	8.00
.437	9258	9265	9272	8.50
.500	8563	8583	8603	9.00
.562	9259	9266	9273	9.50
.625	8564	8584	8604	10.00
.687	9260	9267	9274	10.50
.750	8565	8585	8605	11.00
.812	9261	9268	9275	11.50
.875	8566	8586	8606	12.00
.937	9262	9269	9276	12.50
1.000	8567	8587	8607	13.00

1/4″ ROUND ALUMINUM—TAPPED HOLE

Length, Ins.	H. H. Smith No.			Net per C
	4-40 Thd.	6-32 Thd.	8-32 Thd.	
.125	8320	8340	8360	$ 6.00
.187	9228	9235	9242	6.50
.250	8321	8341	8361	7.00
.312	9229	9236	9243	7.50
.375	8322	8342	8362	8.00
.437	9230	9237	9244	8.50
.500	8323	8343	8363	9.00
.562	9231	9238	9245	9.50
.625	8324	8344	8364	10.00
.687	9232	9239	9246	10.50
.750	8325	8345	8365	11.00
.812	9233	9240	9247	11.50
.875	8326	8346	8366	12.00
.937	9234	9241	9248	12.50
1.000	8327	8347	8367	14.00
1.250	8328	8348	8368	16.00
1.500	8329	8349	8369	17.00
1.750	8330	8350	8370	18.00
2.000	8331	8351	8371	19.00

1/4″ HEX ALUMINUM—TAPPED HOLE

.125	8400	8420	8440	$ 7.00
.187	9284	9291	9298	7.50
.250	8401	8421	8441	8.00
.312	9285	9292	9299	8.50
.375	8402	8422	8442	9.00
.437	9286	9293	9300	9.50
.500	8403	8423	8443	10.00
.562	9287	9294	9301	10.50
.625	8404	8424	8444	11.00
.687	9288	9295	9302	11.50
.750	8405	8425	8445	12.00
.812	9289	9296	9303	12.50
.875	8406	8426	8446	13.00
.937	9290	9297	9304	13.50
1.000	8407	8427	8447	14.00

1/4″ HEX STAINLESS STEEL—TAPPED HOLE

Length, Ins.	H. H. Smith No.		Net per C
	4-40 Thd.	6-32 Thd.	
.125	9060	9080	$29.00
.187	9061	9081	30.00
.250	9062	9082	31.00
.312	9063	9083	32.00
.375	9064	9084	33.00
.437	9065	9085	38.00
.500	9066	9086	43.00
.562*	9067	9087	46.00
.625*	9068	9088	49.00
.687*	9069	9089	52.00
.750*	9070	9090	54.00
.812*	9071	9091	55.00
.875*	9072	9092	56.00
.937*	9073	9093	57.00
1.000*	9074	9094	58.00

*Thread is tapped in ⅜″ from each end, not continuous through.

3/16″ O.D. ROUND NYLON—CLEAR HOLE

Molded nylon, Type 66, MIL Spec. 20693A.

Length, Ins.	H. H. Smith No.		Net per C
	For #2 Screw	For #4 Screw	
.125	9160	9180	$ 3.30
.187	9161	9181	3.80
.250	9162	9182	4.30
.312	9163	9183	4.90
.375	9164	9184	5.50
.437	9165	9185	6.00
.500	9166	9186	6.50
.562	9167	9187	7.00
.625	9168	9188	7.50
.687	9169	9139	8.00
.750	9170	9190	8.50
.812	9171	9191	8.80
.875	9172	9192	9.30
.937	9173	9193	9.70
1.000	9174	9194	10.00

SPACER LISTING
CONTINUED ON NEXT PAGE

H. H. Smith Spacers and Standoffs

SPACERS (CONTINUED)

1/4″ O.D. ROUND NYLON—CLEAR HOLE

ength, Ins.	H. H. Smith No. For #4 Screw	For #6 Screw	For #8 Screw	Net per C
.125	4000	4001	4002	$ 3.30
.187	4003	4004	4005	3.80
.250	4006	4007	4008	4.30
.312	4009	4010	4011	4.90
.375	4012	4013	4014	5.50
.437	4015	4016	4017	6.00
.500	4018	4019	4020	6.50
.562	4021	4022	4023	7.00
.625	4024	4025	4026	7.50
.687	4027	4028	4029	8.00
.750	4030	4031	4032	8.50
.812	4033	4034	4035	8.80
.875	4036	4037	4038	9.30
.937	4039	4040	4041	9.70
.000	4042	4043	4044	10.00

1/4″ O.D. ROUND NYLON—TAPPED HOLE

ength, Ins.	H. H. Smith No. 4-40 Thd.	6-32 Thd.	8-32 Thd.	Net per C
¼	4050	4051	4052	$ 8.00
⅜	4053	4054	4055	9.50
½	4056	4057	4058	11.00
¾*	4059	4060	4061	15.00
1*	4062	4063	4064	18.00

1/4″ O.D. ROUND PHENOLIC—TAPPED HOLE

atural color PBE Grade MIL-P-79A.

.250	8660	8661	8662	$ 9.40
.312	8663	8664	8665	10.40
.375	8666	8667	8668	12.00
.437	8669	8670	8671	12.40
.500	8672	8673	8674	13.40
.562	8675	8676	8677	14.00
.625	8678	8679	8680	15.00
.687	8681	8682	8683	16.70
.750*	8684	8685	8686	17.70
.812*	8687	8688	8689	18.40
.875*	8690	8691	8692	19.40
.937*	8693	8694	8695	20.00
.000*	8696	8697	8698	21.00

Thread is tapped in ⅜″ from each end, ot continuous through.

1/4″ O.D. ROUND PLASTIC—CLEAR HOLE

olyvinyl dichloride (PVDC) in gray nish. Self-extinguishing and temperature esistant.

ength, Ins.	H. H. Smith No. For #4 Screw	For #6 Screw	For #8 Screw	Net per C
¼	4154	4155	4156	$3.20
⅜	4157	4158	4159	3.35
½	4160	4161	4162	3.50
⅝	4163	4164	4165	3.75
¾	4166	4167	4168	4.20
1	4169	4170	4171	4.35

HEX PLASTIC CLEAR HOLE

ength, Ins.	H. H. Smith No. O.D. 3/16″ For #4 Screw*	O.D. ¼″ For #6 Screw*	O.D. ⅜″ For #8 Screw*	Net per C
⅜	4178	....	....	$ 3.50
½	4179	4180	....	4.00
⅝	4181	4182	4183	4.20
¾	4184	4185	4186	4.35
⅞	4187	4188	4189	5.00
1	4190	4191	4192	5.50

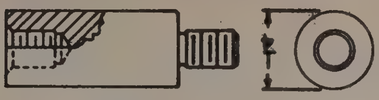
Self-tapping screw.

FIBRE SPACERS CLEAR HOLE

ade of fibre per MIL-F-1148A, Grade H.

ength, Ins.	H. H. Smith No. For #4 Screw	For #6 Screw	For #8 Screw	Net per C
.125	8880	8881	8882	$ 5.20
.187	8883	8884	8885	5.80
.250	2335	2130	2140	6.30
.312	8886	8887	8888	7.10
.375	2336	2131	2141	7.80
.437	8889	8890	8891	8.50
.500	2337	2132	2142	9.20
.562	8892	8893	8894	10.20
.625	8895	8896	8897	10.60
.687	8898	8899	8900	11.70
.750	2338	2133	2143	12.60
.812	8901	8902	8903	13.80
.875	8904	8905	8906	14.50
.937	8907	8908	8909	15.20
.000	2339	2134	2144	15.50

MALE/FEMALE THREADED SPACERS



1/4″ O.D. ROUND

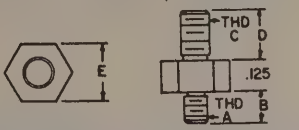
Length, Ins.	H. H. Smith No. 4-40 Thd.•	6-32 Thd.■	8-32 Thd.▲	Net per C
.250	8200	8232	8264	$22.80
.375	8201	8233	8265	23.20
.500	8202	8234	8266	23.70
.625	8203	8235	8267	24.20
.750	8204	8236	8268	24.70
.875	8205	8237	8269	25.20
1.000	8206	8238	8270	25.90
1.125	8207	8239	8271	26.40
1.250	8208	8240	8272	27.60
1.375	8209	8241	8273	29.30
1.500	8210	8242	8274	30.30
1.625	8211	8243	8275	31.00
1.750	8212	8244	8276	31.60
2.000	8213	8245	8277	32.40
2.500	8214	8246	8278	33.90
3.000	8215	8247	8279	36.80

1/4″ O.D. HEX

Length, Ins.	4-40 Thd.•	6-32 Thd.■	8-32 Thd.▲	Net per C
.250	8216	8248	8280	$22.80
.375	8217	8249	8281	23.20
.500	8218	8250	8282	23.70
.625	8219	8251	8283	24.20
.750	8220	8252	8284	24.70
.875	8221	8253	8285	25.20
1.000	8222	8254	8286	25.90
1.125	8223	8255	8287	26.40
1.250	8224	8256	8288	27.60
1.375	8225	8257	8289	29.30
1.500	8226	8258	8290	30.30
1.625	8227	8259	8291	31.00
1.750	8228	8260	8292	31.60
2.000	8229	8261	8293	32.40
2.500	8230	8262	8294	33.90
3.000	8231	8263	8295	36.80

•Male thread, 3/16″; female thread, ¼″ d.
■Male thread, ¼″0 female thread, ⅜″ d.
▲Male thread, ⅜″; female thread, 7/16″ d.

MALE ADAPTERS/COUPLERS



Convert female threaded spacers to male-female or splice spacers together for added length. Adds ⅛″ to length of spacer.

¼″ HEX BODY

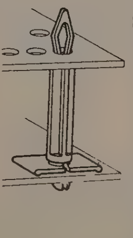
H.H.S. No.	Dimensions, Inches Thd. A	Lth. B	Thd. C	Lth. D	Net per C
8300	4-40	3/16	4-40	3/16	$21.30
8301	4-40	3/16	6-32	¼	23.60
8302	6-32	¼	6-32	¼	24.50
8303	6-32	¼	8-32	⅜	25.00
8304	8-32	⅜	8-32	⅜	26.00
8305	8-32	⅜	10-32	⅜	27.00

5/16″ HEX BODY

H.H.S. No.	Thd. A	Lth. B	Thd. C	Lth. D	Net per C
8306	8-32	⅜	10-32	⅜	$29.10
8307	10-32	⅜	10-32	⅜	30.60

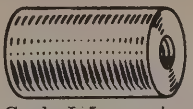
PRINTED CIRCUIT BOARD SUPPORTS

Made of nylon and snap into holes in board and chassis. Chassis hole should be .187″ diam. and from .034″ to .080″ thick. Board hole should be .156″ diam. and 1/16″ thick.



H.H.S. No.	Length, Inches	Net Each
4093	3/16	$3.00
4094	¼	3.10
4095	⅜	3.30
4096	½	3.50
4097	⅝	3.75
4098	¾	4.00
4099	⅞	4.50
4293*	3/16	4.20
4294*	¼	4.50
4295*	⅜	4.85
4296*	½	5.20
4297*	⅝	5.50
4298*	¾	6.00
4299*	⅞	6.75

*Self-extinguishing nylon.



CERAMIC STANDOFFS

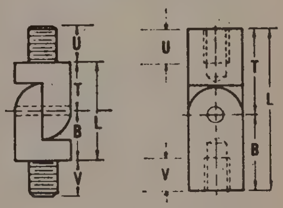
Grade L-5 ceramic with glazed outside. MIL types are made to MIL 1-10 specifications.

H.H.S. No.	MIL No. NL523W-	Lgth. Ins.	Thd. Depth Ins.	Net per C
⅜″ ROUND, 6-32 THREAD				
2600	01-004	.500	5/32	$28.00
2601	01-005	.625	3/16	27.00
2602	01-006	.750	¼	30.00
2603	01-008	1.000	⅜	32.00
2604	01-010	1.250	⅜	33.00
2605	01-012	1.500	⅜	37.00
2606	01-016	2.000	⅜	40.00
½″ ROUND, 8-32 THREAD				
2607	02-005	.625	3/16	$30.00
2608	02-006	.750	¼	31.00
2609	02-008	1.000	¼	33.00
2610	02-010	1.250	⅜	37.00
2611	02-012	1.500	⅜	39.00
2612	02-016	2.000	⅜	44.00
2613	02-020	2.500	⅜	48.00
2614	02-024	3.000	⅜	53.00
¾″ ROUND, 10-32 THREAD				
2615	03-008	1.000	⅜	$63.00
2616	03-010	1.250	⅜	68.00
2617	03-012	1.500	⅜	77.00
2618	03-016	2.000	⅜	81.00
2619	03-020	2.500	⅜	90.00
2620	03-024	3.000	⅜	100.00
2621	03-032	4.000	⅜	109.00
1″ ROUND, ¼-20 THREAD				
2622	04-010	1.250	7/16	$ 90.00
2623	04-012	1.500	½	97.00
2624	04-016	2.000	⅝	113.00
2625	04-020	2.500	⅝	125.00
2626	04-024	3.000	⅝	136.00
2627	04-032	4.000	⅝	148.00
2628	04-040	5.000	⅝	161.00
2629	04-048	6.000	⅝	174.00

COMMERCIAL TYPES

H.H.S. No.	Length, Ins.	Diam., Ins.	Thd. Depth, Ins.	Net per C
6-32 THREAD				
2640	¼	¼	Thru	$24.00
2641	½	¼	5/32	25.00
2642	⅜	⅜	5/32	26.00
2643	½	⅜	3/16	28.00
2644	½	½	9/64	29.00
2645	¾	½	¼	30.00
2646	1	½	⅜	32.00
2647	1½	½	9/16	37.00
2648	2½	½	½	63.00
¼-20 THREAD				
2649	2½	¾	¾	$127.00
2650	4	¾	¾	147.00

SWIVEL STANDOFFS



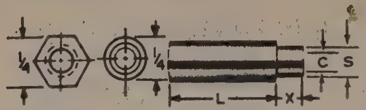
Tin-plated brass swivel standoffs for use with printed-circuit boards. Special sizes are available on request; contact factory.

H.H.S. No.	Thd.	Dimensions, Ins. T	U	B	V	L	Net per C
FEMALE INTERNAL THREAD							
3021§	4-40	.375	.172	.375	.172	¾	$55.00
3022§	4-40	.375	.172	.625	.250	1	60.00
3023	6-32	.375	.172	.375	.172	¾	60.00
3024	6-32	.375	.172	.625	.250	1	65.00
3025	8-32	.375	.172	.375	.172	¾	60.00
3026	8-32	.375	.172	.625	.250	1	65.00
MALE EXTERNAL THREAD							
3027§	4-40	.250	.250	.250	.250	½	$55.00
3028	6-32	.250	.312	.250	.312	½	60.00
3029	8-32	.250	.312	.250	.312	½	60.00

§3/16″ O.D.; others ¼″ O.D.

H. H. Smith Standoffs and Insulators

THREADED SWAGE STANDOFFS



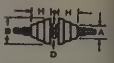
Nickel-plated brass.

Round		Dimensions, Inches				Hex	
H.H.S. No.	Net per C	X	L	S	C	H.H.S. No.	Net per C
2-56 THREAD FOR 3/64″ THICK PANELS							
4369	$10.00	.094	.125	.138	.113	4269	$10.40
4370	10.40	.094	.187	.138	.113	4270	10.70
4371	10.70	.094	.250	.138	.113	4271	11.00
4-40 THREAD FOR 3/64″ THICK PANELS							
4354	$10.00	.094	.125	.138	.113	4254	$10.40
4358	10.40	.094	.187	.138	.113	4258	10.70
4362	10.40	.094	.250	.138	.113	4262	11.00
4-40 THREAD FOR 1/16″ THICK PANELS							
4355	$10.00	.105	.125	.138	.113	4255	$10.40
4359	10.40	.105	.187	.138	.113	4259	10.70
4100	10.40	.105	.250	.187	.156	4200	11.00
4103	12.00	.105	.375	.187	.156	4203	12.70
4106	14.70	.105	.500	.187	.156	4206	15.40
4109	15.40	.105	.625	.187	.156	4209	16.00
4112	17.00	.105	.750	.187	.156	4212	17.70
4115	22.00	.105	1.000*	.187	.156	4215	22.70
4-40 THREAD FOR 3/32″ THICK PANELS							
4356	$10.00	.135	.125	.138	.113	4256	$10.40
4360	10.40	.135	.187	.138	.113	4260	10.70
4101	10.40	.135	.250	.187	.156	4201	11.00
4104	12.00	.135	.375	.187	.156	4204	12.70
4107	14.70	.135	.500	.187	.156	4207	15.40
4110	15.40	.135	.625	.187	.156	4210	16.00
4113	17.00	.135	.750	.187	.156	4213	17.70
4116	22.00	.135	1.000*	.187	.156	4216	22.70
4-40 THREAD FOR 1/8″ THICK PANELS							
4357	$10.00	.165	.125	.138	.113	4257	$10.40
4361	10.40	.165	.187	.138	.113	4261	10.70
4102	10.40	.165	.250	.187	.156	4202	11.00
4105	12.00	.165	.375	.187	.156	4205	12.70
4108	14.70	.165	.500	.187	.156	4208	15.40
4111	15.40	.165	.625	.187	.156	4211	16.00
4114	17.00	.165	.750	.187	.156	4214	17.70
4117	22.00	.165	1.000*	.187	.156	4217	22.70
6-32 THREAD FOR 1/16″ THICK PANELS							
4363	$10.00	.105	.125	.138	.113	4263	$10.40
4366	10.40	.105	.187	.138	.113	4266	10.70
4118	10.40	.105	.250	.187	.156	4218	11.00
4121	12.00	.105	.375	.187	.156	4221	12.70
4124	14.70	.105	.500	.187	.156	4224	15.40
4127	15.40	.105	.625	.187	.156	4227	16.00
4130	17.00	.105	.750	.187	.156	4230	17.70
4133	22.00	.105	1.000*	.187	.156	4233	22.70
6-32 THREAD FOR 3/32″ THICK PANELS							
4364	$10.00	.135	.125	.138	.113	4264	$10.40
4367	10.40	.135	.187	.138	.113	4267	10.70
4119	10.40	.135	.250	.187	.156	4219	11.00
4122	12.00	.135	.375	.187	.156	4222	12.70
4125	14.70	.135	.500	.187	.156	4225	15.40
4128	15.40	.135	.625	.187	.156	4228	16.00
4131	17.00	.135	.750	.187	.156	4231	17.70
4134	22.00	.135	1.000*	.187	.156	4234	22.70
6-32 THREAD FOR 1/8″ THICK PANELS							
4365	$10.00	.165	.125	.138	.113	4265	$10.40
4368	10.40	.165	.187	.138	.113	4268	10.70
4120	10.40	.165	.250	.187	.156	4220	11.00
4123	12.00	.165	.375	.187	.156	4223	12.70
4126	14.70	.165	.500	.187	.156	4226	15.40
4129	15.40	.165	.625	.187	.156	4229	16.00
4132	17.00	.165	.750	.187	.156	4232	17.70
4135	22.00	.165	1.000*	.187	.156	4235	22.70
8-32 THREAD FOR 1/16″ THICK PANELS							
4136	$10.40	.105	.250	.187	.156	4236	$11.00
4139	12.00	.105	.375	.187	.156	4239	12.70
4142	14.70	.105	.500	.187	.156	4242	15.40
4145	15.40	.105	.625	.187	.156	4245	16.00
4148	17.00	.105	.750	.187	.156	4248	17.70
4151	22.00	.105	1.000▲	.187	.156	4251	22.70
8-32 THREAD FOR 3/32″ THICK PANELS							
4137	$10.40	.135	.250	.187	.156	4237	$11.00
4140	12.00	.135	.375	.187	.156	4240	12.70
4143	14.70	.135	.500	.187	.156	4243	15.40
4146	15.40	.135	.625	.187	.156	4246	16.00
4149	17.00	.135	.750	.187	.156	4249	17.70
4152	22.00	.135	1.000▲	.187	.156	4252	22.70

*Thread is 1/2″ from each end; not continuous thru. ▲Thread is full length but does not clear counterbore.

STEATITE AND PORCELAIN INSULATORS

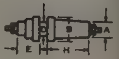
STEATITE THRU-PANEL BUSHINGS



Consists of a pair of identical insulators supplied with cushion washers and hardware. No. 9555 has interlocking insulators which are self-centering in mounting hole and may be used on very thin panels.

H.H.S. No.	Dimensions, Inches						Hdwre.	Net per C
	A	B	D	E	H	M		
9555	1/2	3/4	15/32	.....	1/4	.....	6-32	$ 48.00
9550	3/8	3/4	15/32	.....	1/2	.....	6-32	66.00
9551	5/8	1 1/4	27/32	.....	13/16	.....	10-32	105.00
9552	7/8	1 3/4	1 7/32	.....	1 1/8	.....	1/4-20	150.00

THRU-PANEL INSULATORS



Compression mounted by means of stud throughout entire length of unit. Insulator base extends thru mounting hole to increase the breakdown rating. Supplied with cushion washers. Types with jacks have terminal permitting connection above as well as below panel.

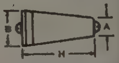
STEATITE

9544	3/8	5/8	5/16	5/16	5/8	.....	6-32	$ 75.00
9542	1/2	3/4	13/32	3/8	7/8	.....	10-32	84.00
9540	19/32	15/16	7/16	1/2	1 1/4	.....	10-32	100.00
9543	No. 9542 with standard banana jack							103.00
9541	No. 9540 with standard banana jack							119.00

PORCELAIN

9545	5/8	1 1/4	1/2	11/16	1 3/8	.....	10-32	$110.00
9548	3/4	1 5/8	11/16	7/8	2	.....	10-32	168.00
9546	15/16	1 5/8	11/16	1	2 3/4	.....	1/4-20	215.00
9547	1 1/16	2 1/8	31/32	1 1/2	4 1/2	.....	1/4-20	360.00
9557	No. 9545 with standard banana jack							130.00
9558	No. 9548 with standard banana jack							188.00
9556	No. 9546 with giant banana jack							275.00

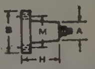
STEATITE CONE INSULATORS



Constructed of grade L-423 or better steatite, with threaded holes. Supplied with nickel-plated machine screws, nickel-plated brass washers and a cork cushion washer.

9500	7/16	5/8	.....	.....	21/32	.....	6-32	$ 90.00
9501	1/2	3/4	.....	.....	1 1/32	.....	8-32	125.00
9502	1/2	1	.....	.....	1 7/16	.....	8-32	130.00
9503	5/8	1 1/8	.....	.....	2 1/16	.....	10-32	300.00
9504	3/4	1 1/2	.....	.....	3 1/16	.....	10-32	700.00

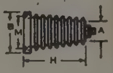
STEATITE STAND-OFF INSULATORS



Two-hole mounting permits substational lateral loads. Supplied with screw, flat washer and two nuts.

9524	1 3/8	1	.....	.....	5/8	11/16	6-32	$35.00
9522	15/32	1 5/32	.....	.....	1	13/16	8-32	50.00
9520	3/4	1 3/4	.....	.....	1 9/16	1 5/16	10-32	70.00
9523	No. 9522 with standard banana jack							62.00
9521	No. 9520 with standard banana jack							80.00

PORCELAIN STAND-OFF INSULATORS



Square mounting base with four mounting holes. Porcelain is dense molded and glazed except on mounting surfaces.

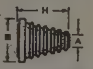
WITHOUT BASE

9562	7/8	1 7/8	.....	.....	2 3/4	1 3/8	1/4-20	$175.00
9560	1 3/16	2 1/2	.....	.....	4 1/2	1 7/8	1/4-20	210.00

WITH ALUMINUM BASE

9565	5/8	1 7/8	.....	.....	1 3/8	1 1/2	10-32	$230.00
9568	23/32	1 3/4	.....	.....	2	1 3/8	10-32	240.00
9566	1	1 3/4	.....	.....	2 3/4	1 3/8	1/4-20	250.00
9567	1 1/16	2 1/4	.....	.....	4 1/2	1 3/4	1/4-20	275.00

PORCELAIN LEAD-IN BUSHINGS



Single porcelain insulators less all hardware and mounting flange except cushion washer.

9553	1 1/16	2 1/2	.....	.....	1 3/4	.....	....	$170.00
9554	1	3 1/2	.....	.....	4	.....	....	215.00
9590	Mounting flange for No. 9553							275.00
9591	Mounting flange for No. 9554							275.00

PORCELAIN ANTENNA STRAIN INSULATORS

9651

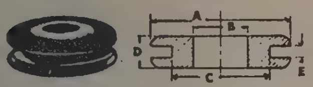
9632

H.H.S. No.	Breaking Strength	Length, Inches	Net Each
9632	....	1 1/2	$ 0.30
9604	400 lbs.	4	.43
9607	800 lbs.	7	2.20
9612	800 lbs.	12	2.50
9651	5000 lbs.	15 1/2	20.00
9652	5000 lbs.	19 1/2	21.00
9653	5000 lbs.	25 1/2	38.00

PORCELAIN FEEDER INSULATORS

H.H.S. No.	Length, Inches	Net Each
9622	2	$0.24
9624	4	.48
9626	6	.60

RUBBER GROMMETS



H.H.S. No.	Dimensions, Inches A	B	C	D	E	Net per C
91114	11/32	1/8	1/4	3/16	1/16	$ 2.50
91118	7/16	3/16	5/16	7/32	1/16	2.50
91103	9/16	3/16	15/32	3/8	1/8	3.30
91122	1/2	1/4	11/32	5/32	1/32	3.10
91102	5/8	9/32	13/32	3/8	5/32	3.50
91117	19/32	5/16	7/16	3/8	1/8	3.50
91116	3/4	5/16	1/2	3/8	1/8	5.00
91106	5/8	5/16	1/2	1/2	3/16	7.20
91119	9/16	1/4	13/32	1/4	1/16	2.70
91123	11/16	9/32	1/2	7/16	1/4	5.50
91120	5/8	19/64	7/16	1/4	1/16	3.10
91107	5/8	3/8	7/16	5/16	3/32	5.00
91121	21/32	3/8	1/2	1/4	1/16	3.00
91100	13/16	3/8	1/2	13/32	9/64	9.00
91124	3/4	7/16	9/16	1/4	1/16	3.50
91111	7/8–1	3/8	11/16	13/32	9/64	9.00
91109	1 1/16	3/8	7/8	3/8	1/4	15.00
91112	1 5/8	49/64	1 3/32	5/16	1/16	15.00

RUBBER GROMMETS

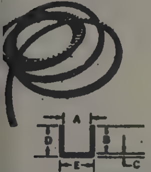
H.H.S. No.	Dimensions, Inches A	B	C	D	E	Net per C
2185	5/16	1/8	3/16	3/16	1/16	$2.40
2172	7/16	3/16	5/16	3/16	1/16	2.20
2170	5/8	1/4	3/8	1/4	1/16	2.50
2174	5/8	5/16	7/16	1/4	1/16	2.40
2175	21/32	3/8	1/2	1/4	1/16	2.50
2177	3/4	7/16	9/16	1/4	1/16	2.50
2186	1 1/16	1/2	3/4	5/16	1/16	5.30
2188	1 1/16	9/16	13/16	5/16	1/16	5.30
2187	1 1/8	5/8	7/8	5/16	1/16	5.40
2189	1	3/4	7/8	5/32	1/32	5.20

VINYL GROMMETS

Exceptional aging qualities, high dielectric roperties. Oil resistant. Durameter hardess, 45 to 85.

H.H.S. No.	Dimensions, Inches A	B	C	D	E	Net per C
2145	11/32	1/8	1/4	3/16	1/16	$1.50
2146	7/16	3/16	5/16	7/32	1/16	1.80
2147	9/16	1/4	3/8	1/4	1/16	2.00
2148	5/8	3/8	1/2	1/4	1/16	2.20
2149	13/16	1/2	5/8	9/32	1/16	3.50

EXTRUDED "CATERPILLAR" NYLON GROMMETS



Shape your own grommets to fit any size or shape opening. Made of non-conductive black nylon, Type 6/6, fungus resistant to conform to MIL-M-20693a, Type 1. For panel thickness from .052″ to :125″. 25-foot rolls.

H.H.S. No.	Dimensions, Inches A	B	C	D	E	Net/ Roll
2692	.052	150	.040	.190	.125	$10.00
2693	.085	.155	.045	.200	.162	11.50
2694	.125	.175	.045	.220	.206	12.00

BLIND HOLE MOUNTING ACCESSORIES

Grommet

Strap

Molded of polyethylene. Just snaps into ole; requires no mounting hardware or pecial tools. Temperature rating, 100° to 05° F. Gray color.

GROMMETS

Maximum panel thickness, .095″.

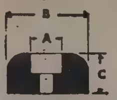
H.H.S. No.	Mtg. Hole	Cable Dia.	Net per C
8974	1/4″	1/8″	$2.00
8975	3/8″	1/4″	2.25
8976	1/2″	3/8″	2.50
8977	5/8″	1/2″	3.50
8978	3/4″	5/8″	4.00

CABLE STRAPS

Width, 5/16″. For panel thickness, 1/16″.

H.H.S. No.	Mtg. Hole	Cable Dia.	Net per C
8971	1/4″	1/4″	$2.00
8972	1/4″	7/16″	2.50
8973	1/4″	5/8″	3.00

RECESS RUBBER BUMPERS



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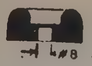
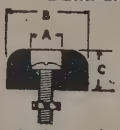


②

H.H.S. No.	Fig.	Dimensions, In. A	B	C	Net per C
2192	1	7/32	17/32	1/4	$1.80
2193	1	1/4	5/8	5/16	3.00
2194	1	9/32	3/4	3/8	3.50
2184	1	9/32	5/8	9/32	3.50
2135*	2	3/8	31/32	3/8	5.00

*With molded-in metal washer.

BUMPERS WITH SCREW



③

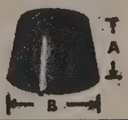
④

Supplied complete with 1/2″ mounting screw and hex nut for panels up to 1/4″ thick. Specify longer screw for thicker panels.

H.H.S. No.	Fig.	Dim., Inches A	B	C	Screw	Net per C
2196	3	7/32	17/32	1/4	6-32	$ 7.00
2197	3	1/4	5/8	5/16	6-32	8.00
2198	3	9/32	3/4	3/8	6-32	9.00
2199	3	1/4	5/8	9/32	6-32	9.00
2195*	4	3/8	31/32	3/8	8-32	10.00

*With molded-in metal washer.

VINYL CABINET BUMPERS



All molded cabinet bumpers with brass insert to absorb screw load. Molded of ethylene vinyl. Black.

H.H.S. No.	For Screw	Dimensions A	B	Net per C
2181	No. 4	3/8″	9/16″	$5.50
2182	No. 6	7/16″	3/4″	7.00
2183	No. 8	7/8″	15/16″	9.00

NYLON STRAIN RELIEFS

Bushing

Pliers

STRAIGHT THRU

One-piece construction, absorbs pull and twist. Wire full anchored and insulated at chassis entrance. Available as straight thru or right angle. Standard package of 100.

H.H.S. No.	Wire Size	Dim., Inches* A	B	C	Net per C
937	1/8″–3/16″	.375	.410	.060	$4.00
938	.12″ x .22″	.437	.410	.062	4.00
939	.250″–.290″	.500	.438	.100	4.50
822	.12″–.30″	.500	.406	.062	6.00
823	.365″–.360″	.625	.580	.062	5.50
RIGHT ANGLE					
824	.12″–.30″	.500	.687	.100	$ 8.50
825	.250″–.290″	.500	.687	.100	8.50
826	.360″–.430″	.750	1.085	.125	19.00

*A, chassis hole; B, length; C, maximum chassis thickness.

H. H. Smith No. 940 Setting Pliers—For above. Net Each.................**$35.00**

NYLON SPACER BUSHINGS

Natural color; per MIL-P-20639A

H.H.S. No.	Dimensions, Inches I.D.	O.D.	Neck Dia.	Neck Lgth.	Net per 100
2534	.115	.235	.147	1/4	$2.30
2535	.140	.290	.170	1/4	2.40
2536	.170	.344	.205	3/8	2.50
2537	.200	.399	.260	3/8	2.70
2538	.260	.513	.312	3/8	3.00

FLAT WASHERS

H.H.S. No.	Screw Clear.	Dim., Inches I.D.	O.D.	Tck.	Net per C	Net per M
FIBRE						
2191	#2	.093	.250	1/32	$0.80	$ 6.00
2161	#4	.115	.250	1/16	.90	7.00
2160	#6	.141	.250	1/16	.90	7.00
2162	#6	.141	.375	1/16	.90	7.00
2163	#8	.169	.375	1/16	1.00	8.00
2164	#10	.196	.375	1/16	1.00	8.00
2165	1/4″	.253	.500	1/16	1.00	8.00
2166	1/4″	.253	.500	3/32	1.80	14.00
2167	5/16″	.315	.500	1/16	1.30	10.00
2168	3/8″	.385	.625	1/16	1.30	10.00
2169	3/8″	.378	.750	1/16	1.90	15.00
NYLON						
2652	#2	.093	.250	1/32	$1.00	$ 8.00
2671	#4	.115	.250	1/16	1.20	9.00
2514	#4	.115	.281	3/64	1.20	9.00
2670	#6	.141	.250	1/16	1.20	9.00
2515	#6	.141	.312	3/64	1.20	9.00
2672	#6	.141	.375	1/16	1.40	11.00
2673	#8	.170	.375	1/16	1.40	11.00
2516	#8	.170	.375	1/16	1.40	11.00
2674	#10	.196	.375	1/16	1.40	11.00
2517	#10	.196	.437	1/16	1.80	14.00
2675	1/4″	.253	.500	1/16	2.10	16.00
2676	1/4″	.253	.500	3/32	3.30	25.00
2518	1/4″	.253	.562	1/16	2.20	17.00
2677	5/16″	.315	.500	1/16	2.10	16.00
2678	3/8″	.385	.625	1/16	2.50	19.00
2679	3/8″	.378	.750	1/16	3.90	30.00

SHOULDERED WASHERS

H.H.S. No.	Screw Clear.	Dim., Ins. O.D.	Shdlr. Dia.	Net per C	Net per M
FIBRE					
2171	#2	.250	.154	$1.90	$15.00
2151	#4	.250	.187	1.40	11.00
2152	#6	.250	.187	1.40	11.00
2153	#6	.312	.187	1.50	12.00
2150	#6	.375	.240	1.50	12.00
2155	#8	.375	.246	1.50	12.00
2156	#10	.375	.308	1.60	13.00
2154	1/4″	.500	.308	1.60	13.00
2159	17/64″	.500	.365	2.10	17.00
2158	3/8″	.625	.498	2.30	19.00
2157	3/8″	.750	.498	2.70	22.00
NYLON					
2651	#2	.250	.154	$2.20	$17.00
2661	#4	.250	.187	2.00	15.00
2662	#6	.250	.187	2.00	15.00
2663	#6	.312	.187	2.10	16.00
2660	#6	.375	.240	2.20	17.00
2665	#8	.375	.246	2.20	17.00
2666	#10	.375	.308	2.20	17.00
2664	1/4″	.500	.308	3.30	25.00
2669	17/64″	.500	.365	3.30	25.00
2668	3/8″	.625	.498	3.30	25.00
2667	3/8″	.750	.498	4.80	37.00

MOLDED NYLON WASHERS

SHOULDERED

H.H.S. No.	Dimensions, Inches I.D.	Neck Dia.	Neck Lgth.	Shldr. Dia.	Net per C
2681	.122	.187	.040	.281	$2.25
2682	.146	.218	.040	.328	2.40
2683	.174	.250	.050	.375	2.50
2684	.201	.281	.050	.437	2.75
2685	.260	.375	.060	.562	3.00
2686	.385	.500	.060	.750	4.75

FINISHING

H.H.S. No.	Dimensions, Inches O.D.	I.D.	Thck.	Net per C
2687	.437	.143	.100	$5.00
2688	.515	.171	.115	5.25
2689	.580	.191	.152	5.50
2690	.609	.225	.160	6.00
2691	.683	.251	.183	6.50

FIBRE WASHER KIT

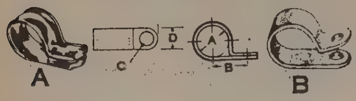
Contains about 1000 flat and shoulder washers packed in an 18-compartment plastic box in the following approximate quantities: 100 each #2151, 2161, 2153, 2160; 75 each #2150, 2162; 60 each #2155, 2163; 50 each #2156, 2164, 2154, 2165; 35 each #2159, 2167; 25 each #2158, 2168; 10 each #2157 and 2169.

H. H. Smith No. 2173—
Net Each.........................**$20.00**

H. H. Smith Clamps and Punches

ALL-MOLDED PLASTIC CABLE CLAMPS

NYLON (FIG. A)



Meets specs. MIL-P17091A, Amend. 2.

H.H.S. No.	Dimensions, Inches				Net per C
	A	B	C	D	
771	1/8	.360	.167	3/8	$ 3.60
772	3/16	.423	.167	3/8	3.90
773	1/4	.457	.167	3/8	4.20
774	5/16	.498	.167	3/8	4.65
775	3/8	.529	.167	3/8	4.80
776	7/16	.560	.167	3/8	5.10
777	1/2	.592	.167	3/8	5.40
778	9/16	.623	.204	1/2	6.60
779	5/8	.654	.204	1/2	7.20
780	11/16	.752	.204	1/2	7.50
781	3/4	.783	.204	1/2	8.10
782	7/8	.845	.204	1/2	8.70
783	1	.908	.204	1/2	10.20
784	1 1/8	.970	.204	1/2	12.00
785	1 1/4	1.062	.204	1/2	13.80

NYLON (FIG. B)

Black. Meet MIL-Std-24E, MS-30914 (Ord.), MIL-C-21565 (NAS), MIL-P-17091-B, MIL-P-20693.

8940	1/8	.360	13/64	1/2	$2.30
8941	3/16	.423	13/64	1/2	2.40
8942	1/4	.457	13/64	1/2	2.50
8943	5/16	.495	13/64	1/2	2.60
8944	3/8	.529	13/64	1/2	2.70
8945	7/16	.560	13/64	1/2	2.80
8946	1/2	.592	13/64	1/2	2.90
8947	9/16	.623	13/64	1/2	3.00
8948	5/8	.654	13/64	1/2	3.20
8949	11/16	.752	13/64	1/2	3.30
8950	3/4	.783	13/64	1/2	3.50
8951	7/8	.845	13/64	1/2	3.70
8952	1	.908	13/64	1/2	3.90
8955	1/8	.325	13/64	3/8	1.90
8956	3/16	.378	13/64	3/8	2.00
8957	1/4	.409	13/64	3/8	2.10
8958	5/16	.441	13/64	3/8	2.20
8959	3/8	.471	13/64	3/8	2.30
8960	7/16	.519	13/64	3/8	2.40
8961	1/2	.550	13/64	3/8	2.50

CELLULOSE (FIG. B)

Meet MIL Std. 242B (Ships) and MS30914 (Ord.).

8925	1/8	.360	13/64	1/2	$2.10
8926	3/16	.423	13/64	1/2	2.20
8927	1/4	.457	13/64	1/2	2.30
8928	5/16	.498	13/64	1/2	2.40
8929	3/8	.529	13/64	1/2	2.50
8930	7/16	.560	13/64	1/2	2.60
8931	1/2	.592	13/64	1/2	2.70
8932	9/16	.623	13/64	1/2	2.90
8933	5/8	.654	13/64	1/2	3.00
8934	11/16	.752	13/64	1/2	3.30
8935	3/4	.783	13/64	1/2	3.50
8936	7/8	.845	13/64	1/2	3.70
8937	1	.908	13/64	1/2	3.90

POLYPROPYLENE (FIG. B)

Conforms to applicable MIL Specs.

8910	1/8	.360	13/64	1/2	$1.60
8911	3/16	.423	13/64	1/2	1.80
8912	1/4	.457	13/64	1/2	1.90
8913	5/16	.498	13/64	1/2	2.00
8914	3/8	.529	13/64	1/2	2.10
8915	7/16	.560	13/64	1/2	2.20
8916	1/2	.592	13/64	1/2	2.30
8917	9/16	.623	13/64	1/2	2.40
8918	5/8	.654	13/64	1/2	2.50
8919	11/16	.752	13/64	1/2	2.60
8920	3/4	.783	13/64	1/2	2.70
8921	7/8	.845	13/64	1/2	2.90
8922	1	.908	13/64	1/2	3.00

BUTYRATE (FIG. A)

Meets MIL Std. 242B (Ships), MS30914 (Ord.).

831	1/8	.360	.204	1/2	$2.34
832	3/16	.423	.204	1/2	2.40
833	1/4	.457	.204	1/2	2.58
834	5/16	.498	.204	1/2	2.85
835	3/8	.529	.204	1/2	3.00
836	7/16	.560	.204	1/2	3.30
837	1/2	.592	.204	1/2	3.60
838	9/16	.623	.204	1/2	4.20
839	5/8	.654	.204	1/2	4.50
840	11/16	.752	.204	1/2	4.80
841	3/4	.783	.204	1/2	5.10
842	7/8	.845	.204	1/2	5.40
843	1	.908	.204	1/2	5.70
844	1 1/8	.970	.204	1/2	6.00
845	1 1/4	1.062	.204	1/2	6.30

LACING CORD AND TAPE

NYLON CORD

Meets MIL-T-713-D, Classes 1, 2 and 3. Supplied in 1 lb. tubes.

H.H.S. No.	Class	Lbs. Test	Yard.	Net per Lb.
NATURAL				
734	1	70	600	$13.00
735	2	48	800	13.00
736	3	32	1140	13.00
BLACK				
791	1	70	600	$17.00
792	2	48	800	17.00
793	3	32	1140	17.00

NYLON TAPE

Size #18 meets MIL-T-43435, size 3, finish B. Supplied in 500 yd. spools.

H.H.S. No.	Size	W., Ins.	Thck., Ins.	Test, Lbs.	Net Each
NATURAL					
766	18	.090	.0125	50	$15.00
767	21	.054	.008	20	17.00
BLACK					
769	18	.090	.0125	50	$16.00
770	21	.054	.008	20	18.00

COMMERCIAL TYPE

Has all application of the above, but at much lower cost. Supplied in 1 lb. tubes in natural color.

H.H.S. No.	Width, Ins.	Yard.	Net per Lb.
743	1/8	620	$15.00

LINEN CORD

Meets MIL-T-713-D, Type N. Mildew proofed. Supplied in 1 lb. tubes.

H.H.S. No.	Ply	Class	Yard.	Net per Lb.
NATURAL				
727	4	....	850	$15.00
730	6	3	600	15.00
739	8	2	470	15.00
733	9	....	400	15.00
742	12	1	300	15.00
BLACK				
794	4	....	850	$15.00
795	6	3	600	15.00
796	8	2	470	15.00
797	9	....	400	15.00
798	12	1	300	15.00

NYLON PERFORATED STRAPPING

For bundling of wire, cable and tubing. Use No. 803 ratchet buckle for fast assembly. Supplied in 50 ft. rolls.

H. H. Smith No. 802 Perforated Strapping
Net per 50 ft. **$28.00**

H. H. Smith No. 804 Tightening Tool—Used with strapping for fast assembly.
Net Each **$22.00**

NYLON RATCHET BUCKLE

For No. 802 strapping. Quick and easy bundling of wires and cables.

H. H. Smith No. 803 Ratchet Buckle—
Net per 100 .... **$12.00**

BEADED WIRE TIES

White nylon with attached holding clip.

H.H. Smith No. 8962 Wire Ties—
Net per 100 .... **$2.30**

NYLON ADJUSTABLE CABLE TIE

Efficiently and economically replaces lacing cord, tapes and other fasteners in wrap-around applications. Adjustable from 1/8" to 1 3/8" diameter. Once applied, it cannot slip.

H. H. Smith No. 8963C Cable Tie—
Net per 100 .... **$1.50**

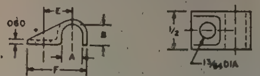
H. H. Smith No. 8963M Cable Tie—
Net per 1000 .... **$13.00**

NYLON LOCKING CLAMP

Wedge and ratchet design makes for positive holding and locking. Accommodates cables from 1/8" to 1 3/4". No knot tying, just slip clamp around cable, insert tongue and pull tight.

H. H. Smith No. 800 Locking Clamp—
Net per 100 .... **$9.00**

NYLON HALF CLAMPS



Meet MIL-P-17091A and Amend. 2 MIL-P-17091B1; MIL-M-20693A, Typ 1; MIL-STD-242A (Ships); MIL-STD 242B (Ships); MS-89014 (Ord.). Black

H.H.S. No.	Wire Size	Dim., Inches			Net per C
		A & B	E	F	
8964	1/8"	.115	.307	.675	$5.50
8965	3/16"	.172	.336	.732	5.90
8966	1/4"	.234	.366	.793	6.50
8967	5/16"	.297	.400	.859	6.70
8968	3/8"	.359	.430	.920	7.00
8969	7/16"	.422	.460	.980	7.25
8970	1/2"	.484	.492	1.044	8.00

H. H. SMITH (GREENLEE) CHASSIS PUNCHES FOR RADIO, TV AND ELECTRONICS

Complete line of chassis hole punches for swiftly cutting clean, accurately located holes in chassis and panels. An assortment of round, square, "D", and keyed holes can be punched by inserting in drilled pilot hole, and turning with wrench. Finished hole is smooth, accurately sized without burrs. Round punches are provided with center-line markings for enlarging holes larger than pilot hole. Individually packed.

ROUND HOLE PUNCHES

H.H.S. No.	Hole Size	Net Each	H.H.S. No.	Hole Size	Net Each
3801	1/2"	$4.20	3814	1 1/4"	$ 4.90
3802	9/16"	4.20	3815	1 5/16"	6.15
3803	5/8"	4.20	3816	1 3/8"	6.15
3804	11/16"	4.25	3817	1 1/2"	6.65
3805	3/4"	4.25	3818	1 5/8"	8.15
3806	13/16"	4.25	3819	1 3/4"	9.20
3807	7/8"	4.25	3820	1 7/8"	11.40
3808	15/16"	4.70	3821	2"	11.95
3809	1"	4.70	3822	2 1/8"	12.90
3810	1 1/16"	4.90	3823	2 1/4"	13.60
3811	1 1/8"	4.90	3824	2 1/2"	21.65
3812	1 5/32"	4.90	3825	2 3/4"	30.15
3813	1 3/16"	4.90	3826	3"	41.55

H.H.S. No. 3836 Meter Hole Punch—Hole size, 2 25/32". Net Each **$21.75**

SQUARE PUNCHES

3827	1/2"	$10.90	3830	7/8"	$13.80
3828	5/8"	10.75	3831	1"	14.25
3829	3/4"	11.80			

KEY PUNCHES

3832	15/32"	$12.45	3834	1 11/64"	$15.35
3833	15/16"	13.75	3835	1 17/64"	18.25

"D" PUNCHES

3837	1/2"x15/32"	11.40	3838	5/8"x19/32"	12.10

STANDARD DRIVE SCREWS

H.H.S. No.	Use with Numbers	Net Each
3847	3804-3807	$0.60
3848	3808-3817	1.00
3849	3818, 3819	1.55
3850	3820-3824	1.75

BALL BEARING DRIVE SCREWS

Reduces friction and effort when punching round holes 11/16" and larger. For use only with round punches listed above.

3839	3804-3808	$2.25
3840	3809-3817	3.95
3841	3818, 3819	8.80
3842	3820-3824 and 3836	9.15

RELAY SOCKET PUNCHES

H.H.S. No.	Hole Size, In.	Net Each
3845	1.018 x .861	$28.20
3846	1.250 x 1.375	42.40

CHASSIS PUNCH SET

Set of seven of the most often used chassis punches for electronic construction. Packed in plastic platform box to keep punches sharp and rust free. Includes sizes: 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4".

H.H.S. No. 3844 Chassis Punch Set—
Net Each **$45.00**

MACHINE SCREWS

CADMIUM-PLATED STEEL

C-PAK			M-PAK	
H.H.S. No.	Net	Size	H.H.S. No.	Net
1173C	$1.29	2-56 x ¼"	1173M	$11.90
1174C	1.39	2-56 x ½"	1174M	12.90
1175C	1.47	2-56 x ¾"	1175M	13.70
1176C	1.54	3-48 x ¾"	1176M	14.40
1177C	1.39	4-36 x ¼"	1177M	12.90
1178C	1.43	4-36 x ⅜"	1178M	13.30
1183C	1.48	4-36 x ½"	1183M	13.80
1184C	1.56	4-36 x ⅝"	1184M	14.60
1185C	1.59	4-36 x ¾"	1185M	14.90
1350C	1.39	4-40 x ¼"	1350M	12.90
1351C	1.43	4-40 x ⅜"	1351M	13.30
1352C	1.48	4-40 x ½"	1352M	13.80
1353C	1.56	4-40 x ⅝"	1353M	14.60
1354C	1.59	4-40 x ¾"	1354M	14.90
1000C	1.23	6-32 x ¼"	1000M	11.30
1001C	1.27	6-32 x ⅜"	1001M	11.70
1002C	1.32	6-32 x ½"	1002M	12.20
1355C	1.40	6-32 x ⅝"	1355M	13.00
1356C	1.48	6-32 x ¾"	1356M	13.80
1357C	1.64	6-32 x 1"	1357M	15.40
1358C	3.42	6-32 x 2"	1358M	33.20
1006C	1.55	8-32 x ¼"	1006M	14.50
1007C	1.45	8-32 x ⅜"	1007M	13.50
1008C	1.55	8-32 x ½"	1008M	14.50
1010C	1.67	8-32 x ⅝"	1010M	15.70
1359C	1.80	8-32 x ¾"	1359M	17.00
1271C	3.04	10-32-¼"	1271M	29.40
1360C	1.84	10-32 x ½"	1360M	17.40
1361C	2.14	10-32 x ¾"	1361M	20.40
1362C	2.47	10-32 x 1"	1362M	23.70

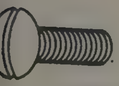
NICKEL-PLATED BRASS

1044C	$2.17	4-36 x ¼"	1044M	$26.20
1045C	2.79	4-36 x ⅜"	1045M	26.90
1046C	3.38	4-36 x ½"	1046M	32.80
1047C	2.72	4-40 x ¼"	1047M	26.20
1048C	2.79	4-40 x ⅜"	1048M	26.90
1049C	3.38	4-40 x ½"	1049M	32.80
1050C	3.38	6-32 x ¼"	1050M	32.80
1051C	3.61	6-32 x ⅜"	1051M	35.10
1052C	4.05	6-32 x ½"	1052M	39.50
1056C	4.98	8-32 x ¼"	1056M	48.80
1057C	5.27	8-32 x ⅜"	1057M	51.70
1058C	5.96	8-32 x ½"	1058M	58.60

BINDING HEAD MACHINE SCREWS

CADMIUM-PLATED STEEL

1369C	$1.29	2-56 x ¼"	1369M	$11.90
1370C	1.39	2-56 x ½"	1370M	12.90
1371C	1.43	2-56 x ⅝"	1371M	13.30
1272C	1.21	3-48 x ¼"	1272M	11.10
1372C	1.39	4-40 x ¼"	1372M	12.90
1373C	1.48	4-40 x ½"	1373M	13.80
1374C	1.60	4-40 x ¾"	1374M	15.00
1273C	1.09	6-32 x ⅛"	1273M	9.90
1375C	1.40	6-32 x 3⁄16"	1375M	13.00
1425C	1.23	6-32 x ¼"	1425M	11.30
1426C	1.27	6-32 x ⅜"	1426M	11.70
1427C	1.32	6-32 x ½"	1427M	12.20
1376C	1.40	6-32 x ⅝"	1376M	13.00
1377C	1.48	6-32 x ¾"	1377M	13.80
1428C	1.55	8-32 x ¼"	1428M	14.50
1378C	1.50	8-32 x 5⁄16"	1378M	14.00
1429C	1.45	8-32 x ⅜"	1429M	13.50
1430C	1.55	8-32 x ½"	1430M	14.50
1379C	1.80	8-32 x ¾"	1379M	17.00
1380C	1.84	10-32 x ½"	1380M	17.40
1381C	2.14	10-32 x ¾"	1381M	20.40



OVAL HEAD RACK SCREWS

NICKEL-PLATED STEEL

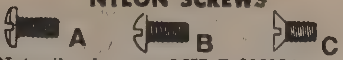
1382C	$1.55	6-32 x ¾"	1382M	$14.50
1383C	1.96	8-32 x ¾"	1383M	18.60
1111C	2.53	10-32 x ½"	1111M	24.30
1112C	2.44	10-32 x ¾"	1112M	23.40

NYLON HEX NUTS

atural color; per MIL-P-0693A. Std. package, 100.

H.H.S. No.	Size	Net per 100
2554	4-40 x ¼"	$8.00
2555	6-32 x 5⁄16"	8.00
2556	8-32 x 11⁄32"	8.00
2557	10-32 x ⅜"	8.00

NYLON SCREWS



Natural color; per MIL-P-20693A.

Size	H. H. Smith No. Fig. A	H. H. Smith No. Fig. B	H. H. Smith No. Fig. C	Net per C
4-40 x ¼"	2500	2520	2580	$4.50
4-40 x ⅜"	2501	2521	2581	4.50
4-40 x ½"	2502	2522	2582	4.50
6-32 x ¼"	2503	2523	2583	4.50
6-32 x ⅜"	2504	2524	2584	4.50
6-32 x ½"	2505	2525	2585	4.50
6-32 x ⅝"	2506	2526	2586	4.50
6-32 x ¾"	2507	2527	2587	4.50
8-32 x ¼"	2509	2529	2589	4.50
8-32 x ⅜"	2510	2530	2590	4.50
8-32 x ½"	2511	2531	2591	4.50
8-32 x ⅝"	2512	2532	2592	4.50

HEXAGON NUTS

Standard package, 100.

NICKEL-PLATED BRASS

C-PAK			M-PAK	
H.H.S. No.	Net	Size	H.H.S. No.	Net
1326C	$1.04	2-56 x 3⁄16"	1326M	$ 9.40
1327C	1.04	3-48 x 3⁄16"	1327M	9.40
1188C	1.33	4-36 x ¼"	1188M	12.30
1168C	1.33	4-40 x ¼"	1168M	12.30
1189C	1.33	6-32 x ¼"	1189M	12.30
1190C	1.87	6-32 x 5⁄16"	1190M	17.70
1328C	1.33	8-32 x ¼"	1328M	12.30
1192C	1.79	8-32 x 5⁄16"	1192M	16.90
1193C	1.85	10-32 x 5⁄16"	1193M	17.50

CADMIUM-PLATED STEEL

1363C	$1.47	2-56 x 3⁄16"	1363M	$13.70
1364C	1.47	3-48 x 3⁄16"	1364M	13.70
1398C	1.42	4-36 x ¼"	1398M	13.20
1365C	1.42	4-40 x ¼"	1365M	13.20
1179C	1.42	6-32 x ¼"	1179M	13.20
1180C	1.42	6-32 x 5⁄16"	1180M	13.20
1366C	1.42	8-32 x ¼"	1366M	13.20
1181C	1.70	8-32 x 5⁄16"	1181M	16.00
1367C	1.82	10-32 x ⅜"	1367M	17.20
1368C	2.86	¼-20 x 7⁄16"	1368M	27.60
1186C	2.90	¼-32 x ⅜"	1186M	28.00

VOLUME CONTROL AND SWITCH NUTS

NICKEL-PLATED BRASS

C-PAK			M-PAK	
H.H.S. No.	Net	Size	H.H.S. No.	Net
1329C	$4.58	¼-20 x 7⁄16" x 3⁄16"	1329M	$44.80
1243C	2.36	¼-28 x ⅜" x 3⁄32"	1243M	22.60
1244C	2.41	½-28 x ⅜" x ⅛"	1244M	23.10
1245C	1.87	¼-32 x 5⁄16" x 5⁄64"	1245M	17.70
1187C	2.60	¼-32 x ⅜" x 3⁄32"	1187M	25.00
1255C	3.71	5⁄16-32 x 7⁄16" x .101"	1255M	36.10
1195C	2.33	⅜-32 x ½" x 3⁄32"	1195M	22.30
1199C*	2.50	⅜-32 x ½" x 3⁄32"	1199M*	22.00
1258C	3.05	⅜-32 x 9⁄16" x 5⁄64"	1258M	29.50
1196C	2.42	15⁄32-32 x 9⁄16" x 5⁄64"	1196M	23.20
1260C	2.65	15⁄32-32 x 9⁄16" x 3⁄32"	1260M	25.50

*Cadmium-plated steel.

RING NUTS

NICKEL-PLATED BRASS

1120C	$5.10	⅜-32 x ½" x 3⁄32"	1120M	$50.00
1197C	3.10	15⁄32-20 x ⅝" x 1⁄16"	1197M	30.00

DRESS NUT

NICKEL-PLATED BRASS

1198C	22.00	15⁄32-32 x ⅝" x 3⁄32"	1198M	200.00

ROUND LOCK NUTS

NICKEL-PLATED BRASS

C-PAK			M-PAK	
H.H.S. No.	Net	Size	H.H.S. No.	Net
1240C	$2.80	⅛P x 9⁄16" x 3⁄32"	1240M	$27.00
1241C	5.60	⅛ x ¾" x 3⁄32"	1241M	55.00

HEX LOCK NUT

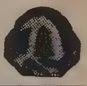
1242C	$2.80	⅛P x ½" x ⅛"	1242M	$27.00

KNURLED THUMB NUTS

NICKEL-PLATED BRASS

1313C	$3.20	6-32 x ⅜"	1313M	$31.00
1314C	4.50	8-32 x 7⁄16"	1314M	44.00
1315C	5.30	10-24 x ½"	1315M	52.00
1316C	5.30	10-32 x ½"	1316M	52.00
1317C	7.80	¼-20 x ⅝"	1717M	77.00

CAP NUTS



NICKEL-PLATED BRASS

C-PAK				M-PAK	
H.H.S. No.	Net	Thd.	Hex, Ins.	H.H.S. No.	Net
1300C	$ 3.30	6-32	5⁄16	1300M	$32.00
1301C	3.30	8-32	5⁄16	1301M	32.00
1302C	4.00	10-32	⅜	1302M	39.00
1303C	5.00	¼-20	7⁄16	1303M	49.00
1304C	6.10	¼-20	½	1304M	60.00
1305C	5.00	¼-28	7⁄16	1305M	49.00
1306C	8.30	5⁄16-18	9⁄16	1306M	82.00
1307C	12.00	⅜-16	⅝	1307M	110.00
1308C	12.00	⅜-24	⅝	1308M	110.00

CADMIUM-PLATED TOOTH LOCKWASHERS

Internal

External

INTERNAL TYPE STEEL

C-PAK			M-PAK	
H.H.S. No.	Net	Size	H.H.S. No.	Net
1118C	$0.91	#2	1118M	$ 8.10
1119C	.71	#3	1119M	7.00
1127C	.85	#4	1127M	7.50
1128C	.83	#6	1128M	7.30
1129C	.83	#8	1129M	7.30
1130C	.85	#10	1130M	7.50
1132C	1.38	¼"	1132M	12.80
1131C	1.85	⅜"	1131M	17.50
1145C†	1.98	⅜"	1145M†	18.80
1146C†	2.10	15⁄32"	1146M†	20.00

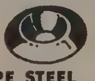
†Narrow rim.

EXTERNAL TYPE—STEEL

1139C	$0.85	#4	1139M	$ 7.50
1140C	.83	#6	1140M	7.30
1141C	.83	#8	1141M	7.30
1142C	.85	#10	1142M	7.50
1144C	1.38	¼"	1144M	12.80
1143C	1.85	⅜"	1143M	17.50

NICKEL-PLATED WASHERS

Flat



Counter-sunk

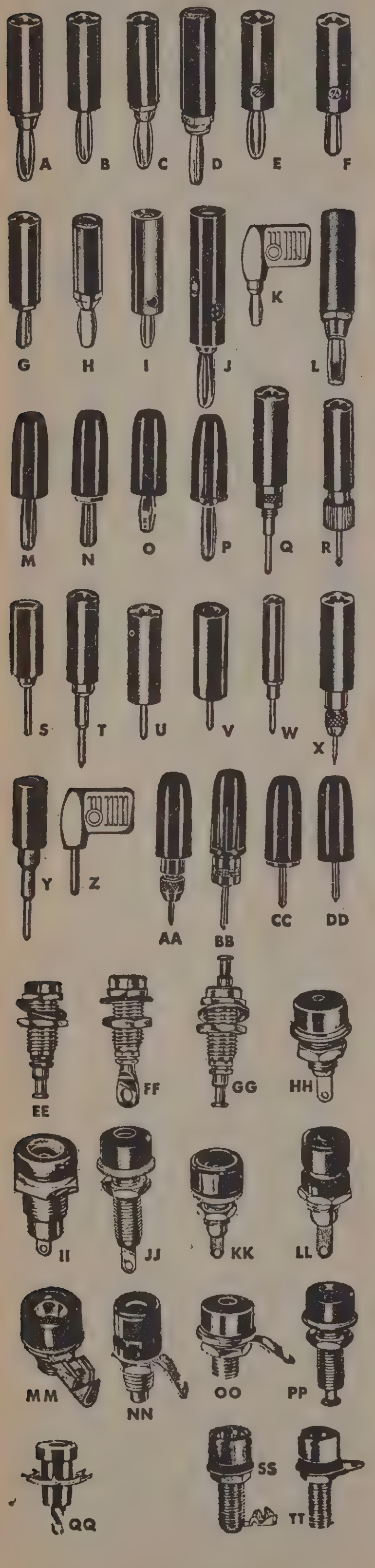
FLAT TYPE STEEL

1138C	$0.71	#2 screw	1138M	$ 7.00
1149C	.71	#4 screw	1149M	7.00
1150C	.71	#6 screw	1150M	7.00
1151C	.71	#8 screw	1151M	7.00
1152C	.71	#10 screw	1152M	7.00
1147C	.71	¼" screw	1147M	7.00
1148C	.71	⅜" screw	1148M	7.00

COUNTER-SUNK TYPE BRASS

1115C	$1.90	#6	1115M	$18.00
1116C	1.95	#8	1116M	18.50
1117C	2.00	#10	1117M	19.00

H. H. Smith Jacks and Plugs



INSULATED BANANA PLUGS*

H. H. S. No.	Fig.	Description	Net Eac
212	A	Solderless with nickel-plated phosphor bronze spring; wire may also be soldered to brass stud or directly into plug; 1″ handle	$0.3
232	A	Same as above, but with silver-plated spring	.3
242	A	Same, but with nickel-plated beryllium copper spring	.4
262	A	Same, but with silver-plated beryllium copper spring	.4
211	B	Solderless with nickel-plated phosphor bronze spring; 1″ handle	.3
261	B	Same, but with silver-plated spring	.3
271	B	Same, but with nickel-plated beryllium copper spring	.3
281	B	Same, but with silver-plated beryllium copper spring	.3
295	C	Screw-term. solderless; nickel-plated phos. bronze spring; 1″ handle	.4
296	C	Same, but with silver-plated spring	.4
297	C	Same, but with nickel-plated beryllium copper spring	.4
298	C	Same, but with silver-plated beryllium copper spring	.5
236	D	Same, but cross-drilled hole in spacer for solderless connection	.6
204	E	Set-screw solderless; nickel-plated phosphor bronze spring; 1″ handle	.3
254	E	Same, but nickel-plated beryllium copper spring	.3
213	F	Split type with side screw; cross-slotted for spring tension	.2
253	G	Soldered or solderless with internal stud; cross-slotted; 1″ handle	.3
291	H	Stud-soldered midget plug with ⅝″ machined butyrate handle; 13/32″ plug with nickel-plated phos. bronze spring; specify red or black	.3
292	H	Same, but silver-plated spring	.3
293	H	Same, but nickel-plated beryllium copper spring	.3
294	H	Same, but silver-plated beryllium copper spring	.3
214	I	Adapts tip plug to banana plug; molded butyrate handle with jack for tip plug; nickel-plated phosphor bronze spring; red or black	.5
1511	J	Solderless banana plug; banana plugs in top and side of machined butyrate handle for unlimited, multiple circuits; phosphor bronze nickel-plated spring; specify red, black, yellow or green	.6
1512	J	Same, but beryllium copper spring	.7
255	K	Meter plug with 4-leaved nickel-plated phosphor bronze spring; specify red or black	.4
285	L	Giant type with machined phenolic plastic handle, deep solder well; 6-leaved phosphor bronze nickel-plated spring; specify red or black	1.3
476	M	Molded nylon plug; soldered or solderless; phosphor bronze nickel-plated spring; specify color†	.3
477	M	Same, but silver-plated phosphor bronze spring; specify color†	.3
478	M	Same, but nickel-plated beryllium copper spring; specify color†	.3
479	M	Same, but silver-plated beryllium copper spring; specify color†	.4
494	N	Solderless split-type plug with molded nylon handle; specify color†	.2
426	O	Midget version of No. 476; specify color†	.2
427	O	Midget version of No. 477; specify color†	.3
428	O	Midget version of No. 478; specify color†	.3
429	O	Midget version of No. 479; specify color†	.3
455	P	Solderless wrap-around version of No. 476; specify color†	.3
456	P	Solderless wrap-around version of No. 477; specify color†	.3
457	P	Solderless wrap-around version of No. 478; specify color†	.3
458	P	Solderless wrap-around version of No. 479; specify color†	.4

INSULATED TIP PLUGS*

200	Q	Solderless threaded type; 1″ handle; 2⅛″ long	$0.2
201	Q	Same, but slightly smaller; 1″ handle; 1 19/32″ long	.2
237	S	Easy-solder hollow tip; ⅝″ molded butyrate handle, red or black	.1
229	T	Heavy duty, easy solder connection; 1″ handle, 2⅛″ long	.2
203	U	Short tip plug inserts flush to handle; 1″ handle; 1½″ long	.2
283	V	Same as above, but solderless connection	.2
270	W	Subminiature tip with 1″ fiber handle; specify red or black	.3
216	X	Phono needle tip with removable chuck; 1″ handle; 1⅞″ long	.3
215	Y	Std. tip plug with jack for banana plug; ¾″ molded butyrate handle; specify red or black	.2
235	Z	Meter tip plug molded in two halves; specify red or black	.3
493	AA	Removable chuck type with molded nylon handle and phono needle; specify color†	.3
490	BB	Solderless type with molded nylon handle; specify color†	.2
492	CC	Short version of above without knurled collar; specify color†	.2
491	DD	Short tip plug; inserts flush to nylon handle; specify color†	.2

INSULATED JACKS‡

1501	EE	Nylon tip jack with metal shell; wrap-around type; specify color†	$0.3
1502	FF	Same, but spade terminal type; specify color†	.5
1503	GG	Same, but feed-thru type; specify color†	.4
1505	EE	Same as 1501 but all-nylon construction; specify color†	.2
1506	FF	Spade terminal version of 1505; specify color†	.3
1507	GG	Feed-thru version of 1505; specify color†	.3
202	HH	Molded thermosetting plastic head; phone tip; mounted in 5/16″ hole	.2
240	II	Molded nylon tip jack rated 5,000 VAC, 60 Hz; specify color§	.2
206	JJ	Molded thermosetting plastic head combo jack takes standard phone or banana plugs	.3
282	KK	Thermosetting plastic head meter type; phone tip; specify color§	.3
241	LL	Molded nylon head; insulated from panel; phone tip; specify color§	.3
219	MM	Molded thermosetting plastic head banana jack; recessed body	.2
221	NN	Nylon head and washer; insulated from panel; for standard banana plugs; specify color§	.3
205	OO	Molded thermosetting plastic head banana jack	.2
256	PP	Molded thermosetting plastic head banana jack; turret terminal	.2
279	QQ	Phone tip jack with dished lockwasher "speedi-mount"; molded thermosetting plastic body; 13/32″ dia. head	.1
286	SS	Giant banana jack; fits ½″ hole; panel to ¾″; tinned copper lug; machined butyrate head; specify red or black	.9
287	TT	Same as 286 except brass tinned lug	.9

*Molded thermosetting plastic handle unless otherwise noted. Standard colors: re black, yellow, green, blue or white except as otherwise noted. †For colors add suffi -101, white; -102, red; -103, black; -104, green; -105, blue; -106, orange; -107, yello -108, brown; -112, purple; -113, gray. ‡Standard colors: Red, black, yellow, green, blu or white except as otherwise noted. §Specify red, black, yellow, green or blue.
***Lots of 1–499, Net; 500–999, −16⅔%.**

H. H. Smith JACKS, PLUGS AND BINDING POSTS

NON-INSULATED BANANA PLUGS AND JACKS

H. S. No.	Fig.	Description	Net Each*
02	A	3/8″ threaded stud; hex brass body; nickel-plated phos. bronze spring	$0.34
03	B	1/2″ threaded stud; hex brass body; nickel-plated phos. bronze spring	.29
00	C	Screw-on type; hex brass body; nickel-plated phos. bronze spring	.33
90	C	Same, but with beryllium copper spring	.40
04	D	1/2″ threaded stud; hex brass body; split type banana plug	.22
21	E	Midget rivet type; silver-pl. brass body; phos. bronze silvered spring	.22
45	F	Soldered or solderless type with hex body; phos. bronze spring	.34
35	F	Same, but beryllium copper spring	.40
31	G	6-32 x 3/8″ stud type; hex body; phos. bronze spring nickel-plated	.34
32	G	Same, but 6-32 x 1/2″ stud; 1 5/16″ h.	.37
33	G	Same, but 6-32 x 3/4″ stud; 1 9/16″ h.	.40
34	G	Same, but 8-32 x 3/8″ stud; 1 3/16″ h.	.34
35	G	Same, but 8-32 x 1/2″ stud; 1 5/16″ h.	.37
36	G	Same, but 8-32 x 3/4″ stud; 1 9/16″ h.	.40
01	H	6-32 x 3/8″ stud type; hex body; phos. bronze spring nickel-plated	.28
03	H	Same, but 6-32 x 1/2″ stud; 1 9/32″ h.	.29
04	H	Same, but 6-32 x 3/4″ stud; 1 17/32″ h.	.33
05	H	Same, but 8-32 x 3/8″ stud; 1 5/32″ h.	.28
06	H	Same, but 8-32 x 1/2″ stud; 1 9/32″ h.	.29
07	H	Same, but 8-32 x 3/4″ stud; 1 17/32″ h.	.33
60	I	Midget 4-40 x 3/8″ stud; nickel-plated phos. bronze spring; 15/16″ h.	.29
61	I	Same, but 4-40 x 1/2″ stud; 1 1/16″ h.	.29
62	I	Same, but 6-32 x 3/8″ stud; 15/16″ h.	.29
63	I	Same, but 6-32 x 1/2″ stud; 1 1/16″ h.	.29
11	J	Midget cross-slotted body type; 10-32 x 21/64″ stud; 29/32″ h	.17
91	L	Submin. rivet type plug; silver-plated beryl. copper spring; 37/64″ h.	.21
92	M	Submin. 2-56 stud type plug similar to No. 191	.30
93	N	Submin. jack rivets direct to chassis or PC board	.15
94	O	Submin. jack rivets direct to chassis or PC (Package of 100)	.27
01	P	Hex body jack with recessed head; fits 1/4″ hole; panels to 5/16″ thick	.19
09	Q	Std. hex head banana jack fits 1/4″ hole; panels to 3/8″ thick	.19
85	R	Giant plug with deep solder well; 6-leaved phos. bronze spring	.90
86	S	Same, but screw fit instead of stud	.80
88	T	Same as No. 186 but slimmer base	.65
87	U	Giant banana jack fits 3/8″ hole; panels to 1/2″ thick	.60

NON-INSULATED TIP PLUGS AND JACKS

05	V	Solderless with knurled collar force fit; 1 29/64″ h.	$0.21
06	W	Smaller version of above; 1 3/16″ h.	.21
56	X	Heavy-duty force fit type; accepts standard banana plugs	.21
08	Y	Standard solder type; 1″ long (Package of 100)	.06
23	Y	Large I.D. solder type; 1″ long (Package of 100)	.09
58	Z	Drawn (all-hollow) solder type; 15/16″ long (Package of 100)	.02
24	AA	Threaded solderless type; knurled collar; will fit plastic handle	.21
27	BB	Smaller version of above; 1 3/16″ h.	.21
25	CC	Heavy duty threaded type; extra large solder well; 1 3/8″ h.	.21
28	DD	Needle tip with removable chuck; 1 5/32″ h.	.30
07	EE	Phone tip jack with hex nut; fits 1/4″ hole; panels to 3/8″ thick	.28
01	EE	Banana jack with hex nut and lug; fits 1/4″ hole; panels to 5/16″ thick	.19

BINDING POSTS

20	FF	5-way grounding type, red or black plastic, captive head; 8-32 thd.	$0.34
30	FF	Same, but 6-32 threaded stud	.34
64	FF	Same as No. 230 with nickel-plated brass insert in head	.49
60	GG	All insulated version of No. 220; red or black plastic, captive head	.55
59	GG	Same, but 6-32 threaded stud	.55
37	HH	Metal 5-way post has captive hex nickel-plated brass head	.50
08	II	Same as No. 137 but with wrap-around terminal	.65
77	JJ	Molded nylon grd. type with nickel-plated brass insert; red or black	.60
78	KK	Same, but with Bakelite washer to insulate from chassis; red or black	.60
79	LL	Molded nylon grounding type; nickel-plated brass insert; red or black	.55
65	MM	Molded plastic post; brass threaded insert; specify red or black	.30
66	NN	Molded plastic post; brass threaded insert; specify red or black	.30
36	OO	Nickel-plated brass post for phone tips or banana plugs	.35
10	MM	Nickel-plated brass post with screw and lockwasher	.35
09	PP	Dual assembly; metal heads; black styrene cross-slotted	1.35
24BB	QQ	Dual assembly; black plastic heads; styrene washer cross-slotted	.95
24RR	QQ	Same, both heads red	.95
24RB	QQ	Same, one red and one black head	.95
69BB	RR	Same as No. 263, but heads are molded nylon; both heads black	1.25
69RR	RR	Same, both heads red	1.25
69RB	RR	Same, one red and one black head	1.25
34BB	SS	Same as No. 263, but heads are molded nylon; both heads black	.95
34RR	SS	Same, both heads red	.95
34RB	SS	Same, one red and one black head	.95

Lots of 1–499, Net; 500–999, –16 2/3 %.

LEXAN 5-WAY BINDING POSTS

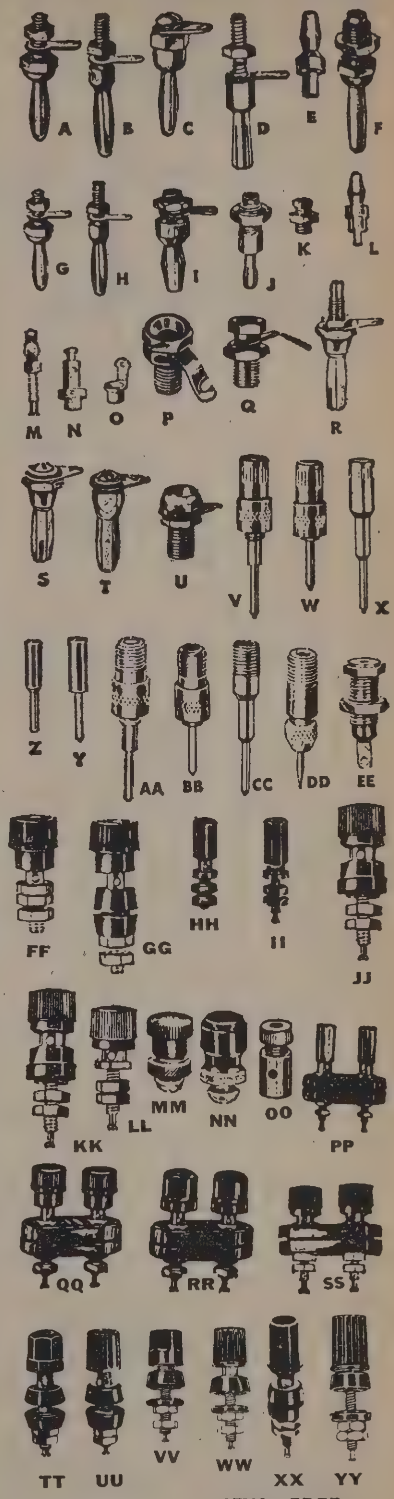
upplied in six colors except where specified. Red, **-102**; black, **-103**; yellow, **-107**; green, **04**; white, **-101**; blue, **-105**.

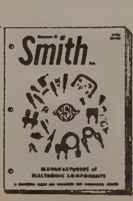
MOUNT IN 1/2″ DIAM. HOLE

57	TT	Hex head, gold plated	$0.65
59	UU	Fluted head, gold plated	.65
67	TT	Hex head, gold plated, MIL Spec. PB01FA03, red only	.70
67	TT	Hex head, gold plated, MIL Spec. PB01FA04, black only	.70
95	UU	Fluted head, gold plated, MIL Spec. PB01FA03, red only	.70
95	UU	Fluted head, gold plated, MIL Spec. PB01FA04, black only	.70
257	VV	Hex head, gold plated, Lexan back-up washer	.58
259	WW	Fluted head, gold plated, flat Lexan back-up washer	.58
99	TT	Hex head, nickel plated, red and black only	.58
99	UU	Fluted head, nickel plated, red and black only	.58
98	VV	Hex head, nickel pltd, flat Lexan back-up washer, red & black only	.51
97	WW	Same, fluted head	.51

MOUNT IN 3/8″ DIAM. HOLE

517	XX	Gold plated	$0.65
514	XX	Gold plated, MIL Spec. PB01FA01, red only	.70
514	XX	Gold plated, MIL Spec. PB01FA02, black only	.70
277	YY	Gold plated, flat Lexan back-up washer	.55
275	XX	Nickel plated, red and black only	.50
276	YY	Nickel plated, flat Lexan back-up washer, red and black only	.48



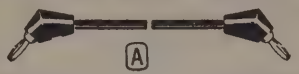


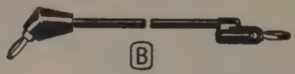
NEW, FREE CATALOG FOR PURCHASING AGENTS AND ENGINEERS

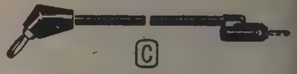
Gives full specifications, parts data and dimensional drawings on al H. H. Smith components Send for your copy today

H. H. Smith Jumpers and Test Leads

Molded plastic handles per Fed. Spec. L-P349A, Type 3, Class MS. To specify color, add suffix to type number: white, **-101**; red, **-102**; black, **-103**; green, **-104**; blue, **-105**; yellow, **-107.** Unless specified otherwise, all wires are #18 AWG (65/36) flexible with 10 KV PVC insulation.


A
Banana Plug
Banana Plug


B
Banana Plug
Cross Patch Banana Plug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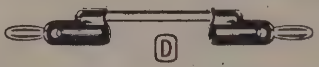
Banana Plug
Phone Tip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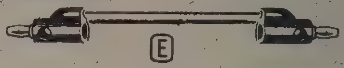
Cross Patch Banana Plug
Cross Patch Banana Plug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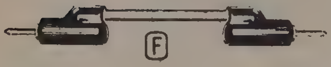
Cross Patch Banana Plug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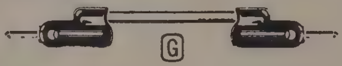
Patch Phone Tip
Patch Phone Tip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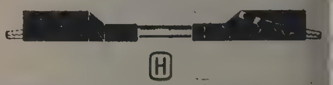
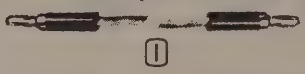
Cross Patch Phone Tip
Cross Patch Phone Tip


H
Alligator Tip
Alligator Clip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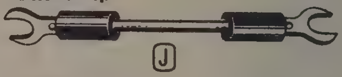
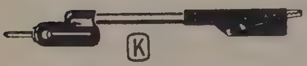
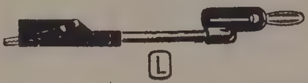
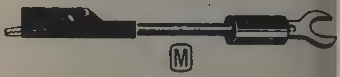
Banana Plug
Banana Plug


J
Spade Lug
Spade Lug


K
Phone Tip
Alligator Clip


L
Alligator Clip
Cross Patch Banana Plug


M
Alligator Clip
Spade Lug

H.H.S. No.	Fig.	Lgth.	Size		Net Each
			End 1	End 2	
1334-8	A	8″	Std.	Std.	$0.77
1334-12	A	12″	Std.	Std.	.77
1334-24	A	24″	Std.	Std.	.86
1334-36	A	36″	Std.	Std.	.95
1335-8	B	8″	Std.	Std.	.89
1335-12	B	12″	Std.	Std.	.89
1335-24	B	24″	Std.	Std.	.98
1335-36	B	36″	Std.	Std.	1.07
1336-8	C	8″	Std.	......	.90
1336-12	C	12″	Std.	......	.90
1336-24	C	24″	Std.	......	.93
1336-36	C	36″	Std.	......	.97
1344-8	A	8″	Min.	Min.	.71
1344-12	A	12″	Min.	Min.	.71
1344-24	A	24″	Min.	Min.	.75
1344-36	A	36″	Min.	Min.	.78
1345-8	B	8″	Min.	Min.	.83
1345-12	B	12″	Min.	Min.	.83
1345-24	B	24″	Min.	Min.	.86
1345-36	B	36″	Min.	Min.	.90
1349-8	A	8″	Min.	Std.	.71
1349-12	A	12″	Min.	Std.	.71
1349-24	A	24″	Min.	Std.	.75
1349-36	A	36″	Min.	Std.	.78

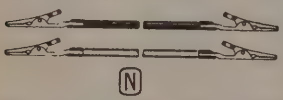
H.H.S. No.	Fig.	Lgth.	Size		Net Each
			End 1	End 2	
1510-8	D	8″	Std.	Std.	$1.40
1510-12	D	12″	Std.	Std.	1.40
1510-24	D	24″	Std.	Std.	1.50
1510-36	D	36″	Std.	Std.	1.60
1590-6	E	6″	Min.	Min.	1.05
1590-12	E	12″	Min.	Min.	1.05
1590-18	E	18″	Min.	Min.	1.10
1590-24	E	24″	Min.	Min.	1.15
1591-6	F	6″	......	......	1.25
1591-12	F	12″	......	......	1.25
1591-18	F	18″	......	......	1.30
1591-24	F	24″	......	......	1.35
1595-8	G	8″	......	......	1.45
1595-12	G	12″	......	......	1.45
1595-24	G	24″	......	......	1.55
1595-36	G	36″	......	......	1.60
1596-12	H	12″	Std.	Std.	.60
1596-24	H	24″	Std.	Std.	.70
1596-36	H	36″	Std.	Std.	.80
1596-48	H	48″	Std.	Std.	.88
1596-60	H	60″	Std.	Std.	.97
1597-12	H	12″	Min.	Min.	.60
1597-18	H	18″	Min.	Min.	.65
1597-24	H	24″	Min.	Min.	.70
1597-36	H	36″	Min.	Min.	.80
1597-48	H	48″	Min.	Min.	.88
1597-60	H	60″	Min.	Min.	.97

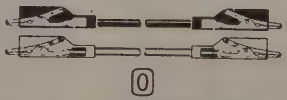
H.H.S. No.	Fig.	Lgth.	Size		N Ea
			End 1	End 2	
1860-8	I	8″	Min.	Min.	$0.
1860-12	I	12″	Min.	Min.	.
1860-24	I	24″	Min.	Min.	1.
1860-36	I	36″	Min.	Min.	1.
1864-12	J	12″	......	......	.
1864-24	J	24″	......	......	.
1864-36	J	36″	......	......	.
1864-48	J	48″	......	......	1.
1864-60	J	60″	......	......	1.
1865-12	K	12″	Std.	......	.
1865-24	K	24″	Std.	......	.
1865-36	K	36″	Std.	......	1.
1865-48	K	48″	Std.	......	1.
1865-60	K	60″	Std.	......	1.
1866-12	L	12″	Std.	Std.	.
1866-24	L	24″	Std.	Std.	.
1866-36	L	36″	Std.	Std.	1.
1866-48	L	48″	Std.	Std.	1.
1866-60	L	60″	Std.	Std.	1.
1867-12	M	12″	Std.	......	.
1867-24	M	24″	Std.	......	.
1867-36	M	36″	Std.	......	.
1867-48	M	48″	Std.	......	.
1867-60	M	60″	Std.	......	1.

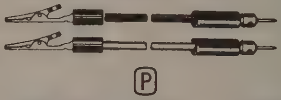
*Available only in red, black, yellow or green. †Available in red and black only. ‡#24 AWG (19/36) wire with 5 KV PVC. •#18 A
(16/30) wire with PVC.

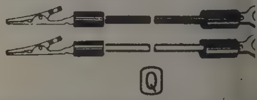
ALLIGATOR CLIP TEST LEADS

Test leads supplied with extra-flexible, rubber-covered, kinkless, #20, 26/34 strand wire, .125″ O.D., rated 5000 volts. All have alligator clip on one end and various connectors on other end
specified. Supplied in pairs, one black and one red.









H.H.S. No.	Fig.	Lgth.	Size		Net Each
			End 1	End 2	
604	N	12″	Std.	Std.	$1.00
605	N	24″	Std.	Std.	1.10
606	N	36″	Std.	Std.	1.20
607	N	48″	Std.	Std.	1.30

H.H.S. No.	Fig.	Lgth.	Size		Net Each
			End 1	End 2	
629	O	12″	Std.	Std.	$1.05
657	O	24″	Std.	Std.	1.15
658	O	36″	Std.	Std.	1.25
659	O	48″	Std.	Std.	1.35

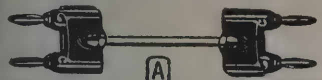
H.H.S. No.	Fig.	Lgth.	Size		N Ea
			End 1	End 2	
716	O	12″	Min.	Min.	$1.
717	O	24″	Min.	Min.	1.
718	O	36″	Min.	Min.	1.
719	O	48″	Min.	Min.	1.
627	P	50″	Std.	......	1.
649	Q	50″	Std.	......	1.

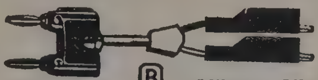
TEST LEAD ADAPTERS

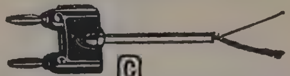
H.H.S. No.	Fig.	Description	Net per 100
214	R	Std. phone tip plug to std. banana plug	$ 55.00
218	S	Std. banana plug to spade lug	10.00
249	S	Std. phone tip plug to spade lug	44.00
245	T	Splice, std. banana jack both ends	28.00
5043	T	Splice, min. banana jack both ends	28.00
5034	T	Splice, min. to std. banana jacks	28.00
5025	U	Binding post to std. banana jack	110.00
5035	U	Min. binding post to min. banana jack	110.00
5026	V	Binding post to phone tip plug	100.00
5036	V	Min. binding post to phone tip plug	100.00

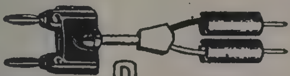
H. H. Smith Patch Cords

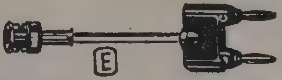
All connectors crimped for reliability. Weatherproof seal on all connectors for greater flexibility and strain relief. Cable is RG58/U, 50-ohm impedance, unless specified otherwise. When cable end splits into separate connectors, one is red and the other is black. Unless specified otherwise, all dual banana plugs are on ¾″ centers.

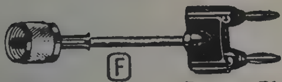

A
Banana Plug
Banana Plug


B
Banana Plug
Alligator Clips


C
Banana Plug
Tinned Leads


D
Banana Plug
Phone Tips


E
BNC Male
Banana Plug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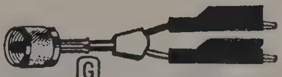
Banana Plug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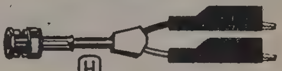
Alligator Clips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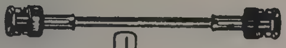
Alligator Clips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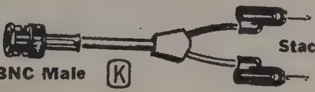
BNC Male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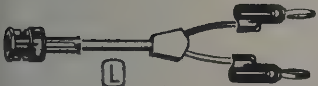
Stack Tip Plugs
BNC Male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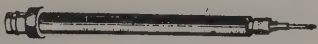
BNC Male
Stack Banana Plugs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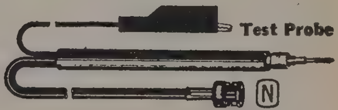
BNC Female
Test Probe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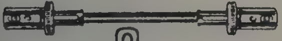
Test Probe
BNC Male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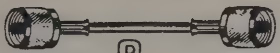
BNC Female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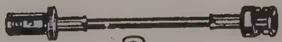
UHF Male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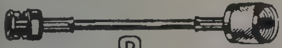
BNC Female
BNC Male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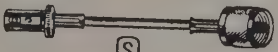
UHF Male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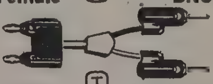
UHF Male


T
Banana Plug
Stack Tip Plugs

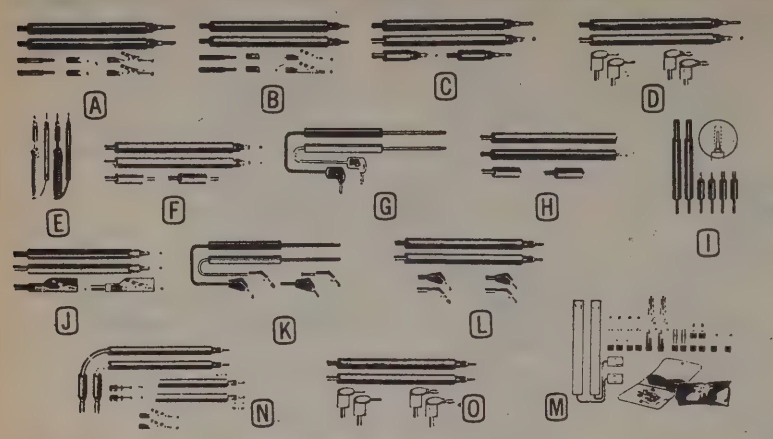
H.H.S. No.	Fig.	Lgth.	Size Left	Size Right	Net Each
1580-12	A	12″	Std.	Std.	$4.35
1580-24	A	24″	Std.	Std.	4.45
1580-36	A	36″	Std.	Std.	4.55
1580-48	A	48″	Std.	Std.	4.65
1580-60	A	60″	Std.	Std.	4.75
1599-12	A	12″	Min.	Min.	4.35
1599-24	A	24″	Min.	Min.	4.45
1599-36	A	36″	Min.	Min.	4.55
1599-48	A	48″	Min.	Min.	4.65
1599-60	A	60″	Min.	Min.	4.75
1729-12	A	12″	Min.	Std.	4.35
1729-24	A	24″	Min.	Std.	4.45
1729-36	A	36″	Min.	Std.	4.55
1729-48	A	48″	Min.	Std.	4.65
1729-60	A	60″	Min.	Std.	4.75
1581-12	B	12″	Std.	Std.	5.35
1581-24	B	24″	Std.	Std.	5.45
1581-36	B	36″	Std.	Std.	5.55
1581-48	B	48″	Std.	Std.	5.65
1581-60	B	60″	Std.	Std.	5.75
1534-12	C	12″	Min.	......	3.35
1534-24	C	24″	Min.	......	3.45
1534-36	C	36″	Min.	......	3.55
1534-48	C	48″	Min.	......	3.65
1534-60	C	60″	Min.	......	3.75
1582-12	C	12″	Std.	......	3.35
1582-24	C	24″	Std.	......	3.45
1582-36	C	36″	Std.	......	3.55
1582-48	C	48″	Std.	......	3.65
1582-60	C	60″	Std.	......	3.75
1583-12	D	12″	Std.	......	4.70
1583-24	D	24″	Std.	......	4.80
1583-36	D	36″	Std.	......	4.90
1583-48	D	48″	Std.	......	5.00
1583-60	D	60″	Std.	......	5.10
1584-12	E	12″	......	Std.	5.35
1584-24	E	24″	......	Std.	5.45
1584-36	E	36″	......	Std.	5.55
1584-48	E	48″	......	Std.	5.65
1584-60	E	60″	......	Std.	5.75

H.H.S. No.	Fig.	Lgth.	Size Left	Size Right	Net Each
1585-12	F	12″	......	Std.	$5.35
1585-24	F	24″	......	Std.	5.45
1585-36	F	36″	......	Std.	5.55
1585-48	F	48″	......	Std.	5.65
1585-60	F	60″	......	Std.	5.75
1586-12	G	12″	......	Std.	5.35
1586-24	G	24″	......	Std.	5.45
1586-36	G	36″	......	Std.	5.55
1586-48	G	48″	......	Std.	5.65
1586-60	G	60″	......	Std.	5.75
1587-12	H	12″	......	Std.	5.35
1587-24	H	24″	......	Std.	5.45
1587-36	H	36″	......	Std.	5.55
1587-48	H	48″	......	Std.	5.65
1587-60	H	60″	......	Std.	5.75
1589-12	J	12″	......	......	5.35
1589-24	J	24″	......	......	5.45
1589-36	J	36″	......	......	5.55
1589-48	J	48″	......	......	5.65
1589-60	J	60″	......	......	5.75
1739-12	B	12″	Min.	Min.	5.35
1739-24	B	24″	Min.	Min.	5.45
1739-36	B	36″	Min.	Min.	5.55
1739-48	B	48″	Min.	Min.	5.65
1739-60	B	60″	Min.	Min.	5.75
1748-12	E	12″	......	Min.	5.35
1748-24	E	24″	......	Min.	5.45
1748-36	E	36″	......	Min.	5.55
1748-48	E	48″	......	Min.	5.65
1748-60	E	60″	......	Min.	5.75
1791-12	H	12″	......	Min.	5.35
1791-24	H	24″	......	Min.	5.45
1791-36	H	36″	......	Min.	5.55
1791-48	H	48″	......	Min.	5.65
1791-60	H	60″	......	Min.	5.75
1792-12	K	12″	......	......	5.50
1792-24	K	24″	......	......	5.75
1792-36	K	36″	......	......	6.00
1792-48	K	48″	......	......	6.25
1792-60	K	60″	......	......	6.50

H.H.S. No.	Fig.	Lgth.	Size Left	Size Right	Net Each
1793-12	L	12″	......	Std.	$5.50
1793-24	L	24″	......	Std.	5.75
1793-36	L	36″	......	Std.	6.00
1793-48	L	48″	......	Std.	6.25
1793-60	L	60″	......	Std.	6.50
1797	M	......	......	......	4.85
1798	N	48″	......	......	5.85
1869-12	O	12″	......	......	6.90
1869-24	O	24″	......	......	7.00
1869-36	O	36″	......	......	7.10
1869-48	O	48″	......	......	7.20
1869-60	O	60″	......	......	7.30
1871-12	P	12″	......	......	5.35
1871-24	P	24″	......	......	5.45
1871-36	P	36″	......	......	5.55
1871-48	P	48″	......	......	5.65
1871-60	P	60″	......	......	5.75
1878-12	Q	12″	......	......	5.60
1878-24	Q	24″	......	......	5.70
1878-36	Q	36″	......	......	5.80
1878-48	Q	48″	......	......	5.90
1878-60	Q	60″	......	......	6.00
1879-12	R	12″	......	......	5.35
1879-24	R	24″	......	......	5.45
1879-36	R	36″	......	......	5.55
1879-48	R	48″	......	......	5.65
1879-60	R	60″	......	......	5.75
1880-12	S	12″	......	......	5.35
1880-24	S	24″	......	......	5.45
1880-36	S	36″	......	......	5.55
1880-48	S	48″	......	......	5.65
1880-60	S	60″	......	......	5.75
1535-12	T	12″	Min.	Std.	5.35
1535-24	T	24″	Min.	Std.	5.45
1535-36	T	36″	Min.	Std.	5.55
1535-48	T	48″	Min.	Std.	5.65
1535-60	T	60″	Min.	Std.	5.75

OUR STOCKS ARE FULLY UP-TO-DATE WITH ALL THE LATEST PRODUCTS.
ASK ABOUT NEW OR UNLISTED ITEMS.

H. H. Smith Test Leads & Prods



TEST LEADS

All test leads supplied with 50″ of extra flexible, rubber-covered, kinkless #20 wire, 26/34 strands, 5 KV rating, .125″ O.D. Handles are butyrate plastic per Fed. Spec. L-P349A, Type 3, Class MS, except as noted. Supplied one red, one black.

SOLDERLESS TIP TEST LEADS (FIG. A)

Handles 4″ long x ⅜″ O.D. Solderless tip of nickel-plated brass.

H.H.S. No.	Meter End	Net per Pair
600	Phone Tips	$1.90
601	Spade Lugs	1.85
602	Alligator Clips	1.95

PHONO NEEDLE TEST LEADS (FIG. B)

Nickel-plated brass body. Nickel-plated steel needle tips.

613	Phone Tips	$1.95
614	Spade Lugs	1.90
615	Alligator Clips	2.00

ALL SOLDERLESS TEST LEADS (FIG. C)

Insulated meter plugs. Tip is solderless nickel-plated brass.

603	Phone Tips	$2.20

SOLDERLESS TEST LEADS WITH SLIM HANDLE (FIG. C)

Handles are ¼″ diam. molded nylon per MIL-P-20693A. Tips silver-plated brass with front retention groove. Wire is #18, 65/36 strands, .140″ O.D., 10 KV rating.

684	Phone Tips	$2.65

SOLDERLESS PROD METER TEST LEADS (FIG. D)

Solderless tip of nickel-plated brass. Elbow type meter plugs insulated with molded phenolic plastic. Nickel-plated brass tip.

625	Phone Tips	$2.25
685	Banana Plugs	2.25

SLIM HANDLE TEST LEADS (FIG. C)

Handles and meter plugs ¼″ O.D. fibre per MIL-F-1148A, Grade CH. Nickel-plated brass tips.

678	Phone Tips	$2.70

KOIL-KORD SOLDERLESS TEST LEADS (FIG. E)

Meter plugs of molded phenolic plastic. Solderless nickel-plated brass tips. Wire is #20, 41/36 strands, 4 KV rating, .165″ O.D., 12″ coiled, 72″ extended.

618	Phone Tips	$6.00

BANANA PLUG TEST LEADS (FIG. F)

Insulated meter plugs. Solderless nickel-plated brass tips.

623	Banana Plugs	$2.25

CROCODILE CLIP TEST LEADS (FIG. G)

Cadmium plated steel clips with colored vinyl boots. Right angle phone tips, banana plugs or spade lugs.

675	Phone tips	$2.00
648	Banana plugs	2.10
671	Spade lugs	1.90

SHORT TIP TEST LEADS (FIG. H)

Insulated meter plugs. Nickel-plated brass tips.

624	Phone Tips	$2.00

RETRACTABLE SHIELDED TEST LEADS (FIG. I)

Handles have retractable cover over tip eliminating possibility of shock or shorting.

H.H.S. No.	Meter End	Net per Pair
616	Phone Tips	$3.05
617	Banana Plugs	3.30

ALLIGATOR CLIP TEST LEADS (FIG. J)

Solderless nickel-plated brass tips. Cadmium-plated steel clips covered with colored vinyl boots.

672	Alligator Clips	$1.60

MINIATURE TEST LEADS (FIG. C)

Handles 3″ long x 3⁄16″ O.D. Machined butyrate plastic per MIL-P-10408A, Type 1, Class 2. Meter plugs same, except ¾″ long.

660	Phone Tips	$1.60

ALLIGATOR CLIP TEST LEADS

Cadmium plated steel clips with insulated handle.

628	Phone tips	$1.75
647	Banana plugs	1.80

PHONO NEEDLE TEST LEADS (FIG. L)

Nickel-plated steel needle prod. Wire #18, 65/36 strands, 10 KV rating, .140″ O.D.

1331	Banana Plugs	$2.60

PHONO NEEDLE TEST LEADS (FIG. L)

Same as No. 1331 above, except wire #24, 19/36 strands, 5 KV rating, .090″ O.D. Plugs are miniature size.

1341	Banana Plugs	$2.20

SLIM HANDLE TEST LEADS (FIG. C)

Handles 5⁄16″ O.D. machined butyrate per MIL-P-10408A, Type 1, Class 2.

670	Phone Tips	$2.00

UNIVERSAL TEST LEADS (FIG. M)

Make any required test lead combination. Supplied with phone tips, alligator clips, banana plugs, needle prod tips, spade lugs, all of which adapt into prod handle or plug handle. Complete in plastic kit.

H.H.S. No.	Description	Net per Pair
699	Standard	$5.50
679	Miniature	5.50

TEST LEAD KIT (FIG. N)

One pair of test leads with test prods on one end and banana plugs on other. Supplied with phone tips, alligator clips, and spade lugs.

H.H.S. No.	Test Prod	Net per Pair
610	Solderless	$2.75
611	Needle tips	2.85

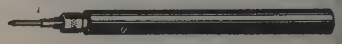
NEEDLE PROD METER TEST LEADS (FIG. O)

Nickel-plated steel needle prod. Elbow type meter plugs insulated with molded phenolic plastic.

H.H.S. No.	Test Prod	Net per Pair
626	Phone Tips	$2.30
686	Banana Plugs	2.30

TEST PRODS

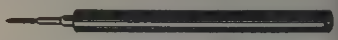
Handles are molded butyrate per Fed Spec. L-P349A, Type 3, Class MS, excep as noted. All available in red or black **specify color.** Tips are nickel-plated brass except as noted; phono needles are steel



SOLDERLESS TYPE

H.H.S. No.	Fig.	Handle O.D.	Handle I.D.	Handle Lgth.	Net per C
302†	A	⅜″	3⁄16″	4″	$33.00
303†	A	⅜″	3⁄16″	5½″	36.00
323*	A	⅜″	.245″	4″	39.00
352	A	⅜″	.245″	4″	33.00
353	A	⅜″	.245″	5½″	36.00
382	A	⅜″	3⁄16″	4″	33.00
383	A	⅜″	3⁄16″	5½″	36.00
384	A	5⁄16″	7⁄32″	5″	33.00

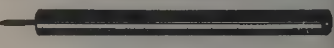
*Handle fibre per MIL-F-1148A, Grade CH. †Tip threads into handle; others force fit.



HEAVY DUTY TYPE

Tip threads into handle.

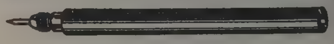
319	B	⅜″	3⁄16″	4″	$33.00
329	B	⅜″	3⁄16″	5½″	36.00



SHORT TIP TYPE

Tip extends only ½″ from handle.

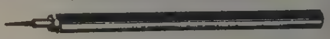
363	C	⅜″	3⁄16″	4″	$28.00
364	C	⅜″	3⁄16″	5½″	31.00



PHONO NEEDLE TYPE

313*	E	5⁄16″	5⁄32″	6″	$90.00
314*	E	5⁄16″	5⁄32″	4″	83.00
317	D	⅜″	3⁄16″	4″	36.00
318	D	⅜″	3⁄16″	5½″	42.00

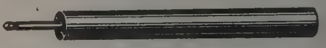
*Handle XXXP phenolic, laquered pe MIL-P-79, Form TR. Solderless.



MINIATURE TYPE

Handle fibre per MIL-F-1148A, Grade CH; threaded tip.

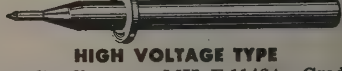
244	C	3⁄16″	⅛″	1″	$20.00
322	B	¼″	.175″	4″	39.00
666	C	3⁄16″	⅛″	4″	33.00



MINIATURE PHONE TIP TYPE

Handle molded nylon per MIL-P-20693A Tip silver-plated brass. Solderless. Fits standard .080″ tip jacks.

176	F	5⁄16″	.221″	1″	$40.00
177	F	5⁄16″	.221″	1″	40.00
178	F	5⁄16″	.221″	4″	50.00
179	F	5⁄16″	.221″	4″	50.00
348	F	5⁄16″	.221″	1″	40.00
349	F	5⁄16″	.221″	4″	50.00



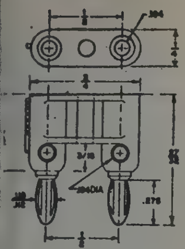
HIGH VOLTAGE TYPE

Handle fibre per MIL-F-1148A, Grade CH. 15 KV rating.

630	G	½″	⅜″	5 3⁄16″	$300.0

H. H. Smith STANDARD AND MINIATURE TEST ADAPTERS

MINIATURE DUAL TEST ADAPTERS



SPECIFICATIONS

Ratings: 5 amps AC for 10° C temp. rise, continuous duty; 2000 VAC, 60 Hz continuous working voltage; except where limited by coaxial connectors. Capacity, 3.0 pF nominal between ½″ spaced conductors. Resistance, 1 milliohm or less per conductor.

Materials: Molded butyrate body, Fed. Spec. L-P349A, Type 3, Class MS; black color unless otherwise specified. Brass conductor per QQ-B-626, Comp. 22, ½ hard. Four-leaded beryllium copper spring, heat treated. Molded nylon head per MIL-P-20693A. Cadmium-plated steel screws.

Finishes: Nickel-plated conductor per QQ-N-290, Class I, Type VII. Nickel-plated spring. Gold washed terminal. Non-tarnish plate connector.

SET SCREW CONNECTION

1754

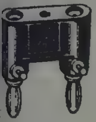
1749

Rear has dual banana jacks on ½″ centers or stacking. Front has set-screws that ecure component leads to conductors.

H. H. Smith No. 1749 Banana Plugs—Front has dual banana plugs on ½″ ceners. Specify red or black. Net Each. . **75c**

H. H. Smith No. 1754 with .080″ Phone Tips—Front has dual .080″ phone tips on ½″ centers. Specify red, black. Net. . . **75c**

TURRET TERMINAL CONNECTION



H. H. Smith No. 1750—Rear has dual banana jacks on ½″ centers for stacking. Front has dual banana plugs on ½″ centers. Turret terminals for permanent solder connection of leads. Specify red or black. Net Ea. . . **85c**

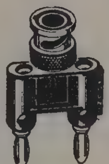
PHONE TIP ADAPTER

H. H. Smith No. 1751—Rear has dual .080″ phone tip jacks on ½″ centers for stacking. Front has dual banana plugs on ½″ centers. Specify red or black. Net Each. **85c**

BNC FEMALE TO BANANA PLUGS

H. H. Smith No. 1758—Rear has BNC series coaxial jack; banana jack holes for stacking. Front has dual banana plugs on ½″ centers; banana jack holes for side stacking. Black. Net Each. **$3.00**

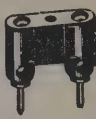
BNC MALE TO BANANA PLUGS



H. H. Smith No. 1759—Rear has BNC series coaxial plug. Front has dual banana plugs on ½″ centers; banana jack holes for side stacking. Black. Net Each. . . **$3.95**

MOLDED-IN SHORTING ADAPTERS

1752



1753

Rear has dual banana jacks on ½″ centers for stacking. Busbar shorted across line.

H. H. Smith No. 1752 with Banana Plugs—Front has dual banana plugs on ½″ centers; banana jack holes for side stacking. Specify red or black. Net Each. **75c**

H. H. Smith No. 1753 with Phone Tips—Front has dual .080″ phone tips on ½″ centers. Banana jack holes for side stacking. Specify red or black. Net Each. . **75c**

BINDING POST ADAPTERS

1755

1756

1757

Rear has insulated, dual 5-way binding posts, with red and black heads on ½″ centers. Banana jack holes for side stacking.

H. H. Smith No. 1755 Binding Posts to Dual Banana Plugs—Front has dual banana plugs on ½″ centers. Black color. Net Each. **$2.25**

H. H. Smith No. 1756 Binding Posts to BNC Male—Front has BNC coaxial plug. Black. Net Each. **$4.60**

H. H. Smith No. 1757 Binding Posts to BNC Female—Front has BNC coaxial jack. Black. Net Each. **$4.60**

STANDARD AND MINIATURE SINGLE TEST ADAPTERS

BINDING POST TO BANANA PLUG

Rear has insulated 5-way binding post. Front has standard or miniature banana plug. Banana jack hole for side stacking.

H.H.S. No.	Description	Net Ea.
5025	Standard Adapter	$1.10
5035	Miniature Adapter	1.10

BINDING POST TO PHONE TIP

Rear has insulated 5-way binding post. Front has standard .080″ phone tip. Banana ack hole for side stacking.

H.H.S. No.	Description	Net Ea.
5026	Standard Adapter	$1.00
5036	Miniature Adapter	1.00

BINDING POST TO ISOLATED BANANA PLUG

Rear has insulated 5-way binding post. Front has standard or miniature banana plug. Center has turret-terminal connections to isolated front and rear conductors or insertion of component in series input.

H.H.S. No.	Description	Net Ea.
5027	Standard Adapter	$1.10
5037	Miniature Adapter	1.10

BINDING POST TO ISOLATED PHONE TIP

Same as above, but with standard .080″ phone tip at front.

H.H.S. No.	Description	Net Ea.
5028	Standard Adapter	$1.00
5038	Miniature Adapter	1.00

TIP JACK TO ISOLATED PHONE TIP

Rear has standard .080″ tip jack. Front has .080″ phone tip. Center has turret-terminal connections to isolated front and rear conductors for insertion of component n series input circuit.

H.H.S. No.	Description	Net Ea.
5030	Standard Adapter	$0.95
5040	Miniature Adapter	.95

5025 5026 5027 5028 5029 5030 5031 5042 5032 214

Ratings: Standard types rated 15 amps continuous duty, 5000 VAC continuous working, except where limited by coaxial connector; miniature types rated 5 amps and 2000 VAC. Resistance, 1 milliohm or less when seated in proper mating connectors. **Materials:** Butyrate body per MIL-P-10408A, Type 1, Class 2; black or red color. Brass conductors per QQ-B-626, Comp. 22, half hard. Four-leaved beryllium copper springs (heat treated). Molded nylon heads per MIL-P-20693A. Cadmium-plated steel screws. **Finishes:** Conductors and springs are nickel plated per QQ-N-296, Class I, Type VII. Terminals are gold washed. **Size:** Standard Adapters: phone tip, .080″ dia. x ½″ long; banana plug, .180″/.170″ dia. x 9/16″ long; phone jack, .080″ dia.; banana jack, .161″ dia., body, ⅜″ dia. Miniature Adapters: phone tip, .080″ dia. x ⅜″ long; banana plug, .118″/.112″ dia. x 9/32″ long; phone jack, .080″ dia.; banana jack, .104″ dia.; body, ¼″ dia. **Color Code Suffix:** Add suffix **-103** to H. H. Smith No. for black body; suffix **-102** for red body.

BANANA JACK TO ISOLATED BANANA PLUG

Rear has standard or miniature banana jack. Front has standard or miniature banana plug. Center has turret-terminal connection to isolated front and rear conductors for insertion of component in series input.

H.H.S. No.	Description	Net Ea.
5029	Standard Adapter	$1.00
5039	Miniature Adapter	1.00

STACKING SOLDERLESS PHONE TIP

Rear has standard or miniature banana jack for stacking. Front has .080″ phone tip. Side has wire lead hole that secures test lead with internal set-screw.

H.H.S. No.	Description	Net Ea.
5031	Standard Adapter	$0.70
5041	Miniature Adapter	.70

STACKING SOLDERLESS MINIATURE BANANA PLUG

Rear has miniature banana jack for stacking. Front has miniature banana plug. Side has wire lead hole that secures test lead with internal set-screw.

H. H. Smith No. 5042—Net Each. . . **65c**

BNC JACK TO BANANA PLUG

Rear has BNC series coaxial jack. Front has standard banana plug. Side banana jack hole for side stacking. Std. adapter.

H. H. Smith No. 5032—Net Each. **$2.00**

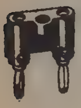
TIP JACK TO BANANA PLUG

Rear has standard .080″ phone tip jack. Front has standard or miniature banana plug. Banana jack hole for side stacking.

H.H.S. No.	Description	Net/100.
214	Standard Adapter	$55.00
5033	Miniature Adapter	50.00

H. H. Smith Standard Dual Test Adapter

CABLE MOUNT DUAL BANANA PLUGS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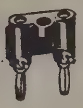
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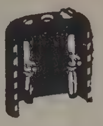
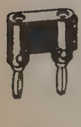

1787

H. H. Smith No. 1675 Set-Screw Plug—Rear has 7/32″ dia. cable guide, dual banana jacks on ¾″ centers. Front has dual banana plugs on ¾″ centers. Set-screws secure leads to conductors. Specify red or black. Net Each........................**$1.10**

H. H. Smith No. 1676 Turret-Terminal Plug—Same as above, but with turret terminals for permanent solder connection. Red or black. Net Each..........**$1.20**

H. H. Smith No. 1787 Shielded Plug—Rear has mounting screw and locating boss, inline cable entry with flush cable guide. Front has dual banana plugs on ¾″ centers. Turret terminals for permanent solder connection. Aluminum shield electrically connected to ground conductor; fully enclosed plug and mating binding posts to reduce noise pickup. Net..**$3.60**

COMPONENT MOUNT DUAL PLUGS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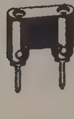
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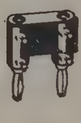
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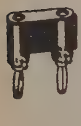
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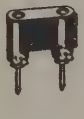
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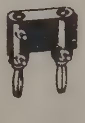

1770

H. H. Smith No. 1677 Set-Screw Plug—Rear has dual banana jacks on ¾″ centers for stacking. Front has dual banana jacks on ¾″ centers. Set-screws secure component leads to conductors. Specify red or black. Net Each..............**$1.10**

H. H. Smith No. 1694 Set-Screw Phone Tip Plug—Rear has dual banana jacks on ¾″ centers for stacking. Front has dual .080″ phone tips on ¾″ centers. Set-screws secure component leads to conductors. Specify red or black. Net Each......**75c**

H. H. Smith No. 1696 Four-Terminal Isolation Type Plug—Rear has dual banana jacks on ¾″ centers for stacking. Center has turret-terminal connections to isolated front and rear conductors in both Ground and Hot circuits for insertion of matching pad or other 4-terminal networks in input circuits of instruments. Front has dual banana plugs on ¾″ centers. Specify red or black. Net Each..........**$3.25**

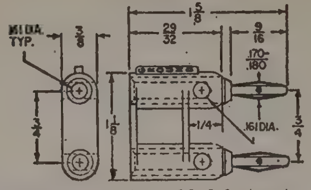
H. H. Smith No. 1678 Turret-Terminal Plug—Rear has dual banana jacks on ¾″ centers for stacking. Front has dual banana jacks on ¾″ centers. Turret terminals. Specify red or black. Net Each...**$1.20**

H. H. Smith No. 1693 Phone Tip Plug—Rear has dual phone tip jacks on ¾″ centers for stacking. Front has dual .080″ phone tips on ¾″ centers. Turret terminal. Specify red or black. Net Each......**85c**

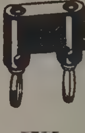
H. H. Smith No. 1770 Three-Terminal Isolation Plug—Rear has dual banana jacks on ¾″ centers for stacking. Center has turret-terminal connections to isolated front and rear conductors in Hot circuit, straight-thru connection of Ground circuit, with terminal, for insertion of "T" and "P" networks in input-output circuits in instruments. Front has dual banana plugs on ¾″ centers. Specify red or black.
Net Each............................**$2.50**

SHORTING TYPE PLUGS

SPECIFICATIONS



Materials: Body is molded butyrate per Fed. Spec. L-P349A, Type 3, Class MS; black color unless otherwise specified. Brass conductor per QQ-B-626 Comp. 22, ½ hard. Four-leaved beryllium copper spring, heat treated. Molded nylon head per MIL-P-20693A. Drawn aluminum shield. Cadmium-plated steel screws. **Finishes:** Conductor and spring, nickel-plate per QQ-N-290, Class I; Type VII. Gold-washed terminal. Non-tarnish connector. Black anodized shield. **Ratings:** 15 amps AC for 10° C temp. rise, continuous duty; 5000 VAC, 60 Hz continuous working voltage; except where limited by coaxial connectors. Capacity, 1.0 pF nominal between ¾″ spaced connectors. Resistance, 1 milliohm or less per conductor.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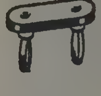
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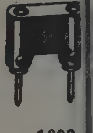
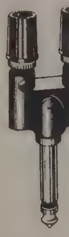

1692

H. H. Smith No. 1516 Dual Banana Plu
—Rear has dual banana jacks on ¾″ cer
ters for stacking. Front has dual banan
plugs on ¾″ centers; banana jack holes fo
side stacking. Busbar shorted across lin
Specify red or black. Net Each......**65**

H. H. Smith No. 1683 Metal Shortin
Bar Plug—Rear has 3/32″ thick brass bu
bar; 15 amps continuous duty. Front ha
dual banana plugs on ¾″ centers. Unit si
flush to panel. Net Each...........**75**

H. H. Smith No. 1692 Phone Tip Plug–
Rear has dual banana jacks on ¾″ cente
for stacking. Front has dual .080″ phon
tips on ¾″ centers; banana jack holes fo
side stacking. Busbar shorted across lin
Specify red or black. Net Each...**$1.0**

DUAL BINDING POST ADAPTERS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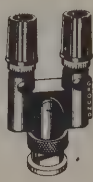
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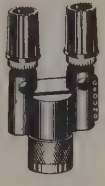
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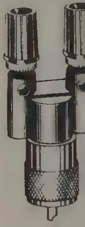
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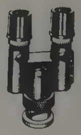
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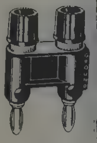

1755

Reoar f each adapter has insulated, dual 5-way binding posts, with red and black heads on ¾″ centers. Banana jack holes for side stacking (except No. 1698). Front has plug or jack as indicated.

H. H. Smith No. 1682 Binding Posts to Dual Banana Plugs—Front has dual banana plugs on ¾″ centers. Net..**$2.25**

H. H. Smith No. 1684 Binding Posts to 2-Circuit Phone Plug—Front has standard ¼″ two-circuit phone plug. Net..**$4.60**

H. H. Smith No. 1688 Binding Posts to BNC Male—Front has BNC series coaxial plug. Net Each....................**$4.60**

H. H. Smith No. 1698 Binding Posts to Isolated BNC Male—Front has BNC coaxial plug. Center has turret-terminal connections to isolated front and rear conductors in both Ground and Hot circuits for insertion of matching pad or other 4-term. networks in input. Net..**$10.00**

H. H. Smith No. 1689 Binding Posts to BNC Female—Front has BNC series female coaxial jack. Net Each......**$4.60**

H. H. Smith No. 1776 Binding Posts t
TNC Male—Front has TNC series coaxi
plug. Net Each....................**$7.0**

H. H. Smith No. 1777 Binding Posts t
TNC Female—Front has TNC series co
axial jack. Net Each.............**$6.0**

H. H. Smith No. 1695 Binding Posts t
UHF Male—Front has UHF series coaxi
plug. Net Each....................**$5.0**

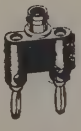
H. H. Smith No. 1691 Binding Posts t
UHF Female—Front has UHF series co
axial jack. Net Each.............**$5.2**

H. H. Smith No. 1756 Binding Posts t
BNC Male—Front has BNC series mal
coaxial plug. Conductors connected thr
Net Each..........................**$4.6**

H. H. Smith No. 1757 Binding Posts t
BNC Female—Front has BNC series f
male coaxial jack. Conductors connecte
thru. Net Each...................**$4.6**

H. H. Smith No. 1755 Binding Posts t
Dual Banana Plugs—Front has dual b
nana plugs on ½″ centers. Net..**$2.2**

COAXIAL CONNECTOR ADAPTERS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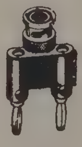
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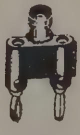
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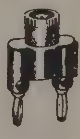
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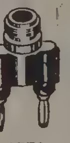
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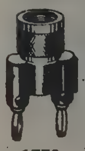
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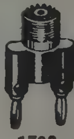
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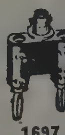

1697

Front of each adapter has dual banana plugs on ¾″ centers. Banana jack holes for side stacking (except No. 1697). Rear has coaxial connector as indicated.

H. H. Smith No. 1686 BNC Female to Banana Plugs—Rear has BNC series coaxial jack. Net Each..............**$2.60**

H. H. Smith No. 1687 BNC Male to Banana Plugs—Rear has BNC series coaxial plug. Net Each..............**$3.60**

H. H. Smith No. 1774 TNC Female to Banana Plugs—Rear has TNC series coaxial jack. Net Each..............**$5.25**

H. H. Smith No. 1775 TNC Male to Banana Plugs—Rear has TNC series coaxial plug. Net Each..............**$6.00**

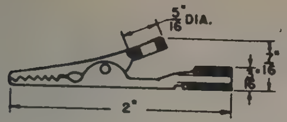
H. H. Smith No. 1778 Type N Female
Banana Plugs—Rear has Type N coaxi
jack. Net Each.......................**$5.2**

H. H. Smith No. 1779 Type N Male
Banana Plugs—Rear has Type N coaxi
plug. Net Each......................**$6.0**

H. H. Smith No. 1690 UHF Female
Banana Plugs—Rear has UHF series c
axial jack. Net Each..............**$4.6**

H. H. Smith No. 1697 BNC Female
Isolated Dual Banana Plugs—Rear h
BNC series coaxial jack. Center has turre
terminal connections to isolated front a
rear conductors in both Ground and H
circuits for insertion of matching pad
other 4-terminal networks in input circui
Net Each..........................**$9.0**

H. H. Smith Alligator Clips



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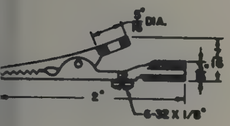

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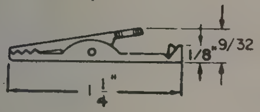

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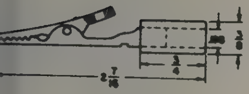

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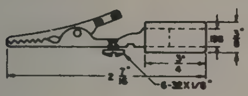

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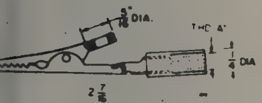

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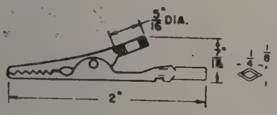

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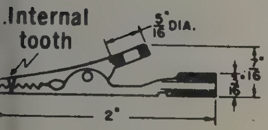

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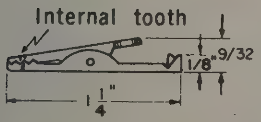

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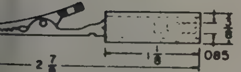

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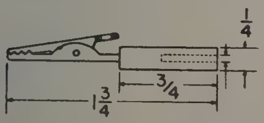

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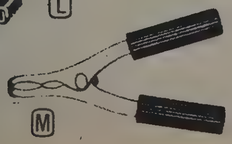


M

ALLIGATOR CLIPS

H.H.S. No.	Fig.	Jaws Open	Description	Net per C
			UNINSULATED STANDARD	
300	A	½"	Steel, cadmium-plated	$ 7.50
380	A	½"	Solid copper	12.50
382	A	½"	Brass, nickel-plated	33.00
358	B	½"	Steel, cadmium-plated	10.50
360	B	½"	Solid copper	15.50
339	B	½"	Brass, nickel-plated	17.50
392	A	¾"	Steel, cadmium-plated	20.00
			JUMBO	
396	A	¾"	Solid copper	27.00
368	B	¾"	Steel, cadmium-plated	23.00
356	B	¾"	Solid copper	30.00
			MINIATURE	
338	C	3/16"	Steel, cadmium-plated	6.00
367	C	3/16"	Solid copper	8.00
347†	H		Banana plug	15.00
326†	I		Miniature, solder connection	12.00
			INSULATED* STANDARD	
301	D	½"	Steel, cadmium-plated	$12.50
381	D	½"	Solid copper	17.50
354	D	½"	Brass, nickel-plated	19.50
351	E	½"	Steel, cadmium-plated	15.50
361	E	½"	Solid copper	20.50
362	E	½"	Brass, nickel-plated	22.50
			JUMBO	
393	D	¾"	Steel, cadmium-plated	25.00
397	D	¾"	Solid copper	32.00
369	E	¾"	Steel, cadmium-plated	28.00
357	E	¾"	Solid copper	35.00

*Specify red or black. †Insulation-piercing tooth in jaws.

ALLIGATOR CLIP ADAPTORS

H.H.S. No.	Fig.	Adapts To	Net per C
		UNINSULATED	
310	F	Phone tip, 10-32	$20.00
720	F	Phone tip, 8-32	20.00
333	G	Phone tip	11.00
		INSULATED*	
304	J	Steel clip, phone tip	$42.00
334	J	Copper clip, phone tip	47.00
305	J	Steel clip, phone or banana	50.00
335	J	Copper clip, phone or banana	55.00
336‡	J	Phone tip	45.00
337‡	J	Solder connection	30.00
1320	K	Miniature steel clip, phone tip	39.00
1321	K	Miniature steel clip, miniature banana	39.00
1322	K	Miniature steel clip, standard banana	39.00
1323	K	Miniature copper clip, phone tip	44.00
1324	K	Miniature copper clip, miniature banana	44.00
1325	K	Miniature copper clip, standard banana	44.00

*Specify red or black. ‡All metal parts insulated.

CLIP INSULATORS

H.H.S. No.	Description	Net per C
331#	Standard alligator clip insulator	$ 3.50
389#	Miniature alligator clip insulator	4.50
331*	No. 365 battery clip insulator	3.50
710*§	Nos. 704, 706 battery clip insulator	75.00

*Specify red or black. §Rubber; others vinyl. #Specify red, black, yellow, green, blue or white.

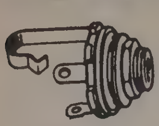
BATTERY CLIPS (FIG. L)

H.H.S. No.	Jaws Open	Length	Capacity, Amps	Net per C
		PLATED STEEL		
365	⅜"	1⅝"	5	$11.00
366	9/16"	2"	10	11.00
701	1"	2½"	25	20.00
702	1½"	3⅞"	50	30.00
704	1⅜"	5"	100	90.00
		SOLID COPPER		
703	1"	2½"	50	$ 30.00
705	1¼"	4¾"	100	110.00
706	1⅜"	5¾"	200	170.00

PLIER TYPE BATTERY CLIPS (FIG. M)

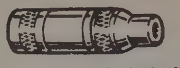
H.H.S. No.	Material	Length, Inches	Capacity, Amps	Net per C
712	Steel, copper-plated	3¼	35	$ 25.00
713	Steel, copper-plated	4½	75	35.00
714	Steel, copper-plated	7½	100	60.00
721	Solid copper	7½	300	180.00

SWITCHCRAFT® INC. Phone Jacks and Jack Covers



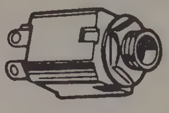
Littel-Jax®

Tini-Jax®



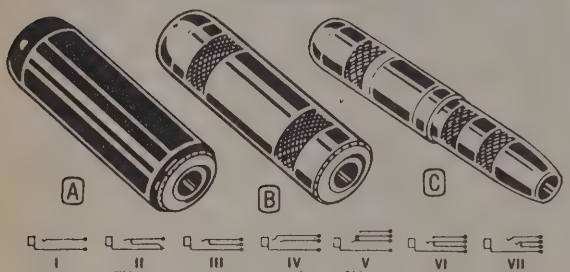
"TINI-EXTENSION" JAX

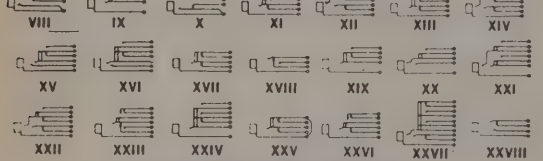
Micro-Jax®



Hi-D Jax®

"TINI-D JAX"





Schematics do not necessarily indicate relative solder lug positions.

Littel-Jax® PHONE JACKS

Economical phone jacks with notched insulating washers to mechanically interlock springs and solder lugs. "V" bend in spring tip holds mating plug firmly. Mount in ⅜" dia. hole in panels up to ³⁄₃₂" thick, except L-11 and L-12A mount in panels up to ¼" thick. Nos. C-11 and C-12B have locating pins (non-turn devices). No. S-11 similar to No. 11 except .210" I.D. sleeve. No. 14B stereo Littel-Jax switches out speakers when connecting stereo headphones. Dual NC switch contacts open both stereo circuits independently when 3-cond. plug is inserted.

Part No.	Schematic No.	Typ. Mating Plug	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
			TWO-CONDUCTOR TYPES				
11	I	250	$0.60	$0.45	$0.413	$0.375	$0.30
C-11*	I	440	.88	.66	.605	.55	.44
L-11	I	250	.68	.51	.468	.425	.34
S-11	I	S-250	.64	.48	.44	.40	.32
12A	III	250	.64	.48	.44	.40	.32
C-12A*	III	440	1.00	.75	.688	.625	.50
L-12A	III	250	.72	.54	.495	.45	.36
PC-12A	III	250	.72	.54	.495	.45	.36
13	V	250	1.20	.90	.825	.75	.60
13A	VI	250	1.08	.81	.743	.675	.54
13E	IX	250	1.20	.90	.825	.75	.60
			THREE-CONDUCTOR TYPES				
12B	IV	267	$0.72	$0.54	$0.495	$0.45	$0.36
C-12B*	IV	480	1.00	.75	.688	.625	.50
L-12B	IV	267	.96	.72	.66	.60	.48
S-12B	IV	480	.96	.72	.66	.60	.48
13B	VIII	267	1.04	.78	.715	.65	.52
14B	XII	267	1.40	1.05	.963	.875	.70

*Per JAN-J-641.

Tini-Jax® MINIATURE PHONE JACKS

Miniature 2-cond. phone jacks approximately ⅓ the size of Littel-Jax; otherwise similar in construction. Mount in ¼" dia. hole in panels up to ⅛" thick. No. 43A has a unique spring design that requires a pear shaped tip, such as Tini-Plug® No. 750.

Part No.	Schematic No.	Typ. Mating Plug	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
41	I	750	$0.56	$0.42	$0.385	$0.35	$0.28
42A	III	750	.60	.45	.413	.375	.30
43A	VI	750	.92	.69	.633	.575	.46

"TINI-EXTENSION JAX"

An extension or cable jack to mate with Tini-Plug. Two conductor. Metal housing for ruggedness and electrical shielding. Solder lug terminals.

Part No.	Schematic No.	Typ. Mating Plug	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
125	....	750	$1.76	$1.32	$1.21	$1.10	$0.88

Micro-Jax SUBMINIATURE PHONE JACK

Precision jack for compact equipment. Only 1/25 the size o standard phone jacks. Two-cond., single closed circuit. Silve plated nickel silver springs. Internally keyed nylon insulatio interlocks springs and solder lugs to eliminate shorts. Mount in .190" dia. hole in panels up to ³⁄₃₂" thick.

Part No.	Schematic No.	Typ. Mating Plug	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
TR-2A	III	850, 880	$0.72	$0.54	$0.495	$0.45	$0.36

Hi-D Jax PHONE JACKS

Small compact phone jacks mate with standard ¼" phone plug Molded box body protects silver-plated, nickel silver spring Low contact resistance and electrical leakage with little capacit between springs. Mount on ⅝" centers in ⅜" dia. hole in panel up to ⁵⁄₃₂" thick. Part Nos. with "N" prefix have threaded nylo bushing to insulate jack from panel. Part Nos. with "M" prefi are designed and adjusted to mate with telephone and MIL-STI plugs. Tip and ring (3-cond.) springs are gold plated. Contacts ar welded crossbar palladium for stable, low-resistance connection No. 114B stereo Hi-D jack switches out speakers when con necting stereo headphones. Dual NC switch contacts open bot circuits independently when 3-cond. plug is inserted.

Part No.	Schematic No.	Typ. Mating Plug	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
			TWO-CONDUCTOR TYPES				
111	I	250	$0.56	$0.42	$0.385	$0.35	$0.28
N-111	I	250	.72	.54	.495	.45	.36
112A	III	250	.60	.45	.413	.375	.30
L-112A	III	250	.76	.57	.523	.475	.38
N-112A	III	250	.76	.57	.523	.475	.38
113	V	250	1.04	.78	.715	.65	.52
113D	VI	250	1.04	.78	.715	.65	.52
			THREE-CONDUCTOR TYPES				
112B	IV	267	$0.64	$0.48	$0.44	$0.40	$0.32
L-112B	IV	267	.80	.60	.55	.50	.40
M-112B	IV	482	1.00	.75	.688	.625	.50
N-112B	IV	267	.80	.60	.55	.50	.40
113B	VII	267	.84	.63	.578	.525	.42
114B	XII	267	.92	.69	.633	.575	.46
L-114B	XII	267	1.04	.78	.715	.65	.52
M-114B	XII	267	1.32	.99	.908	.825	.66
N-114B	XII	267	1.04	.78	.715	.65	.52

"TINI-D JAX" MINIATURE PHONE JACKS

Small, completely enclosed, molded phone jack mates with Tini Plug No. 750, etc. Phenolic housing protects the bifurcate beryllium copper springs. Has threaded bushing for mounting o ⅜" centers in ¼" dia. hole in panels up to ⅛" thick. Depth behin panel, ⁷⁄₁₆". Terminals snap into PC boards.

Part No.	Schematic No.	Typ. Mating Plug	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
142A	III	750	$0.64	$0.48	$0.44	$0.40	$0.32

"EXTENSION JAX" CABLE EXTENSION JACKS

Standard ¼", 2- and 3-cond. extension phone jacks with solde lugs or screw terminals. Size, 1¹⁄₁₆" O.D. x 2⁵⁄₃₂" long, except Nos 121 and 131, ½" O.D. x 2½" long. Black handles are durabl plastic; shielded handles are bright nickel-plated brass.

Part No.	Fig.	Cond.	Term.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
				WITH BLACK PLASTIC HANDLE				
80	A	2	Screw	$1.60	$1.20	$1.10	$1.00	$0.80
88	A	2	Solder	1.44	1.08	.99	.90	.72
830	A	3	Screw	2.12	1.59	1.46	1.33	1.06
838	A	3	Solder	1.92	1.44	1.32	1.20	.96
				WITH SHIELDED HANDLE				
120	B	2	Screw	$2.12	$1.59	$1.46	$1.33	$1.06
121	C	2	Solder	2.20	1.65	1.51	1.38	1.10
126	B	2	Solder	2.32	1.74	1.60	1.45	1.16
128	B	2	Solder	1.92	1.44	1.32	1.20	.96
131	C	3	Solder	2.80	2.10	1.93	1.75	1.40

JACK COVER

Handy, rugged, spring loaded phone jack cover. Covers jac opening when plug is removed. Protects against dust and mois ture. Used with standard ⅜"-32 threaded bushing type phon jacks.

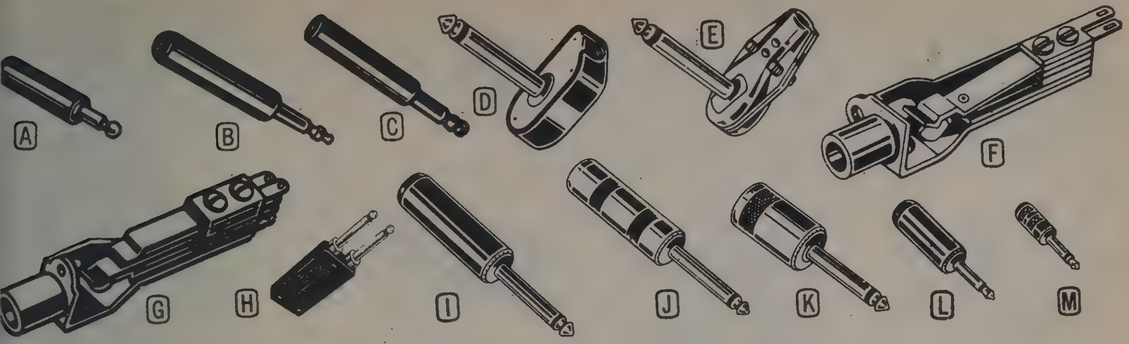
Part No.	Color	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
512	Nickel	$1.60	$1.20	$1.10	$1.00	$0.80
515	Black	1.60	1.20	1.10	1.00	.80

"THICK-PANEL JAX"

Phone jacks with long bushings. Mount in ¹⁵⁄₃₂" dia. hole in panel up to 1¼" thick. Solder lug terminals. Ideal for use with micro phones—extra shielding reduces audio hum. Mate with standar ¼" phone plugs. Nickel-plated brass.

Part No.	Description	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
151	2 conductor	$2.04	$1.53	$1.40	$1.28	$1.02
152B	3 conductor	2.20	1.65	1.51	1.38	1.10

SWITCHCRAFT® INC. Phone Plugs and Jacks



MIL-TYPE Littel-Plug® PHONE PLUGS

ttel-Plug phone plugs are made in accordance with MIL-P-642(A) ecifications. One-piece tip rod and one-piece sleeve and plug dy provide internal interlock to prevent shifting of parts. andles are red or black plastic. All plugs have screw terminals.

art o.	Fig.	Cond.	MIL Type	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
20#	....	2	PJ-047B	$2.28	$1.71	$1.57	$1.43	$1.14
25*	....	2	PJ-047R	2.28	1.71	1.57	1.43	1.14
30*	A	2	PJ-054B	1.96	1.47	1.35	1.23	.98
30*	....	2	PJ-055B	1.84	1.38	1.27	1.15	.92
5	....	2	PJ-055R	1.84	1.38	1.27	1.15	.92
0	....	2	PJ-055M	2.32	1.74	1.60	1.45	1.16
30*	B	3	PJ-068	4.00	3.00	2.75	2.50	2.00
32#	C	3	PJ-051R	4.44	3.33	3.05	2.78	2.22
33*	C	3	PJ-051B	4.44	3.33	3.05	2.78	2.22
20▲	....	2	JJ-026	2.40	1.80	1.65	1.50	1.20

Red Handle. #Black Handle. ▲Extension jack with black handle. ypical mating plug, No. 430.

"FLAT-PLUG" PHONE PLUGS

hese ¼″ phone plugs feature flat, space-saving handles. Ideal for pplications where conventional plugs would protrude too far. o. 220 has adapter clips so that standard phone tips can be amped to terminals. Shielded flat plugs Nos. 228 and 238 have ckel-plated steel handles; others have black plastic handles.

Part No.	Fig.	Term.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
220#	D	Screw	$1.48	$1.11	$1.02	$0.925	$0.74
225*	D	Screw	1.48	1.11	1.02	.925	.74
227#	D	Solder	1.16	.87	.798	.725	.58
228	E	Solder	1.36	1.02	.935	.85	.68
230#•	D	Screw	1.80	1.35	1.24	1.13	.90
237#•	D	Solder	1.76	1.32	1.21	1.10	.88
238•	E	Solder	1.88	1.41	1.29	1.18	.94

Red handle. #Black handle. •Three conductor type; others are wo conductor.

"MT-JAX" MILITARY TELEPHONE JACKS

ong frame, telephone switchboard jacks designed for high uality communication and military equipment. Springs are of a pecial nickel silver alloy with welded crossbar palladium contacts. A" frame design, Fig. H, has side mounting ear; "C" frame esign, Fig. G has top mtg. ear. Jacks have solder lugs, except **W** refix indicates wire-wrap lugs.

Part No.*	Fig.	Conds.	Schematic No.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
MT-331	F	2	I	$1.48	$1.11	$1.02	$0.925	$0.74
MT-332A	F	2	III	1.76	1.32	1.21	1.10	.88
MT-332B	F	3	IV	1.76	1.32	1.21	1.10	.88
WMT-332B	G	3	IV	1.92	1.44	1.32	1.20	.96
MT-332C	F	2	XVIII	2.04	1.53	1.40	1.28	1.02
MT-334B	F	3	XII	2.08	1.56	1.43	1.30	1.04
WMT-334B	G	3	XII	2.32	1.74	1.60	1.45	1.16
MT-336C	F	3	XXII	3.00	2.25	2.06	1.88	1.50
MT-342B	F	3	IV	2.04	1.53	1.40	1.28	1.02

For "C" frame type (Fig. G), add prefix **"C"** to part number.

"TWIN-JAX" MILITARY TWIN TELEPHONE JACKS

imilar in design to "MT-Jax", except frame is double width with wo mounting ears on 1⅜″ centers; dual bushings are ⅝″ on enters. Has two 3-cond. jacks interconnected; mates with No. 82 plug.

Part No.	Terms.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
MT-389	Solder	$5.84	$4.38	$4.02	$3.65	$2.92
WMT-389	Wire-wrap	6.12	4.59	4.21	3.83	3.06

MILITARY TYPE "TWIN-PLUG"

Meet exact military and industrial requirements. "Twin-Plug" leeves spaced ⅝″ center to center with self-aligning feature. No. 11 has two independent 2-cond. plugs in black plastic handle.

Part No.	Fig.	MIL Type	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
411	H	PJ-327	$5.64	$4.23	$3.88	$3.53	$2.82

Littel-Plug PHONE PLUGS

Small size phone plugs fit standard ¼″ phone jacks except Nos. S-250, S-260 and S-280, .206″ dia. sleeve. Plugs with solder terminals have built-in cable clamp. Shielded metal handles are nickel-plated brass; others are plastic, ⅝″ long x ½″ dia.

Part No.	Fig.	Handle	Term.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
TWO-CONDUCTOR TYPE								
240	I	Black	Screw	$1.04	$0.78	$0.715	$0.65	$0.52
C-240	I	Black	Screw	1.20	.90	.825	.75	.60
245	I	Red	Screw	1.04	.78	.715	.65	.52
250	I	Black	Solder	1.00	.75	.688	.625	.50
255	I	Red	Solder	1.00	.75	.688	.625	.50
270	J	Sh'l'd	Screw	1.48	1.11	1.02	.925	.74
C-270	J	Sh'l'd	Screw	1.68	1.26	1.16	1.05	.84
280	J	Sh'l'd	Solder	1.44	1.08	.99	.90	.72
S-250	I	Black	Solder	1.04	.78	7.15	.65	.52
S-280	J	Sh'l'd	Solder	1.44	1.08	.99	.90	.72
THREE-CONDUCTOR TYPE								
260	I	Black	Screw	$1.68	$1.26	$1.16	$1.05	$0.84
267	I	Black	Solder	1.48	1.11	1.02	.925	.74
269	I	Black	Solder	1.48	1.11	1.02	.925	.74
290	J	Sh'l'd	Screw	1.92	1.44	1.32	1.20	.96
297	J	Sh'l'd	Solder	1.84	1.38	1.27	1.15	.92

STANDARD ¼″ PHONE PLUGS

Available with black phenolic or nickel-plated brass handles.

Part No.	Fig.	Handle Type	Handle Size L. x D.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
TWO-CONDUCTOR TYPE—SCREW TERMINALS								
40	I	Black	2¹⁄₁₆″ x ¾″	$1.04	$0.78	$0.715	$0.65	$0.52
160	K	Sh'l'd	1″ x 1¹⁄₁₆″	1.40	1.05	.963	.875	.70
70	J	Sh'l'd	1¹⁄₁₆″ x 2¹⁄₁₆″	1.72	1.29	1.18	1.08	.86
90	K	Sh'l'd	1¹⁄₁₆″ x 1″	1.80	1.35	1.24	1.13	.90
THREE-CONDUCTOR TYPE—SOLDER TERMINALS								
60	I	Black	2¹⁄₁₆″ x 1¹⁄₁₆″	$1.44	$1.08	$0.99	$0.90	$0.72
190A	J	Sh'l'd	1¹⁄₁₆″ x 2¹⁄₁₆″	2.60	1.95	1.79	1.63	1.30
190	J	Sh'l'd	2¹⁄₁₆″ x 1¹⁄₁₆″	2.08	1.56	1.43	1.30	1.04
350*	I	Black	½″ x 2⅞″	.88	.66	.605	.55	.44

*Solder lugs.

Tini-Plug MINIATURE PHONE PLUGS

Miniature 2-cond. phone plugs for use with Tini-Jax; only ⅓ the size of standard phone plugs. Handles, 1⅝″ overall length. No. 780 has shielded nickel-plated brass handle; others have colored plastic handles.

Part No.	Fig.	Handle	Term.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
740	L	Black	Screw	$0.96	$0.72	$0.66	$0.60	$0.48
745	L	Red	Screw	.96	.72	.66	.60	.48
750	L	Black	Solder	.92	.69	.633	.575	.46
755	L	Red	Solder	.92	.69	.633	.575	.46
770	L	Metal	Screw	1.36	1.02	.935	.85	.68
780	L	Metal	Solder	1.28	.96	.88	.80	.64

Micro-Plug SUBMINIATURE PHONE PLUGS

Ultra-miniature, 2-cond. phone plugs only 1¹⁄₆₄″ long, ¼″ O.D., .097″ sleeve. Mate with No. TR-2A. Screw-on handles in black, red, or natural anodized aluminum. All plugs have cable clamps.

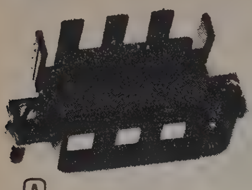
Part No.	Fig.	Handle	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
850	M	Black	$0.88	$0.66	$0.605	$0.55	$0.44
880	M	Natural	.88	.66	.605	.55	.44

"LUG-PLUG" PHONE PLUG

Low cost, 2-cond. phone plug fits all ¼″ jacks. Solder lug terminals and phenolic handle (No. 350) or 1″ lg. shielded handle (No. 380).

350	I	Black	$0.88	$0.66	$0.605	$0.55	$0.44
380	.....	Metal	1.08	.81	.743	.675	.54

Thermalloy, Inc. Semiconductor Coolers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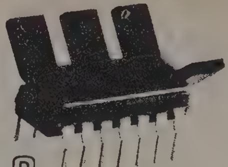
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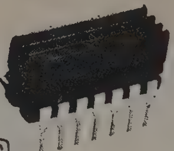
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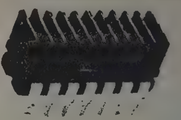
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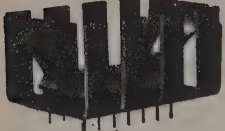
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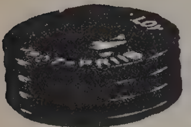
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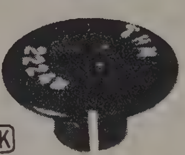
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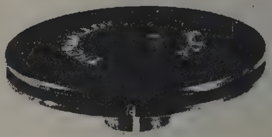
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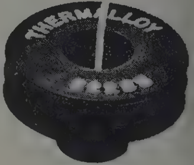
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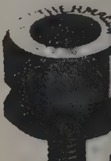
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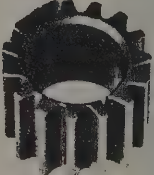
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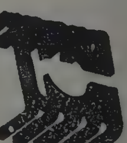
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FOR DIP PACKAGES—14 AND 16 PIN

Therm-alloy Number	Fig.	Thermal Resis. °C/W	Features	Size (Inches) L. x W. x H.	Net Each, Lots of 25-99	100-499	500-999
6007A	A	20	2 Piece	1.24 x .750 x .370	$0.92	$0.76	$0.59
6010B	B	34	Epoxy bond	.75 x .604 x .212	....	.17	.13
6011B	C	30	Epoxy bond	.75 x .250 x .190	....	.29	.23
6012B	D	30	Epoxy bond	.73 x .250 x .190	....	.32	.25
6020A	E	18	Snap-in	1.00 x .725 x .500	....	.29	.21

FOR TO-5 PACKAGES

Two-piece heat sinks with 4-40 threaded mounting holes.

Therm-alloy Number	Fig.	Thermal Resis. °C/W	Features	Size (Inches) Dia. x Hght.	Net Each, Lots of 25-99	100-499	500-999
2210A	F	46	Single thru hole	.625 x .407	$0.94	$0.77	$0.61
2210B	F	46	Single thru hole	.625 x .407	.77	.63	.50
3005A	G	....	Matched pairs	1.250 x .375	2.30	1.89	1.49
2212B-5	I	30	Indiv. holes	1.062 x .375	1.53	1.26	.99
2207/PR11B	J	40	Indiv. holes	.812 x .347	1.62	1.33	1.05

FOR TO-5 PACKAGES

Press-in-place, circular convection cooling flanges.

2224B*	K	92	.180″ I.D.	.500 x .235	....	$0.27	$0.21
2225B	L	46	.315″ I.D.	.750 x .400	....	.27	.21
2226B	M	54	.315″ I.D.	.750 x .250	....	.24	.19
2227B	N	21	.315″ I.D.	1.250 x .400	$0.70	.57	.45
2228B	O	34	.315″ I.D.	.875 x .531	.44	.36	.29

*For TO-18 package.

FOR TO-5 PACKAGES

Press-in-place (except for 1101A and 1103A).

1116A	P	16#	.315″ I.D.	.351 x .370	$0.52	$0.43	$0.34
1116B	P	16#	4-40 thd.	.351 x .400	....	.27	.21
1130B	Q	15#	4-40 thd.	.375 x .400	1.36	1.12	.88
1131B	Q	15#	10-32 stud	.375 x .493	1.36	1.12	.88
1132B	Q	15#	6-32 stud	.375 x .493	1.36	1.12	.88
1101A	R	9.5#	10-32 stud	.500 x .390	.85	.70	.55
1103A	R	9.5#	4-40 thd.	.500 x .390	.85	.70	.55
1115B	S	68	.317″ I.D.	.375 x .400	....	.15	.12

#Mounted on a 6″ x 6″ x 1/16″ aluminum board.

GEAR TYPE HEAT SINKS FOR TO-5 PACKAGES

2257R	T	62	.318″ I.D.	.500 x .250	....	$0.18	$0.14
2230B-5	U	48	.317″ I.D.	.750 x .250	....	.21	.17

FOR TO-5 PACKAGES

Finned Pennysinks, outperform featherweights.

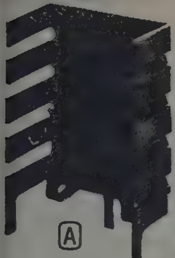
Therm-alloy Number	Fig.	Thermal Resis. °C/W	Features	Size (Inches) L. x W. x H.	Net Each, Lots of 25-99	100-499	500-999
1134B	V	38	Low cost	.75 x .75 x .187	......	$.084	$.066
1136B	W	27	Low cost	.75 x .75 x .375	......	.091	.072

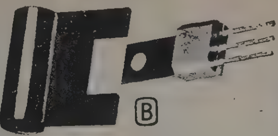
FINISH SUFFIXES

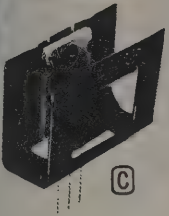
Suffix **A** indicates hard anodize finish per MIL-F-14072, 400 V insulation; **B** indicates black anodize finish per MIL-A-8625, Type II; **C** indicates gold chromate finish per MIL-C-5541.

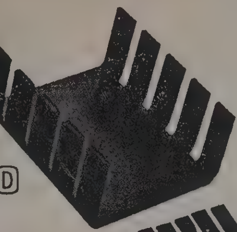
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

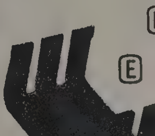
Thermalloy, Inc. SEMICONDUCTOR COOLERS AND INSULATORS

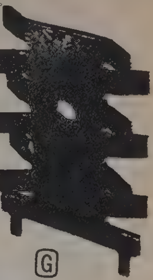


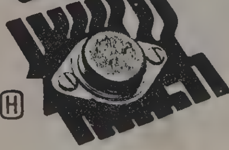


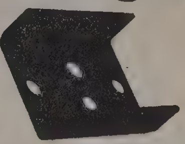


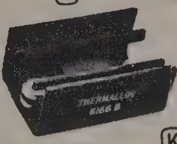


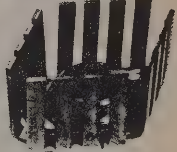


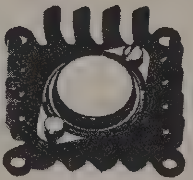


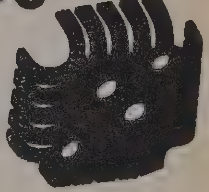












FOR PLASTIC PACKAGES

Labor saving, clip-on heat sinks.

Thermalloy Number	Fig.	Thermal Resis. °C/W	For Case Style	Size (Inches) L. x W. x H.	Net Each, Lots of 25-99	100-499	500-999
6038B	A	18	TO-220	1.0 x .50 x 1.18	......	$0.22	$0.18
6047B	B	24	TO-202	.8 x .30 x .85	......	.11	.09
6045B	C	26	TO-220	1.0 x .35 x .75	......	.17	.13

Thermalloy Number	Fig.	Thermal Resis. °C/W	Features	Size (Inches) L. x W. x H.	Net Each, Lots of 25-99	100-499	500-999
6106B	D	17	2 s/c devices	1.18 x 1.0 x .50	......	$0.21	$0.17
6106C	D	20	2 s/c devices	1.18 x 1.0 x .50	......	.18	.14
6107B	E	20	1 s/c device	1.0 x .71 x .50	......	.20	.15
6107C	E	23	1 s/c device	1.0 x .71 x .50	......	.17	.13
6030B†	F	13	Vert. mount	1.0 x .50 x 1.187	......	.21	.17
6025B†	G	22	Vert. mount	.875 x .25 x 1.25	......	.14	.12

†Available with tinned tabs.

FOR TO-3 AND TO-66 PACKAGES

High-performance coolers.

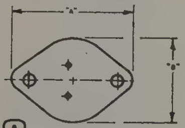
Thermalloy Number	Fig.	Thermal Resis. °C/W	Style	Size (Inches) L. x W. x H.	Net Each, Lots of 25-99	100-499	500-999
6060B	H	7	TO-3/66	2.0 x 1.75 x .375	......	$0.24	$0.19
6061B	H	6	TO-3/66	2.0 x 2.25 x .375	......	.25	.20
6103B	I	11	TO-3	1.531 x 1.25 x .515	$0.58	.48	.37
6103C	I	13	TO-3	1.531 x 1.25 x .515	.48	.35	.28
6166B	J	14	TO-66	1.312 x .89 x .609	.56	.46	.36
6168B	J	14	TO-66	1.312 x .89 x .609	.65	.53	.42
6013B	K	9.7	TO-3	1.88 x 1.4 x .500	......	.29	.23
6014B	K	7.2	TO-3	1.88 x 1.4 x .75	......	.32	.25
6015B	K	5.3	TO-3	1.88 x 1.4 x 1.0	.44	.36	.29
6016B	K	4.3	TO-3	1.88 x 1.4 x 1.25	.48	.39	.31
6001B-2	L	7.2	TO-3	1.81 x 1.81 x .50	.53	.43	.34
6002B-2	L	6.1	TO-3	1.81 x 1.81 x .75	.60	.49	.39
6003B-2	L	5.2	TO-3	1.81 x 1.81 x 1.0	.65	.53	.42
6004B-2	L	4.2	TO-3	1.81 x 1.81 x 1.25	.71	.59	.46
6051B	N	7.4	TO-3	1.78 x 1.78 x .50	.54	.45	.35
6052B	N	5.9	TO-3	1.78 x 1.78 x .75	.63	.52	.41
6053B	N	4.4	TO-3	1.78 x 1.78 x 1.0	.73	.60	.47
6054B	N	3.3	TO-3	1.78 x 1.78 x 1.25	.77	.63	.50

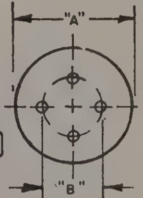
SEMICONDUCTOR INSULATORS

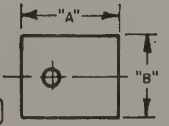
THERMALFILM INSULATORS

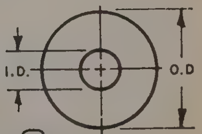
Thermalfilm I plastic insulators are .002″ thick and will not crack, peel, chip or fracture. 5400 volts/mil. −260° C to +400° C.

Thermalloy No.	Fig.	For Case Style	Size (Inches) A	B	Net per 1000, Lots of 100-499	500-999	1000-4999
43-03-1	A	TO-3	1.730	1.250	......	$56.00	$35.00
43-03-2	A	TO-3	1.655	1.063	......	47.00	28.00
43-03-3	A	TO-3	1.655	1.063	......	47.00	28.00
43-03-4	A	TO-3	1.563	1.050	......	47.00	28.00
43-05-1	B	TO-5	.390	.200	......	29.00	18.00
43-18-1	B	TO-18	.250	.100	......	29.00	18.00
43-66-1	A	TO-66	1.312	.762	......	38.00	23.00
43-66-2	A	TO-66	1.312	.762	......	38.00	23.00
43-77-2	C	Plas. pwr.	.687	.562	......	29.00	18.00
43-02-10	D	Stud	.203	.562	......	29.00	18.00
43-02-25	D	Stud	.265	.812	......	33.00	20.00









ALUMINUM OXIDE AND BERYLLIUM OXIDE INSULATORS

Thermalloy No. Beryl. Oxide	Aluminum Oxide	Fig.	For Case Style	Size (Inches) A	B	Net Each, Lots of 25-99	100-499	500-999
4005	......	B	TO-5	.360	.200	$0.43	$0.35	$0.28
4003	......	A	TO-3	1.561	1.050	2.06	1.69	1.33
4066	......	A	TO-66	1.250	.700	1.56	1.29	1.01
B470-235-40	......	D	......	.233	.470	.83	.69	.54
B800-260-62	......	D	......	.260	.800	1.24	1.02	.80
....	4105	B	TO-5	.360	.200	.....	.07	.06
....	4103	A	TO-3	1.561	1.050	.75	.62	.48
....	4166	A	TO-66	1.250	.700	.48	.39	.31

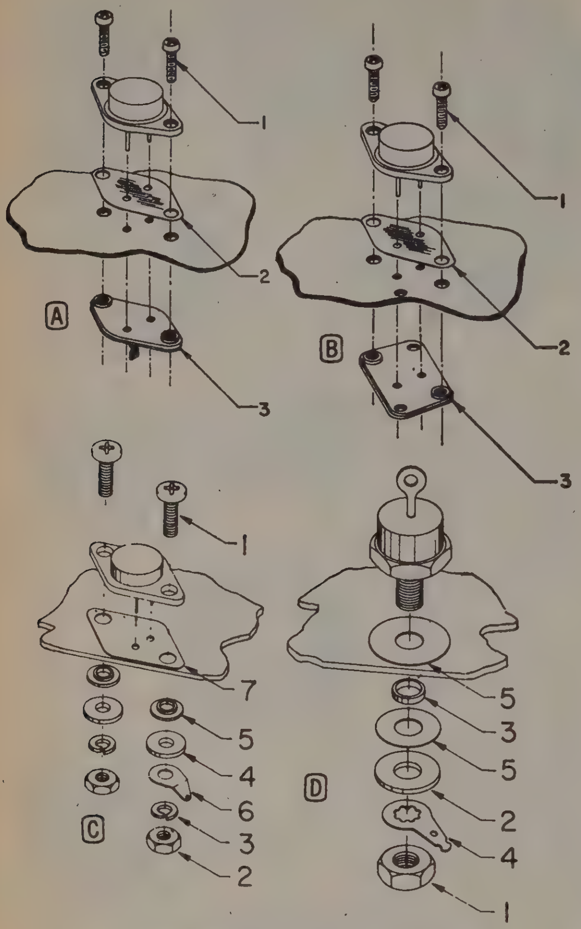
HARD ANODIZED ALUMINUM

Hard coated per MIL-A8625 Type III. .020″ thick aluminum. 400 VDC.

Thermalloy Number	Fig.	For Case Style	Size (Inches) A	B	Net Each, Lots of 25-99	100-499	500-999
4726A	A	TO-3	1.793	1.063	.....	$0.21	$0.17
4703A	A	TO-3	1.793	1.063	.....	.21	.17

Thermalloy, Inc. SEMICONDUCTOR AND PC BOARD HARDWARE

SEMICONDUCTOR MOUNTING KITS



MOUNTING KITS WITH SOCKETS

Thermalloy Number	Fig.	For Case Style	Net Each, Lots of 25-99	100-499	500-999
4875	A	TO-3	$0.56	$0.46	$0.36
4876	B	TO-3	.54	.45	.35

MOUNTING KITS WITHOUT SOCKETS

Thermalloy Number	Fig.	For Case Style	Net Each, Lots of 25-99	100-499	500-999
4804	C	TO-3	$0.68	$0.56	$0.44
4813	C	TO-66	.68	.56	.44
4860	D	DO-4	.58	.48	.37
4870	D	DO-5	.66	.55	.43

THERMALCOTE THERMAL JOINT COMPOUND

Non-toxic insulating thermal joint compound improves transfer of heat energy across metal-to-metal surfaces between transistor or rectifier case and heat sink. Conducts heat approximately 30 times better than air and more than 4 times better than silicon grease. Opaque, white compound is stable—neither cakes nor runs from −40° F to +400° F.

Thermalloy Number	Description	Net Each, Lots of 25-99	100-499	500-999
249	1 oz. tube	$1.40	$1.15	$0.90
250	2 oz. jar	2.06	1.69	1.33
251	1 lb. can	6.50	....	....

THERMALBOND THERMALLY CONDUCTIVE EPOXY ADHESIVE

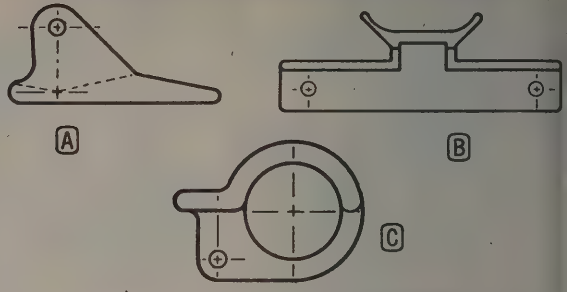
Provides exceptional adhesion and has a coefficient of thermal expansion compatible with aluminum, copper and brass. Excellent for thermally bonding semiconductors and other components to chassis or heat sinks.

Thermalloy No. 4951 3½ oz. jar—Net Each, Lots of 25-99.. $5.10

Thermalloy No. 4952 7 oz. jar—Net Each, Lots of 25-99.. 6.03

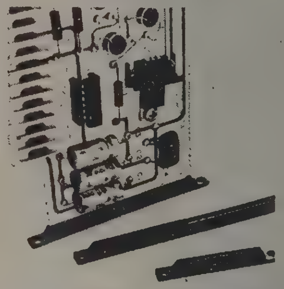
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

PULLERS AND EJECTORS FOR PC BOARDS



Thermalloy Number	Fig.	Description	Net Each, Lots of 25-99	100-499	500-999
5005-08N	A	Ejector	....	$0.15	$0.12
5005-09N	B	Puller	....	.15	.12
5005-25N	C	Ejector-puller	....	.15	.12

CARD GUIDES



Thermalloy Number	Size (Inches) L. x W. x H.	Net Each, Lots of 25-99	100-499	500-999
8827-2	2.00 x .23 x .21	....	$0.15	$0.12
8827-3	3.50 x .23 x .21	....	.15	.12
8827-5	5.00 x .23 x .21	....	.17	.13

SEMICONDUCTOR LEAD-CONVERSION PADS

Thermalloy Number	Converts Lead Spacing From	To	No. of Leads	Size (Inches) O.D. x Max. Thck.	Price* Code
7717-7	TO-18	TO-5	4	.250 x .125	A
7717-43	TO-18	TO-5	4	.275 x .050	A
7717-44	TO-18	TO-5	4	.305 x .125	A
7717-93	TO-18	.150″*	4	.195 x .065	A
7717-2	.100″*	.200″*	3	.305 x .125	A
7717-130	.05 in-line	TO-5	3	.230 x .040	A
7717-107	.200″*	.350″*	8	.430 x .130	D
7717-19	.200″*	.400″*	8	.500 x .275	D
7717-21	.200″*	.400″*	10	.500 x .275	D
7717-119	.200″*	.420″*	10	.500 x .275	D

*Circle diameter.

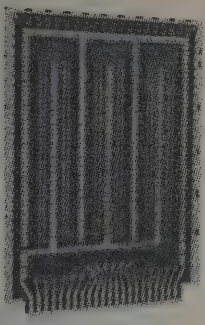
SEMICONDUCTOR MOUNTING PADS

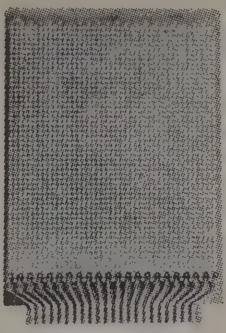
Thermalloy Number	For Case Style	No. of Leads	Size (Inches) O.D. x Max. Thck.	Price* Code
7717-16	TO-18	4	.200 x .020	A
7717-18	TO-18	4	.200 x .060	A
7717-46	TO-18	4	.200 x .060	A
7717-89	TO-18	4	.250 x .080	A
7717-3	TO-5	3 or 4	.344 x .075	A
7717-4	TO-5	4	.375 x .075	A
7717-5	TO-5	4	.350 x .125	A
7717-15	TO-5	4	.350 x .020	A
7717-22	TO-5	3	.343 x .075	A
7717-79	TO-5	3	.355 x .038	A
7717-122	TO-5 IC	8	.365 x .070	A
7717-86	TO-5	3	.343 x .075	A
7717-8	TO-5 IC	8	.375 x .075	B
7717-10	TO-5 IC	10	.375 x .075	B
7717-30	TO-5 IC	10	.375 x .075	B
7717-38	TO-5 IC	8	.375 x .075	B
7717-81	TO-5	8	.290 x .125	B
7717-81	TO-18	6	.290 x .125	B

★ PRICE CODES

Price Code	25-99	Net per 1000, Lots of 100-499	500-999	1000-4999
A	....	....	$44.80	$33.00
B	....	....	56.00	44.00
D	....	....	123.20	99.00

Vector Plugbords


3677-2


3662

DIP PLUGBORDS

3682 Series: Mount Wire-Wrap* sockets. Have interleaved etched tinned power and ground buses, punched 0.042″ holes on 0.1″ x 0.1″ grid, epoxy glass material, etched nickel gold contacts. **−4** model has O/A etched tinned ground plane with etched clearance area on each hole. **3662 and 3719 Series:** Upper area is copper-free and punched with 0.042″ holes on 0.1″ x 0.1″ grid. Board material is epoxy glass; etched contacts are nickel gold. **3677 Model:** Has etched 3-hole tinned pads, interleaved buses for Vcc and ground, punched 0.042″ holes on 0.1″ x 0.1″ grid, epoxy glass material, etched nickel gold contacts, holds 24 14-pin or 21 16-pin DIP's. **−2 Model** is the same but 6½″ long. **4112 Series:** Has punched 0.042″ holes spaced on 0.1″ x 0.1″ grid, groups of 3-hole etched tinned pads, interleaved zig-zag bus, back side tinned ground plane with etched clearance holes. Ideal for soldered circuits mixing any size DIP's, transistors, or discretes. Etched contacts are nickel gold. **4066 Series:** Ideal for wrapped wire construction. Has O/A punched 0.042″ holes spaced on 0.1″ x 0.1″ grid, two interleaved tinned zig-zag buses plus back side tinned ground plane with etched clearance holes. **3690 Extender:** Permits operation of wired plugboards outside of card enclosures.

Vector No.	Contacts	Spacing In.	Description	Size, In.	Receptacle	Net Each
3677	44	.156	Epox. Glass	4.5 x 9.6	R644	**$10.38**
3677-2	44	.156	Epox. Glass	4.5 x 6.5	R644	**9.28**
3682	44	.156	Epox. Glass	4.5 x 9.6	R644	**10.97**
3682-2	44	.156	Epox. Glass	4.5 x 6.5	R644	**9.81**
3682-4	44	.156	Epox. Glass	4.5 x 6.5	R644	**10.69**
3662	44	.156	Epox. Glass	4.5 x 6.5	R644	**6.95**
3662-2	44	.156	Epox. Glass	4.5 x 9.6	R644	**11.45**
3662-5	44	.156	Epox. Glass	4.5 x 4.5	R644	**6.88**
3719-1	72	.100	Epox. Glass	4.5 x 6.5	R636-1	**9.08**
3719-4	72	.100	Epox. Glass	4.5 x 9.6	R636-1	**11.20**
3719-5	72	.100	Epox. Glass	4.5 x 4.5	R636-1	**8.03**
848PWE	35*	......	Univ. Glass	4.5 x 6.5	R635	**9.14**
3797	30	......	Epox. Glass	2.73 x 4.5	R630	**4.66**
3797-1	30	......	Phenolic	2.73 x 4.5	R630	**3.81**
3797-2	30	......	Epox. Glass	2.73 x 4.5	R630	**6.01**
4112-4	44	.156	Epox. Glass	4.5 x 6.5	R644	**13.60**
4112-5	44	.156	Epox. Glass	4.5 x 4.5	R644	**12.23**
4066-4	36/72	.100	Epox. Glass	4.5 x 6.5	R636-1	**13.60**
4066-5	36/72	.100	Epox. Glass	4.5 x 4.5	R636-1	**12.23**
R635	35*	......	Receptacle	4.21 x .53 x .828		**6.35**
R636-1	72	......	Receptacle	4.44 x .34 x .610		**5.18**
R644#	44	......	Receptacle	4.36 x .34 x .442		**3.45**
R644-1‡	44	......	Receptacle	4.36 x .41 x .730		**7.20**
R644-2‡	44	......	Receptacle	3.16 x .37 x .625		**5.46**
R644-3‡	44	......	Receptacle	4.36 x .41 x .550		**4.49**
R630	30	......	Receptacle	3.27 x .34 x .442		**2.95**

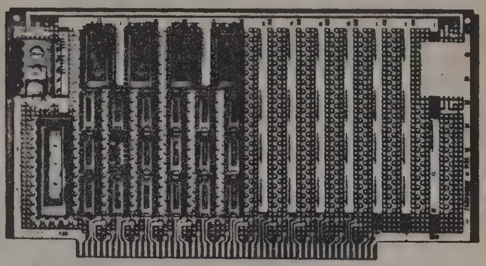
*Elco Varicon contacts. #Has solder tabs. ‡0.025″ sq. wire wrap tail model. *Reg. Garnder-Denver TM.

PLUGBORDS

Pre-punched plugbords speed production of printed circuit prototypes or serve as ready-to-wire structures for card mounted circuitry in any equipment using plug-in circuit cards. Plugbords are ⅛″ thick epoxy paper per MIL-P-22323 Type PEE or G-10 epoxy glass per MIL-P-18177 with pre-punched .062 holes located on alternate 0.1 centers. Contacts attached at bottom are Elco Varicon on .2 centers or 2 oz. copper etched on .156 centers with "lands" terminating around holes near bottom edge of board. Precision punched holes accept Vector T-28 MiniKlips, standard turned terminals, or eyelets.

Vector No.	Type	Contacts	Size, In.	Net Each
812	Epoxy paper	16 Varicon	4½ x 6½	**$5.12**
812WE	Epoxy glass	16 Varicon	4½ x 6½	**5.12**
R616-1	Recept. for above	16	....	**5.15**
837	Epoxy paper	12 Varicon	3 x 4½	**3.76**
837WE	Epoxy glass	12 Varicon	3 x 4½	**3.76**
R612-1	Recept. for above	12	....	**4.78**
848WE	Epoxy glass	35 Varicon	4½ x 6½	**8.86**
838	Epoxy paper, 2 sides	43 etched	4½ x 6½	**5.19**
838A	Epoxy paper, 1 side	22 etched	4½ x 6½	**3.77**
838AWE	Epoxy Glass	22 etched	4½ x 6½	**4.25**

MICROPROCESSOR PLUGBORDS



Mount DIP devices anywhere on Plugbords in pre-punched 0.042″ dia. holes. Have 100 contacts (50 each side on 0.125″ centers). Heavy tinned buses back-to-back provide good distributed capacitance. Fit Altair and IMSAI microcomputers. 10″ wide x 5.313″ high. Furnished with one heat sink, two regulator positions, one pre-wired. Install wire wrap sockets and wire.

Vector No. 8800V—With buses. Net Each.............**$19.95**

Vector No. 8801-1—With edge contacts, no buses. Net Each...**$14.95**

CARD EXTENDERS

Provide means of working on operating Plugbords by providing extensions to raise Plugbords out of equipment. Supplied with nickel-plated, gold-plated contacts and mounted receptacles.

Vector No.	For Plugbord Series	Size, Inches	Net Each
3690	838, 3662 3677, 3682	4.5″ x 6.5″	**$11.90**
3690-2	3719	4.5″ x 11.0″	**16.75**
3690-10	3797	2.73″ x 5.5″	**11.90**
3690-12	8800 V	9.99″ x 7.5″	**25.00**

BR27 SERIES RECEPTACLE MTD. CARD GUIDES

Provides support for receptacle supported circuit boards. For plugbords with centered contacts except BR27-2 for .050″ offset contact plugbords. With mounting hardware.

Any Model—Net per Pair.....................................**$1.00**

Vector No.	Use With Receptacle	Net/Pair	Vector No.	Use With Receptacle	Net/Pair
BR27	R644, -1	**$1.10**	**BR27-3**	R630	**$1.68**
BR27-1	R636	**1.44**	**BR27-4**	R644-2	**1.68**
BR27-2	R644, -1	**1.22**			

OUR STOCKS ARE COMPLETE

AND UP TO DATE.

WRITE US FOR

INFORMATION AND PRICING

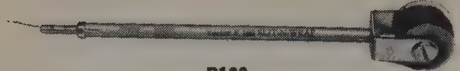
ON ALL NEW

OR UNLISTED ITEMS.

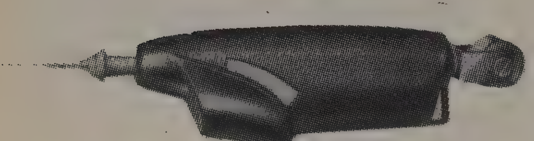
QUANTITY PRICES AVAILABLE ON REQUEST

Vector Breadboarding Kits and Tools

SLIT-N-WRAP WIRING TOOLS FOR 0.025″ SQUARE POSTS



P180



P160-4T

The Vector method uses polyurethane/nylon coated wire fed from a spool mounted on the tool. The tool slits the insulation during wrapping, but not between wraps. Four times faster than other manual wrapping techniques, eliminates cutting, measuring, stripping and permits daisy-chain wrapping. Shorter length wrap posts may be used. Produces reliable, gas-tight, low-resistance connections.

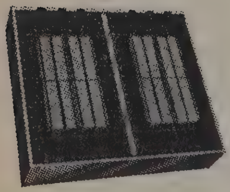
Vector No. P180 Manual Wrapping Tool—Supplied with two 100 ft. spools of wire. Net Each........................**$24.50**

Vector No. P180A Replacement Bit For P180—Net Each**$12.95**

Vector No. P160-4T Battery Powered Wrapping Tool—Supplied with Ni-Cad batteries, recharger and two spools of wire. Net Each...**$75.00**

Vector No. P160-4T-1 AC Powered Wrapping Tool—Supplied with AC transformer for production line use and two spools of wrapping wire. Net Each...........................**$80.00**

Vector No. W28-2 Replacement Wire Spools—Package of three 100′ spools.
Add suffix signifying color: A, green; B, red; C, clear; D, blue.
Net per package.....................................**$ 2.75**



51X DIP PATCHBOARD

No soldering—Use ordinary #22 bare wire for interconnections —Fast

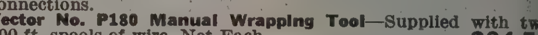
Flexible and adjustable. Handles microprocessor chips, MSI and LSI packages with .6″ as well as .3″ spaced leads. Accepts up to 12 DIP's. Includes 4½″ x 8″ glass epoxy "P" pattern Micro-Vectorbord with printed registration mounted on a 1″ high aluminum frame. Has eight 24-quad Klip-Bloks (T66-96); four 48-tie-point Klip-Buses (T45-48); three 5-way power binding posts installed; four Klip-Strips (T45-4); DIP marker strips for pin identification; adapter pins (T49-1) for large leads; complete instructions and application suggestions.

Vector No. 51X DIP Patchboard—Net Each..........**$25.50**

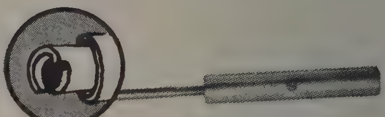
32XA +POSITIVE PHOTOSENSITIZED ETCHED CIRCUIT KIT

Vector kits produce sharply detailed circuits with a minimum delay in the laboratory, shop or school. Kits are built around 1 oz. copper-clad laminate. U.V. light sensitive, resist-coated, copper-clad boards are included in kits, together with positive rub/transfer art work patterns for DIP's, transistors, lines, dots, block areas, connector patterns, etchant, developer, etching tray and Mylar. Make circuits on Mylar for single or multiple reproduction; directly on uncoated copper for one-of-a-kind.

WRAP-N-STRAP WIRE WRAPPING TOOLS



Manual Wrapper
P160-2A



Manual Unwrapper
P160-1A

Vector tools for wrapping 0.025″ square posts provide high quality at minimum price, with the added value of single bit/sleeve construction. Wraps and unwraps either right or left hand wraps.

Vector No. P160-2A Manual Wrapping Tool—Wraps #26-30 AWG wire on 0.025″ square posts. Net Each..................**$ 7.95**

Vector No. P160-1A Manual Unwrapping Tool—Unwraps #26-30 AWG wire from 0.025″ square posts. Net Each........**$ 9.50**

ORDERING INFORMATION

Vector No. 32X-1 Etched Circuit Kit—Contains 1 bare and 1 sensitized 4½″ x 6″, 1 oz., clad-one-side, 1/16″ thick, phenolic board; etching tray; ferric chloride etchant; developer; glass exposure plate; mask cutting film; tape; brush; razor knife; 4 sheets of rub/transfer art work; layout paper and instruction sheets. Net Each..**$11.50**

Vector No. 32XA-1 Etched Circuit Kit—Contains larger assortment of materials described above plus total of seven 1 oz. copper-clad phenolic boards: 3 boards sensitized one side, 4½″ x 6½″, 8″ x 5.1″, 4.5″ x 2.73″; 2 boards sensitized two sides, 4½″ x 6½″, 4.5″ x 2.73″; 2 bare boards, 4½″ x 6½″, 4.5″ x 2.7″. Net Ea.**$28.00**

1/16″ THICK POSITIVE-ACTING SENSITIZED BOARDS

Vector No. CU-	Size	Material	Coating	Pkg. Quan.	Net/ Pkg.
90/80-1R	9″ x 7.99″	Phenolic	1 side	5	$19.08
65/45-2R	6.5″ x 4.5″	Phenolic	2 sides	5	8.92
65/45-1R	6.5″ x 4.5″	Phenolic	1 side	5	6.44
45/27-1R	4.5″ x 2.73″	Phenolic	1 side	5	3.03
45/30WE-1R	4.5″ x 3.0″	Epoxy/glass	1 side	3	3.43
65/27WE-1R	6.5″ x 2.73″	Epoxy/glass	1 side	3	6.60
159/80WE-1R	15.85″ x 7.98″	Epoxy/glass	1 side	2	20.16

POSITIVE-ACTING DEVELOPER

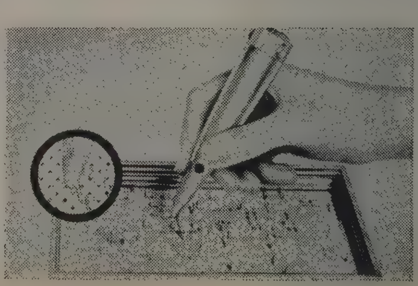
Vector No.	Description	Net Each
0088-21-15	1.25 ounce bottle	$1.68
0088-21-45	6 ounce bottle	2.46

WIRING PENCIL

New P173 wiring pencil wires circuits three times faster than conventional soldering or manual wrapped wire connections. Tool consists of a hand-held featherweight (less than 1 oz.) unit which is used to guide and wrap heat-strippable insulated wire, fed off a self-contained replaceable bobbin, onto component leads or terminals installed on prepunched "P" pattern Micro-Vectorbord®. Connections between wrapped wire and component leads, pads or terminals are made by soldering. When heat is applied to junction points with soldering iron, the wire insulation melts, permitting the applied solder to bond the junction. Average time required to make a connection is only a few seconds.

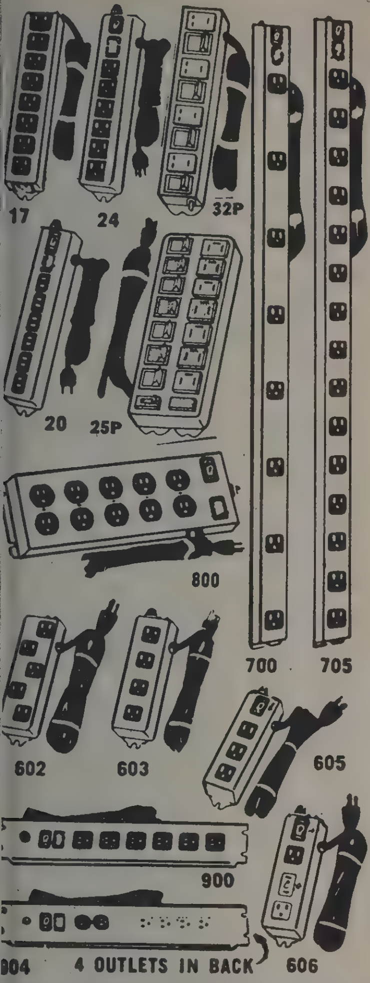
Vector No. P173 Wiring Pencil—Complete with 250′ spool of #36 gauge red wire and 250′ spool of #36 gauge green wire, threading loop, instructions. Net Each...................**$9.50**

Replacement Wire—#36 gauge solder-thru insulation. No. W36-3-A, green; W36-3-B, red; W36-3-C, clear; W-363-D, blue. Package of three spools. Net Each Pkg...................**$2.40**



SGL WABER Electric Outlet Strips

MASTER POWER CONTROLS FOR INDUSTRY, LABORATORY OR SERVICE SHOP



All Waber outlet strips are completely wired for instant use. UL Listed snap-in components, fuses, circuit breakers, 15 A 3-wire or HPN 2-wire cord sets. Seamless drawn steel case; gray finish. Size, 2⅜" w. x 13⅛" lg. x 1½" h. Mounting centers on 12¾". Shipping Weight: 2 lbs. (6-ft. cord-set); 3 lbs. (15-ft. cord-set).

INLINE OUTLET STRIPS

Extra outlet on end for series-string wiring. Model 15 has control unit with 7 "U" ground outlets, switch and pilot light; Model 17 slave unit with 9 "U" ground outlets only. Model 18 may also be used as a slave unit; 9 "U" ground outlets (no outlet on end).

Waber Model	Type	Cord Lgth.	Net Each
15	Fuse	6 ft.	$16.60
15-15	Fuse	15 ft.	18.85
15CB	Circuit breaker	6 ft.	18.85
15CB-15	Circuit breaker	15 ft.	21.10
17	Outlets only	6 ft.	13.55
17-15	Outlets only	15 ft.	15.80
18	Outlets only	6 ft.	12.85
18-15	Outlets only	15 ft.	15.10

TWO-WIRE OUTLET STRIPS

Model 20 has six outlets, pilot light and switch; Model 30, four color-coded outlet and switch sets.

Waber Model	Type	Cord Lgth.	Net Each
20	Fuse	10 ft.	$12.15
20CB	Circuit breaker	10 ft.	14.40
30	Fuse	10 ft.	14.25
30CB	Circuit breaker	10 ft.	16.50

"U" GROUND OUTLET STRIPS

Model 24 has 6 outlets controlled by on-off switch and pilot light. Model 24M is the same except features an illuminated 0–150 VAC voltmeter. Model 32P features 4 alternating black and white combination switch-pilot lights. All models are 3-wire "U" grounded electrically and mechanically.

Waber Model	Type	Cord Lgth.	Net Each
24	Fuse	6 ft.	$15.65
24-15	Fuse	15 ft.	17.90
24CB	Circuit breaker	6 ft.	17.90
24CB-15	Circuit breaker	15 ft.	20.15
24M	Fuse	6 ft.	20.55
24M-15	Fuse	15 ft.	22.80
24MCB	Circuit breaker	6 ft.	22.80
24MCB-15	Circuit breaker	15 ft.	25.05
32P	Fuse	6 ft.	20.55
32P-15	Fuse	15 ft.	22.80
32PCB	Circuit breaker	6 ft.	22.80
32PCB-15	Circuit breaker	15 ft.	25.05

DELUXE OUTLET STRIPS

Features individual switching flexibility. Provides 7 color-coded switch-outlet groups, master on-off switch with pilot light. Individual switches include built-in pilot lights. "U" ground cord-set.

Waber Model	Type	Cord Lgth.	Net Each
25P	Fuse	6 ft.	$34.55
25P-15	Fuse	15 ft.	36.80
25PCB	Circuit breaker	6 ft.	36.80
25PCB-15	Circuit breaker	15 ft.	39.05

600 SERIES COMPACT "U" GROUND OUTLET STRIPS

Rugged compact design with quality U-ground outlets for schools, labs and industry. Units are electrically and mechanically grounded. UL Listed cord-set rated 15 A at 130 V continuous duty. Seamless steel case; gray finish. Snap-in components, fuses, push-to-reset circuit breakers are UL Listed. Size, 8⅝" x 2⅜" x 1½". Mounting centers on 8¼". All models except Model 602 available with fuse or push-to-reset circuit breaker. Model 602, 5 outlets. Model 604, 4 outlets, fuse or circuit breaker. Model 605, 3 outlets, pilot light, on-off switch, fuse or circuit breaker. Model 660, 2 color-coded sets of switch, pilot light and outlet, fuse or circuit breaker. Model 608, pilot light, on-off switch, fuse or circuit breaker and 4 outlets, one on end and cord-set out the side; convenient for series-string wiring.

Waber Model	Type	Cord Lgth.	Net Each
602	Outlets only	6 ft.	$ 9.00
602-15	Outlets only	15 ft.	11.25
603	Fuse	6 ft.	10.00
603-15	Fuse	15 ft.	12.25
603CB	Circuit breaker	6 ft.	12.25
603CB-15	Circuit breaker	15 ft.	14.50
605	Fuse	6 ft.	11.15
605-15	Fuse	15 ft.	13.40
605CB	Circuit breaker	6 ft.	13.40
605CB-15	Circuit breaker	15 ft.	15.65
606	Fuse	6 ft.	11.95
606-15	Fuse	15 ft.	14.20
606CB	Circuit breaker	6 ft.	14.20
606CB-15	Circuit breaker	15 ft.	16.45
608	Fuse	6 ft.	12.50
608-15	Fuse	15 ft.	14.75
608CB	Circuit breaker	6 ft.	14.75
608CB-15	Circuit breaker	15 ft.	16.95

POPULAR HOME-OFFICE OUTLET STRIPS

Ideal for home or office; skin-packed for pegboard display.

Waber Model 11—Sturdy chrome case has 6 heavy-duty outlets, on-off master switch and pilot light. Ideal for home workshop. Positive circuit breaker protection. Net Each.......................**$13.80**

Waber Model 12—Has 4 individually switched, heavy-duty outlets, color-coded for easy identification. Positive circuit breaker protection Net Each...**$14.25**

HEAVY-DUTY OUTLET STRIPS

Cord-set and component parts UL Listed. Seamless steel case with gray finish; convenient mounting ears. Prewired for instant use. Rated 15 A at 130 VAC.

"U" GROUND TWO-FOOT STRIPS

Convenient two-foot outlet strips ideal for racks, benches and set-ups. Size, 24" w. x 2" d. x 1½" h. Mounting centers, 23¾". Shpg. Wt.: 6-ft. cord-set units, 4 lbs.; others, 5 lbs. Model 764 has four "U" ground duplexes (eight outlets), neon pilot light, on-off switch, fuse or circuit breaker protection. Model 770 has outlets only.

Waber Model	Type	Cord Lgth.	Net Each
764	Fuse	6 ft.	$24.10
764-15	Fuse	15 ft.	26.35
764CB	Circuit breaker	6 ft.	26.35
764CB-15	Circuit breaker	15 ft.	28.60
770	Outlets only	6 ft.	20.45
770-15	Outlets only	15 ft.	22.70

"U" GROUND FOUR-FOOT STRIPS

Model 700 has 8 "U" ground outlets, on-off switch and pilot light; Model 705, same but 15 "U" ground outlets; Model 707, same but 7 "U" ground duplexes (14 outlets). Model 710 has 8 "U" ground outlets only; Model 711 has 7 "U" ground duplexes (14 outlets) only; Model 715 has 15 "U" ground outlets only. Size, 49" w. x 2" d. x 1½" h. Shpg. Wt., 6-foot cord-set units, 6 lbs.; all others, 7 lbs.

Waber Model	Type	Cord Lgth.	Net Each
700	Fuse	6 ft.	$28.20
700-15	Fuse	15 ft.	30.45
700CB	Circuit breaker	6 ft.	30.45
700CB-15	Circuit breaker	15 ft.	32.70
705	Fuse	6 ft.	35.95
705-15	Fuse	15 ft.	38.20
705CB	Circuit breaker	6 ft.	38.20
705CB-15	Circuit breaker	15 ft.	40.45
707	Fuse	6 ft.	28.90
707-15	Fuse	15 ft.	31.15
707CB	Circuit breaker	6 ft.	31.15
707CB-15	Circuit breaker	15 ft.	33.40
710	Outlets only	6 ft.	24.50
710-15	Outlets only	15 ft.	26.75
711	Outlets only	6 ft.	25.20
711-15	Outlets only	15 ft.	27.45
715	Outlets only	6 ft.	32.10
715-15	Outlets only	15 ft.	34.35

"U" GROUND RACK MOUNT TYPE

Pre-wired, ready-to-use, master power controls provide quick and easy power source for standard relay racks. Choose from a variety of configurations with outlets on the outside, inside, or combinations of both. All have six outlets, pilot light switch. Outlets front-mounted, except Model 904 which has 2 in front, 4 in back. Model 911 has six outlets in back. Deluxe Model 914 has 6 color-coded combination switch-pilot lights to provide individual controls for 6 outlets on the back. Master switch and pilot light control entire unit. UL Listed cord-set, snap-in components, fuses and circuit breakers. Steel panel, gray finish. Rated 15 amps, 130 volts. Size: Models 903 and 911, 19" w. x 1¾" d.; others, 19" w. x 3½" d. Shpg. Wt., 3 lbs. for 6-ft. cord units; 4 lbs. for 15-ft. cord units.

Waber Model	Type	Cord Lgth.	Net Each
900	Fuse	6 ft.	$22.30
900-15	Fuse	15 ft.	24.55
900CB	Circuit breaker	6 ft.	24.55
900CB-15	Circuit breaker	15 ft.	26.80
903	Fuse	6 ft.	21.45
903-15	Fuse	15 ft.	23.70
903CB	Circuit breaker	6 ft.	23.70
903CB-15	Circuit breaker	15 ft.	25.95
904	Fuse	6 ft.	21.40
904-15	Fuse	15 ft.	23.65
904CB	Circuit breaker	6 ft.	23.65
904CB-15	Circuit breaker	15 ft.	25.90
911	Fuse	6 ft.	21.30
911-15	Fuse	15 ft.	23.55
911CB	Circuit breaker	6 ft.	23.55
911CB-15	Circuit breaker	15 ft.	25.80
914	Fuse	6 ft.	37.60
914-15	Fuse	15 ft.	39.85
914CB	Circuit breaker	6 ft.	39.86
914CB-15	Circuit breaker	15 ft.	42.10

SGL WABER Electric Outlet Strips

MASTER POWER CONTROLS FOR INDUSTRY, LABORATORY OR SERVICE SHOP

SPACE-SAVING OUTLET STRIPS

Narrow profile, four and six-foot outlet strips offer valuable space-saving features. All have "U" ground outlets. Model 1142 has 7 outlets with fuse or circuit breaker protection. Model 1143, same but 13 outlets. Model 1162, same but 10 outlets. Model 1163, same but 20 outlets. Model 1144 has 6 outlets, "on-off" combination switch-pilot light, fuse or circuit breaker. Model 1164, same but 9 outlets. Model 1145 has 12 outlets, master combination switch-pilot light, fuse or circuit breaker. Model 1165, same but 19 outlets. Model 1146 has 8 outlets, each controlled by its own switch-pilot light, master "on-off" combination switch-pilot light, fuse or circuit breaker. Model 1166, same but 12 outlets. Models 1140, 1141, 1160 and 1161 have ground outlets only with 7, 13, 10 and 20 outlets respectively. Rated at 15 amps, 130 volts continuous duty. Size: Series 1140, 49″ w. x 1½″ d. x 1⅛″ h.; series 1160, 73″ w. x 1½″ d. x 1⅛″ h. UL Listed cord-set, snap-in components, fuses and circuit breakers.

Waber Model	Type	Cord Lgth.	Net Each
1140	Outlets only	6 ft.	$17.20
1140-15	Outlets only	15 ft.	19.45
1141	Outlets only	6 ft.	25.20
1141-15	Outlets only	15 ft.	27.45
1142CB	Circuit breaker	6 ft.	21.40
1142CB-15	Circuit breaker	15 ft.	23.65
1143CB	Circuit breaker	6 ft.	29.00
1143CB-15	Circuit breaker	15 ft.	31.25
1145CB	Circuit breaker	6 ft.	30.25
1145CB-15	Circuit breaker	15 ft.	32.45
1160	Outlets only	6 ft.	23.25
1160-15	Outlets only	15 ft.	25.50
1161	Outlets only	6 ft.	36.35
1161-15	Outlets only	15 ft.	38.60
1162CB	Circuit breaker	6 ft.	27.15
1162CB-15	Circuit breaker	15 ft.	29.35
1163CB	Circuit breaker	6 ft.	40.20
1163CB-15	Circuit breaker	15 ft.	42.45
1165CB	Circuit breaker	6 ft.	41.60
1165CB-15	Circuit breaker	15 ft.	43.85

DELUXE OUTLET STRIP FOR LAB OR DESK TOP

Available in three models, 4, 6 or 8 "U" ground outlets, each controlled by its own switch and pilot light. Handsome metal panel finished in wood-grained vinyl, black aluminum base. Rated at 15 amps, 130 volts. HSJ cord-set UL Approved. Snap-in components, fuses, circuit breakers, UL Listed. Shpg. Wt.: 6 ft. cord-set units, 3½ lbs.; others, 4½ lbs. Model 95 has 4 outlets; size, 7½″ w. Model 96 has 6 outlets; size, 9¼″ w. Model 97 has 8 outlets; size, 11″ w. All models, 2¾″ d. x 2¾″ h.

95CB	Circuit breaker	6 ft.	$25.50
95CB-15	Circuit breaker	15 ft.	27.75
96CB	Circuit breaker	6 ft.	31.45
96CB-15	Circuit breaker	15 ft.	33.70
97CB	Circuit breaker	6 ft.	37.45
97CB-15	Circuit breaker	15 ft.	39.70

MASTER UNITS AND SLAVE MODELS FOR COMBINATION POWER STRIP LINES

Lets you combine a variety of slave models to any master unit to give you the number of outlets you need. Slave models plug into Master units to make any desired length. Highly flexible, can be spaced out with extension cords. Completely wired, ready to plug in. Sturdy steel construction, gray finish. Rated 15 amps, 130 volts. Master unit size, 12¾″ w. x 1 11/16″ d. x 1½″ h. with 12⅜″ mounting centers. Model 1500 has 2 "U" ground outlets, on-off switch, pilot light. Models 1501 and 1502 have 3 "U" ground outlets. All models have female through connectors. Component parts and cord sets UL Approved.

MASTER UNITS

Waber Model	Type	Cord Lgth.	Net Each
1500CB	Circuit breaker	6 ft.	$17.20
1500CB-15	Circuit breaker	15 ft.	19.45
1501CB	Circuit breaker	6 ft.	15.65
1501CB-15	Circuit breaker	15 ft.	17.90
1502	Outlets only	6 ft.	11.40
1502-15	Outlets only	15 ft.	13.65

SLAVE MODELS

Slave units have male connector on one end and standard "U" ground female connector on other end. Units can be plugged one into the other, or space with extension cords. Model 1513 has four "U" ground outlets; Model 1520, 6 outlets; Model 1521, 11 outlets; Model 1522, 10 outlets, duplex type. Size: Model 1513, 12¾″ w. x 1 11/16″ d. x 1½″ h.; other models, 24¾″ w. x 1 11/16″ d. x 1½″ h.

Model 1513—Net Each........	**$10.95**
Model 1520—Net Each........	**13.95**
Model 1521—Net Each........	**17.35**
Model 1522—Net Each........	**17.30**

RECESS OUTLET STRIP FOR "BUILT-IN" CONVENIENCE

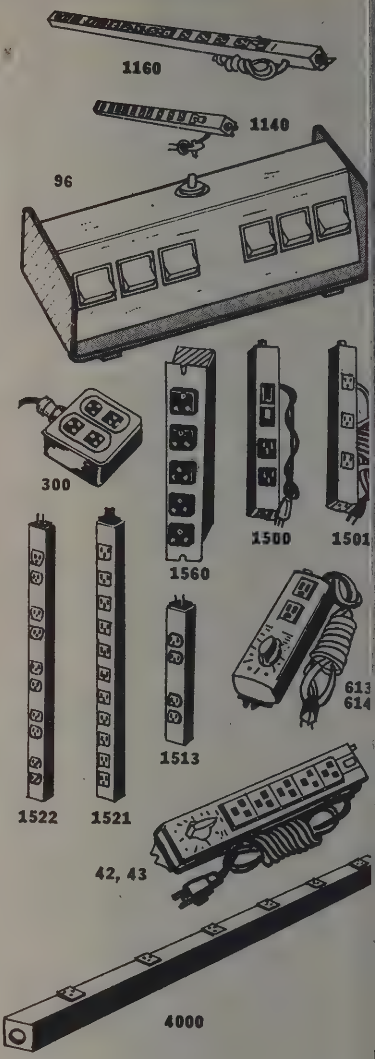
Designed to be recessed into desks, counters, cabinets. A convenient power source for hi-fi installations, audio visual field, teaching-aid equipment. Has 5 "U" ground outlets, surface mounted, and electrically grounded. Rated 15 amps, 130 volts. HSJ cord set UL Approved. Size: 10″ w. x 1½″ d. x 1½″ h. Mounting hole, 9½″ w. x 1 17/32″ d. Shipping Weight: Model 1560, with 6 ft. cord, 2 lbs., Model 1560-15, with 15 ft. cord, 3 lbs.

Model 1560—Net Each........	**$14.10**
Model 1560-15—Net Each......	**16.35**

SEAMLESS OUTLET BOX FOR CHEMICAL LABS

Seamless casting prevents seepage. UL Approved cord set. Rated 14 amps, 130 V continuous duty.

Model 300—6 ft. cord-set. Net..	**$24.55**
Model 300-15—15 ft. cord-set....	**26.80**



WABER REPLACEMENT PARTS AND ELECTRICAL ACCESSORIES INCLUDING SNAP-IN OUTLETS, PLUGS, SWITCHES, PILOT LIGHTS, EDGEWISE READING AC VOLTMETER KITS, CIRCUIT BREAKERS, 2 WIRE TO 3 WIRE ADAPTERS, FUSE POSTS, EXTENSION CORDS AND CORD SETS AVAILABLE. WRITE FOR DETAILS AND PRICES.

Our Stocks are Complete and up-to-date.

Write for information on new or unlisted items.

SGL WABER U.L. Listed Electric Outlet Strips

These multiple outlet strips have passed the rigid testing of Underwriters' Laboratories and bear the U.L. label. All units are designed to exceed NEC requirements and meet OSHA standards. All units are rated at 15 amperes, 125 volts, 60 Hz continuous duty. Secure, temporary mounting is achieved quickly by means of "hole-slot" provisions on the back of all U.L. listed models. Instructions and a template are provided with each unit. **For illustrations, see units of similar number on another Waber page.**

SPACE-SAVING OUTLET STRIPS

Narrow-profile, four and six foot outlet strips save space. All have "U" ground outlets. In the four foot series, Model UL1142CB has 7 outlets; UL1143CB has 13 outlets; UL1144CB has 6 outlets controlled by a master lighted rocker switch; UL1145CB has 12 outlets controlled by a master lighted rocker switch; UL1146CB has 8 outlets, 8 lighted rocker switches and a master lighted rocker switch. In the six foot series, UL1162CB has 10 outlets; UL1163CB has 20 outlets; UL1164CB has 9 outlets controlled by a master lighted rocker switch; UL1165CB has 19 outlets controlled by a master lighted rocker switch; UL1166CB has 12 outlets, 12 lighted rocker switches and a master lighted rocker switch.

Waber Model	Type	Cord Lgth.	Net Each
UL1142CB-6	Circuit breaker	6 ft.	$24.50
UL1142CB-15	Circuit breaker	15 ft.	26.90
UL1143CB-6	Circuit breaker	6 ft.	32.25
UL1143CB-15	Circuit breaker	15 ft.	34.65
UL1145CB-6	Circuit breaker	6 ft.	32.70
UL1145CB-15	Circuit breaker	15 ft.	35.10
UL1162CB-6	Circuit breaker	6 ft.	32.00
UL1162CB-15	Circuit breaker	15 ft.	34.40
UL1163CB-6	Circuit breaker	6 ft.	41.70
UL1163CB-15	Circuit breaker	15 ft.	44.10
UL1165CB-6	Circuit breaker	6 ft.	43.15
UL1165CB-15	Circuit breaker	15 ft.	45.55

SERIES 4000 WIRE-IN OUTLET STRIPS

The series 4000 was designed to be wired into a fixed installation by use of wire nuts. They do not have a cord set or circuit breaker. Base is screwed to desired location and cover is fastened with self-tapping screws. Size: 1½″ w. x 1⅜″ d.

Waber Model	Lgth.	Outlets	Centers	Net Each
4305	3 ft.	5	7″	$14.95
4309	3 ft.	9	3½″	19.05
4407	4 ft.	7	7″	18.45
4413	4 ft.	13	3½″	25.65
4508	5 ft.	8	7″	20.85
4515	5 ft.	15	3½″	29.30
4607	6 ft.	7	10½″	20.70
4610	6 ft.	10	7″	24.20
4619	6 ft.	19	3½″	34.65

DELUXE OUTLET STRIPS

Model UL800CB has 10 "U" ground outlets controlled by a master on-off switch. A pilot light shows when power is on. Models UL25CB and UL25PCB have 7 color-keyed switch/outlet groups, circuit breaker, master switch and master pilot light. The "P" series has switches with built-in pilot lights.

Waber Model	Type	Cord Lgth.	Net Each
UL25CB-6	Circuit breaker	6 ft.	$36.25
UL25CB-15	Circuit breaker	15 ft.	38.65
UL25PCB-6	Circuit breaker	6 ft.	42.65
UL25PCB-15	Circuit breaker	15 ft.	45.05
UL800CB-6	Circuit breaker	6 ft.	26.50
UL800CB-15	Circuit breaker	15 ft.	28.90

DELUXE OUTLET STRIP FOR LAB OR DESK TOP

Outlets are located in the back of these desk or lab-top consoles. Metal cabinet finished in wood-grained vinyl. "U" ground outlets, each controlled by its own switch with built-in pilot light. Model UL95CB (7½″ w.) has 4 outlets; UL96CB (9¼″ w.) has 6 outlets; UL97CB (11″ w.) has 8 outlets. Size: All 2¾″ d. x 2¾″ h.

Waber Model	Type	Cord Lgth.	Net Each
UL95CB-6	Circuit breaker	6 ft.	$26.25
UL95CB-15	Circuit breaker	15 ft.	28.70
UL96CB-6	Circuit breaker	6 ft.	33.40
UL96CB-15	Circuit breaker	15 ft.	35.80
UL97CB-6	Circuit breaker	6 ft.	40.20
UL97CB-15	Circuit breaker	15 ft.	42.65

COMPACT OUTLET STRIPS

Compact design with quality "U" ground outlets for schools, labs and industry. Model UL602CB has 5 outlets; UL603CB has 4 outlets; UL605CB has 3 outlets; switch and pilot light; UL606CB has two switch-pilot light-outlet sets; UL608CB has 3 top outlets and 1 end outlet, switch and pilot light; UL610CB has 3 outlets, switch and pilot light. Size: 8⅝″ l. x 2⅜″ w. x 1½″ d.

Waber Model	Type	Cord Lgth.	Net Each
UL602CB-6	Circuit breaker	6 ft.	$14.90
UL602CB-15	Circuit breaker	15 ft.	17.30
UL603CB-6	Circuit breaker	6 ft.	13.65
UL603CB-15	Circuit breaker	15 ft.	16.05
UL605CB-6	Circuit breaker	6 ft.	15.25
UL605CB-15	Circuit breaker	15 ft.	17.65
UL606CB-6	Circuit breaker	6 ft.	16.45
UL606CB-15	Circuit breaker	15 ft.	18.85
UL608CB-6	Circuit breaker	6 ft.	16.05
UL608CB-15	Circuit breaker	15 ft.	18.45

"U" GROUND TWO-FOOT STRIPS

Convenient two-foot outlet strips ideal for racks, benches and set-ups. Size: 24″ l. x 2″ w. x 1½″ d. Model UL764CB has 8 outlets controlled by a master lighted rocker switch; UL770CB has 8 outlets only.

Waber Model	Type	Cord Lgth.	Net Each
UL764CB-6	Circuit breaker	6 ft.	$27.30
UL764CB-15	Circuit breaker	15 ft.	29.70
UL770CB-6	Circuit breaker	6 ft.	25.25
UL770CB-15	Circuit breaker	15 ft.	27.65

INLINE OUTLET STRIPS

Extra outlet on end for series-string wiring. Model UL15CB is the control unit with 7 "U" ground outlets, switch and pilot light; UL17CB is the slave unit with 9 outlets; UL18CB has 9 outlets on top (no outlet on end). Size: 13⅛″ l. x 2⅜″ w. x 1½″ d.

Waber Model	Type	Cord Lgth.	Net Each
UL15CB-6	Circuit breaker	6 ft.	$19.55
UL15CB-15	Circuit breaker	15 ft.	21.95
UL17CB-6	Circuit breaker	6 ft.	19.20
UL17CB-15	Circuit breaker	15 ft.	21.60
UL18CB-6	Circuit breaker	6 ft.	19.20
UL18CB-15	Circuit breaker	15 ft.	21.60

"U" GROUND OUTLET STRIPS

Model UL24CB has 6 outlets controlled by switch and pilot light; UL24MCB is the same except features an illuminated 0-150 VAC voltmeter; UL32CB has 4 color-coded outlets; UL32PCB has 4 color-coded outlets with pilot lights.

Waber Model	Type	Cord Lgth.	Net Each
UL24CB-6	Circuit breaker	6 ft.	$20.30
UL24CB-15	Circuit breaker	15 ft.	22.70
UL24MCB-6	Circuit breaker	6 ft.	26.80
UL24MCB-15	Circuit breaker	15 ft.	29.20
UL32CB-6	Circuit breaker	6 ft.	20.40
UL32CB-15	Circuit breaker	15 ft.	22.80
UL32PCB-6	Circuit breaker	6 ft.	23.65
UL32PCB-15	Circuit breaker	15 ft.	26.05

FOUR-FOOT OUTLET STRIPS

Models UL700CB, UL705CB & UL707CB have rocker switches with built-in pilot lights. Model UL700CB has 8 "U" ground outlets; UL705CB has 15 outlets; UL707CB has 14 outlets. Other models have no switches. Model UL710CB has 8 outlets; UL711CB has 14 outlets; UL715CB has 15 outlets. Size: 49″ . x 2″ w. x 1½″ d.

Waber Model	Type	Cord Lgth.	Net Each
UL700CB-6	Circuit breaker	6 ft.	$30.90
UL700CB-15	Circuit breaker	15 ft.	33.35
UL705CB-6	Circuit breaker	6 ft.	40.20
UL705CB-15	Circuit breaker	15 ft.	42.65
UL707CB-6	Circuit breaker	6 ft.	32.30
UL707CB-15	Circuit breaker	15 ft.	34.70
UL710CB-6	Circuit breaker	6 ft.	28.45
UL710CB-15	Circuit breaker	15 ft.	30.85
UL711CB-6	Circuit breaker	6 ft.	24.70
UL711CB-15	Circuit breaker	15 ft.	27.15
UL715CB-6	Circuit breaker	6 ft.	37.90
UL715CB-15	Circuit breaker	15 ft.	40.30

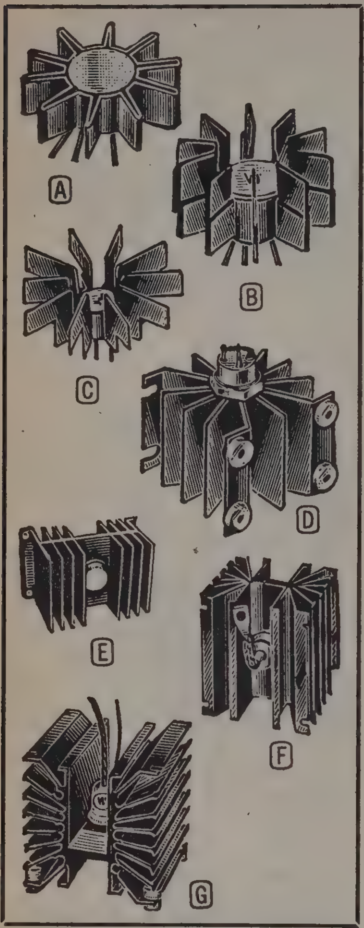
"U" GROUND ONE-FOOT OUTLET STRIPS

Model UL1500CB has 2 outlets and lighted rocker switch on top and 1 outlet on the end; UL1501CB has 3 outlets on top and 1 outlet on the end. Size: 12⅝″ l. x 1¾″ w. x 1½″ h.

Waber Model	Type	Cord Lgth.	Net Each
UL1500CB-6	Circuit breaker	6 ft.	$17.85
UL1500CB-15	Circuit breaker	15 ft.	20.25
UL1501CB-6	Circuit breaker	6 ft.	16.60
UL1501CB-15	Circuit breaker	15 ft.	19.00

WAKEFIELD ENGINEERING INC.

Semiconductor Coolers



THERMAL JOINT COMPOUND

Used between semiconductor and heatsink: or for thermoelectric modules.

Wakefield No.	Size	Net Each, Lots of		
		1-9	10-24	25-49
120-S	4 gm	$ 0.64*	$ 0.55*	$0.48*
120-2	2 oz.	2.49	2.34	2.06
120-5	5 oz.	4.09	3.77	3.41
120-8	8 oz.	6.69	6.26	5.52
120-80	5 lb.	31.75	31.03	....

*Net Each, Lots 1-99, 100-499, 500-999.

VERTICAL MOUNTING ADAPTERS

Meet MIL-STD-202. Cond. B for vibration. Two required per sink. For insulation, use Teflon insulator 103, below.

No. 111—For 401 or 403.
Net Each, 1–99. . .**$0.26**; 100–499. . .**$0.21**
No. 113—For 421 or 423.
Net Each, 1–99. . .**$0.37**; 100–499. . .**$0.32**

TEFLON® INSULATORS

Type 105 accepts #10 mtg. hardware; all others, 6-32. ®DuPont TM

Type No.	For Sink Model Number	No. Req'd	Hypot kV*
101	501 502, 503, 504, 505	3 4	0.5
103	301 401	2 3	1.5
	302, 303, 403, 413, 421, 423, 431, 433, 621, 623, 641	4	1.5
105	441, 451, 465, 476, 486, 489	4	5.0
107	Same as 103		5.0

*At 60 Hz.

Wakefield Number	Net per Pkg. of 100		
	1-499	500-900	1000-4900
101	$20.50	$17.08	$15.96
103	8.01	6.68	6.36
105	31.43	26.19	24.44
107	31.43	26.19	24.44

SERIES 200 FEATHERWEIGHT DISSIPATORS

Unique fin design permits horizontal or vertical orientation with excellent natural convection performance in either position. In forced convection applications, the axis of the semiconductor may be oriented either perpendicular or parallel to the direction of air flow Max. contact thermal impedance for the semiconductor case to the dissipator I.D. i 5° C/W for 201, 202, 203 and 222, 3° C/W for 204, 205, 207, 209 and 224, 2° C/W fo 211, 213 and 215. Delta-T No. 120 thermal joint compound will reduce impedance by a factor of 8. Beryllium copper per MIL-C-81021 with black ebonol C finish per MIL-F-495; also available with no finish, prices on request.

Wakefield Model 160 Installation Tool—For 201, 202, 203, 204, 205, 207, 208, 209, 222 and 224. Net Each. **$1.50**
Wakefield Model 161 Installation Tool—For 211, 213 and 215. Net Each **1.50**

Wakefield Number	Fig.	Fits Case Dia., In.	Fits JEDEC Case Styles	Size, Inches			Net per Pkg. of 100		
				I.D.	O.D.	H.	1-199	200-400	500-900
201-CB* 202-CB 203-CB* 206-CB*	A A B B	.161/.240	TO-18, 24, 28, 40, 44	.150 .150 .150 .165	.640 .490 .640 .510	.187 .187 .375 .375	$26.97 23.73 38.66 38.66	$22.48 19.78 32.21 32.21	$20.36 17.92 29.15 29.15
204-CB* 205-CB* 207-CB* 208-CB* 209-CB*	A A B B C	.275/.370	TO-5, 9, 11, 12, 16, 26, 29, 33, 39, 42, 43, 45	.255 .255 .255 .280 .255	.550 .720 .720 .580 1.280	.187 .187 .375 .375 .720	23.73 26.97 38.66 38.66 42.62	19.78 22.48 32.21 32.21 35.52	17.92 20.35 29.15 29.15 32.52
211-CB* 213-CB* 215-CB*	A B C	.440/.544	TO-8, 38, 48,	.420 .420 .420	.830 .830 1.400	.187 .375 .830	38.66 41.76 41.76	32.21 34.80 34.80	29.15 31.49 31.49
222-CB	A	.165/.240	2—TO-18, 24, 28	.150	.640	.380	37.59	31.33	28.40
224-CB	A	.275/.370	2—TO-5, 9, 11, 12, 16, 29, 33, 39, 42, 43, 45	.255	.720	.440	42.62	35.52	32.52

*Also available in aluminum alloy 6061T6 with or without black anodize finish; prices on request.

SERIES 300 SEMICONDUCTOR COOLERS (FIG. D)

Accommodate stud-mounted, press-fitted rectifiers and transistors up to 1⅟16" hex case. Semiconductor mounting surface and one mounting foot are free of anodize to assure excellent thermal and electrical performance. Ideal for stacking arrangement; electrical isolation provided by Type 103 insulators or Type 104 expansion nuts (not supplied). Temperature Rise at 23 Watts: Type 301, 100° C; 302, 72° C; 303, 52° C. Full curves on request. Aluminum alloy 6063-T5 per QQ-A-200; black anodize finish per MIL-A-8625 Type II. Size 2" sq. x ¾" h., 301; 1½" h., 302 and 3" h., 303. Part No. letter suffix indicates mounting hole type; see *Ordering Information on following page.

Wakefield Number	Net Each, Lots of			Wakefield Number	Net Each, Lots of		
	1-24	25-49	50-99		1-24	25-49	50-99
301K	$1.81	$1.44	$1.18	302L, R	$2.89	$2.31	$1.86
301L, M, N	2.19	1.74	1.52	303K	2.53	2.03	1.60
301R	2.19	1.74	1.52	303 M, N†	3.35	2.68	2.18
302K	2.19	1.74	1.41	303L, R	3.35	2.68	2.18
302 M, N†	2.89	2.31	1.86				

Wakefield numbers 302 and 303 are available with suffix **MM** or **NN** (tapped both ends) at **$0.25** additional per piece.

SERIES 400 NATURAL CONVECTION HEAT SINKS (FIG. E)

Aluminum alloy 6063T5 per QQ-A-200; black anodize finish per MIL-A-8625, Type II. Part No. letter suffix indicates mounting hole type; see *Ordering Information on following page.

401: Unexcelled for natural convection where space is critical. Thermal resistance below 0.5° C/W at moderate air flow. Size, 1.5" x 4.812". **403:** Thermal resistance 1.8° C/W at medium power levels; adequate cooling in all but the most stringent applications. Size, 3.0" x 4.812".

Wakefield Number	Net Each, Lots of				Wakefield Number	Net Each, Lots of			
	1-24	25-49	50-99	100-249		1-24	25-49	50-99	100-249
401-A, K	$1.89	$1.49	$1.18	$0.99	403-A, K	$2.77	$2.18	$1.74	$1.44
401-(*)	2.24	1.77	1.41	1.17	403-(*)	3.13	2.46	1.95	1.60

423: Thermal resistance 0.8° C/W at higher power levels. Designed for applications involving larger Triacs, SCR's and diodes; may be mounted vertically or horizontally. Size, 5.5" x 4.812".

423-A, K	$6.39	$5.03	$4.00	$3.34	423-(*)	$6.76	$5.32	$4.22	$3.57

*All other standard configurations; see *Ordering Information on following page.

413: Thermal resistance 1.4° C/W natural convection; 0.3° C/W moderate air flow. Size, 3.0" x 4.75". **421:** Same except 1.3° C/W natural convection.

Wakefield Number	Net Each, Lots of				Wakefield Number	Net Each, Lots of			
	1-24	25-49	50-99	100-249		1-24	25-49	50-99	100-249
413-A, K	$4.35	$3.42	$2.76	$2.31	421-A, K	$3.96	$3.12	$2.50	$2.07
413-(*)	5.08	4.00	3.28	2.76	421-(*)	4.35	3.42	2.71	2.26

441 (Fig. F): Designed for vertical mounting; taking better advantage of natural convection. Thermal resistance 0.55° C/W at high power levels; 0.18° C/W with moderate forced convection. Size, 4.75" x 5.5".

441-K	$10.56	$8.32	$6.66	$5.54	441-(*)	$11.30	$8.90	$7.10	$5.93

*All other standard configurations; see *Ordering Information on following page.

465 (Fig. G): Designed for 1⅟16" hex high power rectifiers and SCR's. Provides maximum cooling for minimum space requirements. Size, 4" sq. **476 (Fig. G):** For 1¼" hex SCR's and rectifiers. Optimum fin efficiency with unique radial fin designs. Size, 5" sq. **486 and 489 (Fig. G):** For mounting 1¾" hex SCR's; utilize the decreased conduction path length between semiconductors and fin area for maximum cooling of these large devices. Size, 6" x 6.25", except 489, 9" x 6.25".

Wakefield Number	Net Each, Lots of				Wakefield Number	Net Each, Lots of			
	1-24	25-49	50-99	100-249		1-24	25-49	50-99	100-249
465-K	$7.05	$6.13	$5.40	$5.10	476-J, W	$10.65	$ 9.26	$ 8.10	$ 7.73
465-J	7.87	6.85	6.04	5.76	486-K	15.51	13.49	11.89	....
476-K	9.63	8.38	7.35	6.93	489-K	22.42	19.49	17.07	....

WAKEFIELD ENGINEERING INC. Semiconductor Coolers

SERIES 490 KING SIZE HEAT SINKS (FIG. H)

tural convection sinks for multi-cell high power rectifiers. Model 490-12.0, under ural convection conditions, will permit a case temperature rise of a 3½″ sq. rectifier nly 110° C at 600 W dissipation. Full curves for all types available on request. Alumi- n alloy 6063T5 per QQ-A-200; black anodize finish per MIL-A-8625 Type II except the semiconductor mounting surface where the electrical stud and high current bus- k connections are made. Four mounting lugs on each end with std. ⅜″ dia. bolts, s and washers; or, use Type 109 mounting brackets (glass fiber reinforced plastic les) for wall mounting or insulating (two required per sink), not supplied. Size, 5″ w. x 9.25″ d. x 3.5″ h., 490-3.5; 6″ h., 490-6.0; 12″ h., 490-12.0. All have 3½″ semi- ductor mounting area. Part No. letter suffix indicates mounting hole type; see *Order- Information below.

Wakefield Number	Net Each, Lots of 1-24	Net Each, Lots of 25-49	Wakefield Number	Net Each, Lots of 1-24	Net Each, Lots of 25-49
0-3.5-K	$14.93	$12.98	490-6.0-W, Y, Z	$22.51	$19.57
0-3.5-W, Y, Z	14.34	12.47	490-12.0-K	40.32	35.06
0-6.0-K	23.51	20.44	490-12.0-W, Y, Z	39.64	34.46

kefield No. 109 Mounting Bracket—Used with Series 490 heat sinks. Insulation ength, 5000 volts. Size, 7.50″ w. x 1.5″ d. x 1.5″ h. Mtg. centers spaced 6″.

t Each, Lots of: 1–99.................... **$1.89**; 100–499.................... **$1.63**

SERIES 600 CIRCUIT BOARD COOLERS

v profile, flat surface coolers for printed circuit and externally mounted uses. Available TO-8 and other transistor case styles and sizes to 1⅓″ O.D. **601 (Fig. I)**: For TO-8 nsistors; temp. rise 89° C at 10 watts; 1.25″ w. x 2.00″ d. x 0.56″ h. **603 (Fig. I)**: Same, temp. rise 83° C at 12 watts; 2.00″ w. x 2.00″ d. x 0.56″ h. **621 (Fig. J)**: For semis to 35″ O.D.; temp. rise, 84° C at 18 watts; 1.50″ w. x 4.75″ d. x 0.46″ h. **623 (Fig. J)**: ne, but temp. rise, 72° C at 23 watts; 3.00″ w. x 4.75″ d. x 0.46″ h. **641 (Fig. J)**: For ais to 1.335″ O.D.; temp. rise, 50° C at 23 watts; 3″ w. x 4.12″ d. x 1″ h. Aluminum by with black anodize finish. Part No. letter suffix indicates mounting hole type; see rdering Information below for other mounting types available—prices on request.

akefield lumber	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	Wakefield Number	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
01-K	$1.36	$1.09	$0.86	$0.73	$0.65	623-A, K	$2.44	$1.95	$1.57	$1.36	$1.18
03-K	1.54	1.23	1.03	.86	.73	641-A, K	2.54	2.03	1.63	1.37	1.20
21-A, K	1.65	1.32	1.05	.89	.79						

SERIES 635 SPACE SAVER COOLER (FIG. K)

tra low cost, lightweight heat sinks for circuit board applications. One-piece design nforms to the diamond shape of the TO-3, TO-66 and TO-220 packages for minimum ce usage in high-density applications. **Material:** Aluminum alloy 6063-T6 per QQ-A-). **Finish:** Plain or black anodize per MIL-A-8625, Type II.

Wakefield Number*	Height Inches	Finish	Net Each, Lots of 1-199	200-999	1000-2499	2500-4999	5000-9999
635-.5B1	0.5	Black	$0.259	$0.225	$0.207	$0.188	$0.174
635-.5P1	0.5	Plain	.162	.141	.13	.118	.109
635-.75B1	0.75	Black	.293	.255	.235	.213	.198
635-.75P1	0.75	Plain	.197	.171	.156	.143	.133
635-1.0B1	1.0	Black	.321	.279	.256	.232	.216
635-1.0P1	1.0	Plain	.224	.195	.179	.162	.151
635-1.25B1	1.25	Black	.352	.306	.281	.255	.237
635-1.25P1	1.25	Plain	.255	.222	.204	.185	.172

ast digit of part number indicates hole pattern: **1** for 8-pin TO-3, **2** for standard TO-3, or TO-66, **4** for TO-220

SERIES 680 CIRCUIT BOARD HEAT SINKS (FIG. L)

timum natural convection cooling per unit volume above the circuit board. Free cir- lation of air from any direction. High thermal conductivity aluminum alloy, black odized. Accepts all popular transistors. **Temp. Rise:** 680-.5, 90° C at 10 watts; 680-.75, C at 13 watts; 680-1.0, 90° C at 15 watts; 680-1.25, 100° C at 21 watts. **Size:** Base 1″ sq. with mtg. centers 1.50″, all units. Transistor mtg. area 1.31″ dia., min. all units. ight, .50″, 680-.5; .75″, 680-.75; 1″, 680-1.0; 1.25″, 680-1.25. Part No. letter suffix licates mounting hole type; see *Ordering Information below.

Wakefield Number	Net Each, Lots of 1-49	50-99	100-499	Wakefield Number	Net Each, Lots of 1-49	50-99	100-499
0-.5A, B, G1, K	$1.17	$1.12	$0.96	680-1.0A, B, G1, D	$1.33	$1.23	$1.07
0-.75A, B, G1, K	1.23	1.17	1.00	680-1.25A, B, G1, K	1.38	1.30	1.10

★ORDERING INFORMATION

SUFFIX LETTERS FOR MOUNTING TYPES

rts as listed are standard; deviations are special and will require tooling and set-up arges.

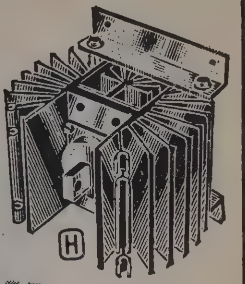
Wakefield No.	Standard Suffix	Wakefield No.	Standard Suffix
301*, 302, 303	K, L, M*, N*, R	476	K, W
310	K, J, W	486, 489	K
401, 403, 413, 421	A, B, F, K, V	490	K, W, Y, Z
423	A, B, F, K, V		
431, 433	J, K	601, 603	E, F, K, H1
441	G, K	621, 623, 641	A, K, V
465	J, K	680	A, B, K, G1

01 available single-end J, M and N only.

MOUNTING SPECIFICATIONS

cations of mounting groups on coolers to be within 1⁄32″ of true position. **R** (ream) free anodize.

Suffix	Mtg. Hole	Suffix	Mtg. Hole	Suffix	Mtg. Hole
A	TO-3	**J**	0.520″	**V**	TO-3
B	TO-36	**K**	Blank	**W**	0.765″
E	0.200″	**L**	8-32 x ½″	**X**	5⁄16-24
F	0.270″	**M**	10-32 x ⅝″	**Y**	1.030″
G	0.330″	**N**	¼-28 x ⅝″	**Z**	0.765″
H	0.390″	**R**	0.4975″	**G1, H1**	TO-66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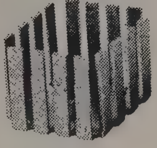
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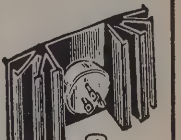
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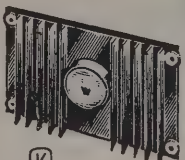
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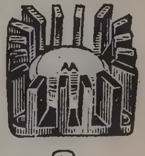
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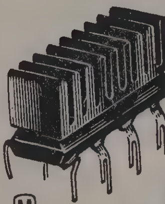
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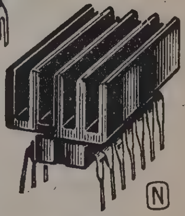
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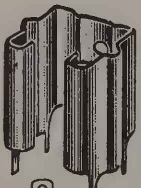
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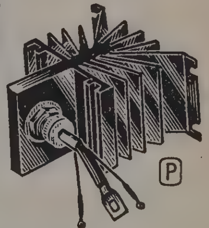
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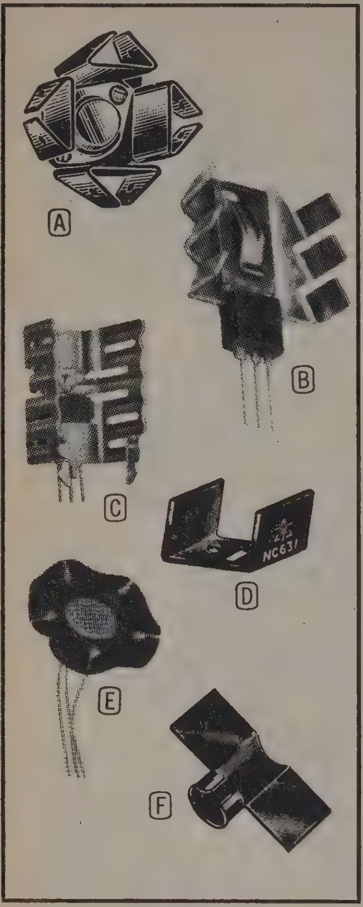
HEAT SINKS

Heat sinks for DIP and PC boards. **Type 650:** Bonded with Delta Bond epoxy for DIP. Size, .250″ w. x .744″ l. x .240″ h. **Type 651:** Heat sink for DIP enables user to select extruded fins perpendicular to Type 650 fins to take advantage of air flow direction. Size, .415″ w. x .75″ l. x 24″ h. **Type 295:** Solderable heat sink for PC boards. Tinned aluminum legs (.04″ w. x .03″ thick) plug-in .050″ PC board holes for automatic soldering. **Type 310:** Extruded aluminum heat sink to provide installation in NEMA cabinets. Available in 3.0″, 5.5″ and 11.5″ lengths with 11.5″ size for mounting 1, 2, or 3 SCR's.

Wakefield Type	Fig.	Min. Order	Net, per 100 200-900	Net, per 100 1000-2400
650-B*	M	100	$28.40	$24.40
651-B*	N	100	29.70	25.20
295-1	O	100	41.80§	39.16**
310-3.0K	P	1	5.78†	4.92‡

*Black anodize; change B to **G** for gold irridite; prices on request. Net Each: †1–24. ‡25–49; §500–900; **1000–4900.

WAKEFIELD ENGINEERING INC. Semiconductor Coolers



TYPE 690 CIRCUIT BOARD HEAT SINKS (FIG. A)

Designed to give the most power dissipation per unit cost. Power dissipation of 10- watts is obtainable. Made of highest thermally conductive pure aluminum, 1100 allo Available in both plain (suffix **P**) and black anodize (suffix **B**) finish. Available mounti patterns are for TO-3 and TO-66 JEDEC packages.

Wakefield Number	Fits Case	Size, In. W. x H.	Net per Pkg. of 100		
			1-199	200-900	1000-2400
690-3-P	TO-3	1.81 x 1.25	$37.00	$32.00	$30.00
690-66-P	TO-66	1.81 x 1.25	37.00	32.00	30.00
690-220-P	TO-220	1.81 x 1.25	37.00	32.00	30.00
690-3-B	TO-3	1.81 x 1.25	50.00	41.00	37.00
690-66-B	TO-66	1.81 x 1.25	50.00	41.00	37.00
690-220-B	TO-220	1.81 x 1.25	50.00	41.00	37.00

SERIES 291 HEAT SINK FOR TO-202 AND TO-220 (FIG. B)

Hole or spring clip mounting, made of 6063-T6 aluminum alloy. Locking tabs are pr vided for TO-202 case style on version -C1 and TO-220 case style on version-C2. A .14 diameter hole, centered .465″ from flange bottom, is supplied in version -H. Overall heig of upturned fins is .36″ on -36 version and .80″ on -80 version. Finish is black for A version and plain for AP version. Information on optional gold finish available on reques

Wakefield Number	Net per Pkg. of 100			Wakefield Number	Net per Pkg. of 10		
	1-499	500-900	1000-4900		1-499	500-900	1000 490
291-C1, C2, H-36AB	$ 5.50	$ 4.38	$3.70	291-C1, C2, H-81AB	$ 6.38	$ 5.08	$4.0
291-C1, C2, H-36AP	13.64	10.85	9.15	291-C1, C2, H-81AP	14.52	11.55	9.7

SERIES 297 STAND UP PC HEAT SINKS FOR TO-202, TO-220 (FIG.

Snap on tin dip processed heat sink. May be wave soldered to circuit board. **Suff definitions:** Case style; -V1, TO-202; V2, TO-220; V3, mounting hole: Fin length; -8 .800″; -130, 1.300″: Finish; P, plain; B, black. Information on optional gold finish availab on request.

Wakefield Number	Net per Pkg. of 100			Wakefield Number	Net per Pkg. of 100		
	1-499	500 900	1000 4900		1-499	500 900	1000 4900
297-V1, 2, 3-80P	$ 6.80	$ 6.30	$ 5.90	297-V1, 2, 3-130P	$ 8.90	$ 8.30	$ 7.7
297-V1, 2, 3-80B	14.10	13.10	12.30	297-V1, 2, 3-130B	17.80	16.60	15.5

SERIES 630 HEAT SINKS FOR TO-3 AND TO-66 (FIG. D)

Maximum cooling heat sinks for TO-3 and TO-66. Available in 3 types utilizing sam base size but three leg lengths. Type 1100-H14 aluminum 0.062″ thick. Black anodi (suffix **B**) or plain (suffix **P**) finish. Full curves on request.

Wakefield Number		Temp. Rise °C/5 W	Height, In.	Net per Pkg. of 100		
TO-3	TO-66			1-199	200-900	1000-2400
631-3-B	631-66-B	68	1.0	$23.60	$17.20	$15.00
631-3-P	631-66-P	68	1.0	9.70	7.70	6.50
632-3-B	632-66-B	57	2.0	25.20	20.10	17.60
632-3-P	632-66-P	57	2.0	13.60	10.90	9.20
633-3-B	633-66-B	45	3.0	29.20	23.30	20.10
633-3-P	633-66-P	45	3.0	17.50	14.00	12.10

TYPE 298 PRESS TOP HEAT SINK FOR TO-5 CASE (FIG. E)

Silver bearing copper wave design cooler top.

Wake-field No.	Gripper O.D.	Overall Height	Fin Diameter	Net per Package of 100			
				1-199	200-400	500-900	1000-490
298	.295″	.215″	.750″	$10.30	$8.50	$7.70	$7.20

TYPE 296 HEAT SINKS (FIG. F)

Snaps onto TO-5 transistors. Finishes same as Type 292, above. Wing height, ¼″, 296- ½″, 296-2; ¾″, 296-3; 1″, 296-4.

Wakefield Number	Net per Pkg. of 100				Wakefield Number	Net per Pkg. of 100			
	1-499	500-900	1000-4900	5000-9900		1-499	500-900	1000-4900	5000-9900
296-1-AB	$ 8.53	$ 6.82	$ 5.73	$ 4.54	296-3-AB	$11.81	$ 9.45	$ 7.87	$ 6.3
296-1-AP	3.84	3.07	2.52	2.08	296-3-AP	4.71	3.76	3.07	2.4
296-1-CB	20.17	16.13	13.26	10.76	296-3-CB	36.27	29.02	24.20	19.3
296-1-CP	17.62	14.09	11.79	9.36	296-3-CP	32.37	25.89	21.70	17.2
296-2-AB	9.07	7.26	6.03	4.85	296-4-AB	12.20	9.76	8.12	6.5
296-2-AP	4.24	3.39	2.83	2.29	296-4-AP	5.00	4.00	3.23	2.6
296-2-CB	28.12	22.49	18.75	14.97	296-4-CB	45.19	36.16	29.94	24.0
296-2-CP	24.99	19.99	16.67	13.32	296-4-CP	40.13	32.11	26.67	21.3

INSULATING WAFERS FOR TO-3 AND TO-66

Aluminum alloy per 5052-H38 with Delta Coate 151H (suffix **DC**) or hard coat (suffix **HC**). Thermal conductive coating on transistor side only, including edges, hole I.D.

Wakefield Number	Net per Pkg. of 10		
	10-90	100-450	500-990
170-, 171-, 172-DC	$0.90	$0.78	$0.74
170-, 171-, 172-HC	1.11	.97	.89

EPOXY RESINS, HARDENERS AND EXPERIMENTAL KITS

MIXING PROPORTIONS AND WORKING TIME

Hdnr. No.	Net Wt./ Btl. Lbs.	Parts Hardener per 100 Parts Resin			Wkg. Time Hours
		151	152,153	154	
A4	.30	....	7.5	10.5	.75
B4	.14	....	3.5	5.0	.50
C4	.18	....	4.5	6.5	4.0
D4	.92	....	23.0	33.0	24.0
H3	.12	4	....	.....	4.0

Delta Coate 151: Thermally conductive dielectric epoxy coating which may be pai sprayer applied. A .006″ coating yields 1000 WV dielectric strength. **Delta Bond 15** Solvent free 100% solid adhesive. Effective on porous and nonporous surfaces; mo plastics. **Delta Cast 153:** Pourable casting resin for component and assembly encapsula ing. Thermal expansion similar to aluminum and copper. **Delta Bond 154:** Mediu viscosity aluminum filled resin with the best thermal conductivity of this series. Not good electrical insulator nor conductor. A good thermal mechanical adhesive for sink fins, brackets, plates, blocks. Machines freely. **Hardeners:** Available as listed for use wit resins. Additional data available on request. **Experimental Kits: 151-K-H**; 125 gm resin, 4 gms hardener H. **152-K-A**; 200 gms resin, 15 gms hardener A. **153-K-A**; 200 gm resin, 15 gms hardener A. **155-K-A**; equal parts resin and hardener.

Wakefield Kit Number	Net Each, Lots of		
	1-9	10-24	25-49
151-K-H, 152-K-A, 153-K-A	$7.71	$7.13	$6.61
155-K-A	3.95	3.55	3.20

Resin No.	Size Can	Hardener Req'd	Net Ea., Lots		Resin No.	Size Can	Hardener Req'd	Net Ea., Lots		Hardener No.	Net Ea., Lots		Hardener No.	Net Ea., Lo	
			1-9	10-24				1-9	10-24		1-9	10-24		1-9	10-2
151-Q	Qt.	H3	$23.36	$21.07	153-Q	Qt.	A4, B4	$17.07	$15.33	A4	$6.74	$6.29	D4	$11.38	$8.7
152-Q	Qt.	A4, B4,	17.07	15.33	153-G	Gal.	C4, D4	60.83	58.39	B4	4.36	3.28	H3	4.12	3.1
152-G	Gal.	C4, D4	60.83	58.39	154-Q	Qt.		14.15	12.66	C4	5.59	3.81			

WAKEFIELD ENGINEERING INC. Semiconductor Coolers

SERIES 130 PRESS-PAK HEAT SINKS AND CLAMPS (FIG. A)

andard single heat sinks for use with Type 130 clamps; multiple heat sinks available, ta and prices on request. T-slots accept standard hex head machine bolts for mounting d busing. Only one sink of a given pair should be bolted to rigid busing. Aluminum oy 6063T5 with black anodize (suffix **B**) or gold irridite (suffix **G**) finish. Natural and ced convection data available on request. Size, 5″ w. x 4½″ d., except 133-4.5, 7″ w. x ½″ d. and 133-7.5, 7″ w. x 7½″ d.

akefield Number	Ht., In.	Net Each, Lots of 1-9	10-24	25-49	Wakefield Number	Ht., In.	Net Each, Lots of 1-9	10-24	25-49
1-4.5-B	1⅛	$3.47	$3.30	$3.15	132F-4.5-B	3¼	$ 5.62	$ 4.85	$ 4.63
1-4.5-G	1⅛	2.54	2.39	2.35	132F-4.5-G	3¼	3.70	3.49	3.35
1F-4.5-B	2	3.34	3.16	3.02	133-4.5-B	3⅛	7.12	6.77	6.47
1F-4.5-G	2	2.39	2.26	2.18	133-4.5-G	3⅛	6.27	5.96	5.70
2-4.5-B	2¼	4.18	3.96	3.77	133-7.5-B	3⅛	11.46	10.87	10.41
2-4.5-G	2¼	3.34	3.16	3.02	133-7.5-G	3⅛	10.14	9.62	9.21

SERIES 130 CLAMP AND SPRING ASSEMBLIES

t all Press-Pak SCR sizes up to 2.25″ dia. Affords clamping force centering accuracy less than 10% of junction diameter with Series 130 heat sinks, above.

STUD ASSEMBLIES

ossbar is CRS, 3.8″ lg. x 1³⁄₁₆″ w. x ½″ thick. Stainless steel studs spaced 2¾″. Assembly coated with epoxy insulating compound for 5 kVAC breakdown min.

ake-field No.	Clearance*	Net Each, Lots of 1-9	10-24	25-49	Wake-field No.	Clearance*	Net Each, Lots of 1-9	10-24	25-49
30-A	1.74–2.12	$4.37	$3.67	$3.19	130-H	3.91–4.29	$4.73	$3.97	$3.47
30-B	2.05–2.43	4.37	3.67	3.19	130-J	4.22–4.60	4.73	3.97	3.47
30-C	2.36–2.74	4.37	3.67	3.19	130-K	4.53–4.91	4.98	4.19	3.64
30-D	2.67–3.05	4.61	3.89	3.67	130-L	4.84–5.22	4.98	4.19	3.64
30-E	2.98–3.36	4.61	3.89	3.67	130-M	5.15–5.53	4.98	4.19	3.64
30-F	3.29–3.67	4.61	3.89	3.67	130-N	5.46–5.84	5.30	4.47	4.29
30-G	3.60–3.98	4.73	3.97	3.47	130-P	5.77–6.15	5.30	4.47	4.29

in.–max., stud bar to top of clamp; includes spring assembly height.

SPRING ASSEMBLIES

ch leaf provides up to 400 lbs. clamping force; integral force indicator reads lbs./leaf 100-lb. graduations (available without indicator). Stainless steel alloy has low creepage te (less than 15% in 5 years at 400 lbs./leaf at 150° C operating); better than the best tomotive valve-spring steels. Swivel pad is 2024 aluminum.

akefield No.	Leaves No.	Leaves H.	Net Each, Lots of 1-9	10-24	25-49	Wakefield No.	Leaves No.	Leaves H.	Net Each, Lots of 1-9	10-24	25-49
130-2	2	.50″	$4.20	$3.55	$3.07	130-4	4	.72″	$5.31	$4.54	$3.75
130-3	3	.61″	4.68	3.95	3.40	130-5	5	.83″	5.57	4.71	4.08

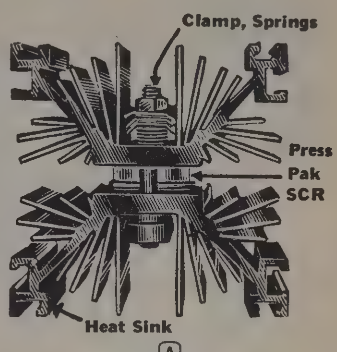
or unit without indicator, deduct **25c.**

SERIES 260 CUP CLIPS FOR TO-5 AND TO-18 CASE

ass base per QQB626a Comp. 22, black ebonol C finish per MIL-F-495. Cups are ryllium copper alloy #10 per MIL-C-81021, black ebonol C finish per MIL-F-495. ramic spacers are beryllium oxide, 99% purity, 95% density. Flared lip standard for sy component insertion. **Plain Mounting Base Types (Fig. B):** Can solder into place used with pan head screws (#4 for TO-5; #2 for TO-18); 260-P5B and 260-P18B are mounting with thermally conductive adhesive such as Delta Bond 152. **Tapped Base pes (Similar Fig. B):** Use 4-40 screw for TO-5; 2-56 for TO-18; 260-4TH5B and 0-2TL18 have thick base for wider screw length tolerances. **Stud Mounting Types gs. C and D):** Have 6-32 or 10-32 studs for TO-5 case; 4-40 and 6-32 for TO-18. erate continuously between −100° F to +300° F. **Suffix B** (e.g., 260-P5**B**): Beryllium ide insulated for operations requiring low stray capacity to heat. Hypot rating 1000 C, 60 Hz for TO-5; 750 VAC, 60 Hz for TO-18. Color coded white. **Suffix E:** Epoxy sulated; color coded yellow. Hypot rating, 500 VAC, 60 Hz for TO-5; 250 VAC, 60 Hz TO-18. **No Suffix:** Indicates non-insulated. **Size:** 0.29″ I.D. cup, hex base .37″ across ts for TO-5; .170″ I.D. with .25″ hex for TO-18.

Wakefield Number	Fig.	Typical Case-to-Sink Thermal Resistance, °C/W	Hole or Thread Size	Net per Pkg. of 10 1-19	20-40	50-90
60-P5	B	12*	.112″ diameter	$ 3.61	$ 2.88	$ 2.49
60-P5B	B	16*	.185″ diameter	11.59	9.27	7.97
60-4T5	B	12*	4-40 fem., chamfer	6.84	5.46	4.72
60-4T5E	B	14*	4-40 fem., chamfer	9.31	6.89	5.91
60-4TH5B	B	16*	4-40 female	16.04	12.83	11.08
60-4TH5E	B	14*	4-40 female	9.31	6.89	5.91
60-6SH5	C	12*	6-32 stud	9.73	7.79	6.76
60-6SH5B	C	16*	6-32 stud	16.04	12.83	11.08
60-6SH5E	C	14*	6-32 stud	12.27	9.82	8.45
60-10SH5	D	12*	10-32 stud	7.61	6.09	5.27
60-10SH5B	D	16*	10-32 stud	16.03	12.83	11.08
60-10SH5E	D	14*	10-32 stud	9.73	7.79	6.76
60-P18	B	22.5†	.089″ diameter	3.61	2.88	2.49
60-P18B	B	27.5†	.128″ diameter	11.59	9.27	7.97
60-2T18	B	22.5†	2-56 female	7.61	6.09	5.27
60-2TH18	B	22.5†	2-56 female	7.61	6.09	5.27
60-2TH18B	B	27.5†	2-56 female	16.74	13.39	11.67
60-2TH18E	B	25.0†	2-56 female	9.73	7.79	6.76
60-2TL18E	B	25.0†	2-56 female	8.62	6.89	5.91
60-4SH18	C	22.5†	4-40 stud	7.61	6.09	5.27
60-4SH18B	C	27.5†	4-40 stud	16.04	12.83	11.08
60-4SH18E	C	25.0†	4-40 stud	9.73	7.79	6.76
60-6SH18	D	22.5†	6-32 stud	7.61	6.09	5.27
60-6SH18B	D	27.5†	6-32 stud	16.04	12.83	11.08
60-6SH18E	D	25.0†	6-32 stud	9.73	7.79	6.76

ith #30 copper-constantan thermocouple soldered to center of header of RCA 2N3053.
ith #30 copper-constantan thermocouple soldered to emitter-tab of Sprague 2N2907A.



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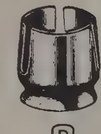

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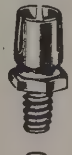

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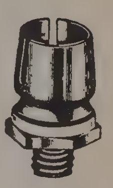

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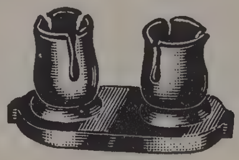

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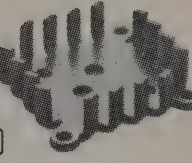


F

SERIES 260 THERMAL RETAINERS (FIG. E)

Two cup clips are bonded with Delta Bond 152 to an aluminum base precoated with Delta Coate 151H. This provides a thermal equalizing link with excellent thermal dissipation characteristics. Clips are electrically insulated from the strip and each other. Cup clip beryllium copper with black ebonol C finish; base aluminum 1100-H14 clear irridite and Delta Coate 151 finish. **260-5D:** Thermal resistance from TO-5 cup clip to mounting base is 13° C/watt and from cup to cup is 30° C/watt. **260-18D:** Thermal resistance from TO-18 cup clip to mounting base is 24° C/watt and cup to cup is 60° C/watt.

Wakefield Number	Net per Pkg. of 10 1-19	20-40	50-90
260-5D	$17.15	$13.72	$11.90
260-18D	17.15	13.72	11.90

SERIES 689 SLANTED FIN COOLERS FOR TO-3, TO-66, TO-220 CASES (FIG. F)

e piece aluminum alloy. Printed circuit board mount space; square, 1.81″ overall. Mounting holes on 1.5″ centers. First suffix specifies height: **-.5**, .5″; **-.75**, .75″; **-1.0**, 1″; **-1.25**, 1.25″; followed by **P** for plain or **B** for black finish. Last suffix specifies hole pattern: **1**, pin TO-3; **2**, standard TO-3; **3**, TO-66; **4**, TO-220.

Wakefield Number	Net per Package of 100 1-199	200-900	1000-2400	2500-4900	5000-9900
689-.5B1, 2, 3, 4	$38.80	$38.80	$31.10	$28.20	$26.10
689-.5P1, 2, 3, 4	24.30	21.20	19.50	17.70	16.40
689-.75B1, 2, 3, 4	44.00	38.30	35.30	32.00	29.80
689-.75P1, 2, 3, 4	29.60	25.70	23.40	21.20	20.00

Wakefield Number	Net per Package of 100 1-199	200-900	1000-2400	2500-4900	5000-9900
689-1.0B1, 2, 3, 4	$48.20	$41.90	$38.40	$32.40	$29.90
689-1.0P1, 2, 3, 4	33.60	29.30	26.90	24.30	22.70
689-1.25B1, 2, 3, 4	52.90	45.90	42.20	38.30	35.60
689-1.25P1, 2, 3, 4	38.30	33.30	30.60	27.80	25.60

KESTER Solder and Flux

KESTER "44" RESIN CORE SOLDER

Revolutionary solder advancement uses a fast-acting, instant-wetting, non-corrosive, non-conductive flux for faster soldering and long-lasting, stronger bond. Available in any size ranging from .005" to .250". Also available for Fed. Spec. QQ-S-571d. Two standard put-ups: 1-lb. and 5-lb. spools; 20 lb. spools available on special order.

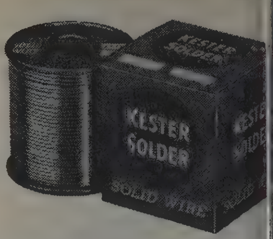
Alloy Tin/Lead	Dia. In. (Ga)	Spool of	Net per Spool, Lots of 1-10 Lbs.	11-24 Lbs.	25-49 Lbs.
40/60	.062 (16)	1 lb. 5 lbs.	Prices on Request		
	.093 (13)	1 lb. 5 lbs.			
50/50	.062 (16)	1 lb. 5 lbs.			
	.093 (13)	1 lb. 5 lbs.			
60/40	.015 (27)	1 lb.			
	.020 (25)	1 lb.			
	.025 (23)	1 lb.			
	.031 (21)	1 lb. 5 lbs.			
	.040 (19)	1 lb. 5 lbs.			
	.050 (18)	1 lb. 5 lbs.			
	.062 (16)	1 lb. 5 lbs.			
	.093 (13)	1 lb. 5 lbs.			
63/37	.015 (27)	1 lb.			
	.020 (25)	1 lb.			
	.025 (23)	1 lb.			
	.031 (21)	1 lb. 5 lbs.			
	.040 (19)	1 lb.			
	.050 (18)	1 lb.			
	.062 (16)	1 lb.			

BAR SOLDER

Available in all the tin-lead alloys. Uniform distribution of tin/lead alloys provides for more efficient and easy application.

Alloy Tin/Lead	Bar Weight	Net Each, Lots of 1-10 Lbs.	11-24 Lbs.	25-49 Lbs.
30/70	1 lb.	Prices on Request		
40/60	1 lb.			
50/50	1 lb.			
60/40	1 lb.			
63/37	1 lb.			

KESTER SOLID WIRE SOLDER



For use with external flux, this solder is equal in quality and purity to Kester "44" solder. Always uniform in diameter and alloy. Standard put-ups are 1-lb. and 5-lb. spools; 20-lb. spools and 50-lb. reels also available.

Alloy Tin/Lead	Dia., In. (Ga)	Spool of	Net per Spool, Lots of 1-10 Lbs.	11-24 Lbs.	25-49 Lb
40/60	.125 (11)	1 lb. 5 lbs.	Prices on Request		
	.062 (16)	1 lb. 5 lbs.			
50/50	.125 (11)	1 lb. 5 lbs.			
	.062 (16)	1 lb. 5 lbs.			
60/40	.062 (16)	1 lb. 5 lbs.			
	.031 (21)	1 lb. 5 lbs.			

KESTER SOLDERING FLUXES

For use on all metals except aluminum. Remain stable even under extreme conditions. The latest development in practical flux, these efficient formulations meet all manufacturing techniques including specialized assembly, automation, modular techniques, etc. Choice of pint, quart or gallon put-ups; 5-gallon containers also available on request.

Formula 135—An external non-conductive flux conforming to MIL-F-14256.

Formula 145—A flux more dilute than No. 135 and often specified for solderability tests.

Formula 105—A solvent for thinning formulas 135 and 145.

Formula 115—A general-purpose flux, absolutely non-corrosive, non-conductive and conforming to MIL-F-14256.

Formula 101—For thinning or diluting formula 115.

Formula 197—A mildly activated rosin flux in an alcohol solven and conforming to MIL-F-14256. The surface tension has bee adjusted so that a low air pressure wil produce a very uniform head of small bubbles for foam fluxing applications.

Formula 108—For thinning or diluting formula 197.

Formula 1544—A rosin flux virtually as active as an "acid" flu yet safe for use on electronic equipment. Especially effective fo soldering zinc and nickel.

Formula 1571—Slightly more dilute than formula 154 and intended for PC board assemblies.

Formula 1545—Slightly more dilute than formula 1571. Require cleaner circuit assemblies but leaves less flux residue.

Formula 1547—Requires very clean parts, but leaves a minimum of flux residue.

Formula 104—For thinning or diluting fluxes of the 1500 series.

Formula 1585—Similar to formula 1571, but formulated for easy foaming action for flux foaming applications.

Formula 1587—Similar to formula 1585, but leaves less flux residue.

Formula 1589—A dilute flux for use where a minimum of flu residue is desirable. Permits easy soldering on difficult parts.

SOLDER FORMS ALSO AVAILABLE FROM PIONEER

Our Stocks are Complete and up-to-date.

Write for information on new or unlisted items.

KESTER Chemicals

KESTER SOLDERING FLUXES CONT'D

ormula 103—For thinning or diluting formulas 1585 and 1587.

ormula 1636—Employs a relatively non-volatile solvent to inimize additions of thinner to maintain the proper density for gh-speed soldering.

ormula 1626—A more dilute flux for use when parts are cleaner nd minimum residue is desirable.

ormula 102—For thinning or diluting formulas 1636 and 1626. seful for cleaning foam fluxing equipment.

ormula 1429—An "organic" type flux with cleaning action intermediate between the rosin and acid type fluxes. The flux residues re decomposed at soldering temperatures leaving very little esidue. Slightly corrosive.

ormula 1429BF—Similar to formula 1429, modified for foam uxing applications.

ormula 2211—An organic flux in an alcohol solvent for foam uxing applications.

ormula 4422—For thinning or diluting formulas 1429, 1429BF nd 2211.

ormula 415—A mild acid flux for use where soldering can be ccomplished quickly. Leaves little or no residue.

ormula 635—Similar to formula 415, but with a non-volatile olvent for use where soldering time must be extended.

ormula 541—Similar to formula 415, but much more acidic. Will older badly oxidized metals. Leaves little or no residue.

ormula 751—Formulated especially for soldering to brass, it is ee from ammonium salts which could cause corrosion or "cracking" of the brass.

ormula 715—The standard, all-purpose acid flux with high ctivity, stability and heat resistance. Rapid soldering can be ccomplished on most metals.

ormula 737—Less concentrated than formula 715. Leaves less esidue.

ormula 815—The most active flux made by Kester. Can be used or soldering all common metals except aluminum and manganese. This most corrosive flux should be used only after other types have ailed to clean the metal.

ormula 817—Similar to but milder than formula 815. Developed or soldering stainless steel and nickel-chrome.

KESTER VAPOR DEGREASING SOLVENTS

hese solvents are blends of high purity fluorocarbons and lectronic grade solvents capable of removing completely all traces f organic contamination and rosin residues which remain after oldering with activated rosin fluxes. All formulations can be relaimed by distillation, are stabilized against chemical degradaion, and can be used by cold immersion or spraying in vapor dereasers or in ultrasonic equipment.

ormula 5130—The most effective solvent—will remove even the ardest, baked-on polymerized rosin. The low boiling point of 05° F. reduces heat damage to components. Plastics and markings hould be tested before immersion in 5130 due to the very strong olvent action.

ormula 5120—A general-purpose, medium-strength solvent oiling at 120° F.

ormula 5110—A very mild fouorocarbon-alcohol blend, boiling t 112° F., will effectively remove soft rosin residues and activating gents but will not attack polystyrene, polycarbonate and other lastics.

KESTER ROSIN RESIDUE REMOVERS AND ELECTRONIC CLEANERS

Solvents formulated to remove completely flux residues, oils and greases in applications where vapor degreasing is not available. With the exception of formula 5211, all can be used in vapor degreasing equipment if desired. Formula AP-20—An unusually fast and effective solvent for rosin residues. Boiling point is 245° F. Can be reclaimed by distillation.

Formula 5240—Developed for use in automatic soldering machines incorporating in-line cleaning equipment. Slightly milder and with less odor than formula AP-20. Boiling point is 249° F.

Formula 5235—A medium-strength solvent boiling at 154° F. Has minimum odor and is preferred for in-line cleaning equipment incorporating a reclaiming still.

Formula 5211—A very mild solvent blend of fluorocarbons and alcohol, designed to remove residues with virtually no attack on plastics, inks and critical components. Developed as a safe, nonflammable replacement for dangerous solvents such alcohols and naphtha.

Formula 5770 Bio-Kleen—A concentrated solution which is mixed 1:10 with water for removal of rosin flux residue. The mixed solution is used hot (165–185° F) to convert rosin to biodegradable soap for disposal in a sanitary sewer. Designed for use in production equipment.

KESTER SPECIAL PURPOSE CHEMICALS

Formula 5560 "Solder-Nu"—For cleaning and activating solder coatings, very tarnished copper, and silver-plated surfaces.

Formula 5520 "Copper-Nu"—For cleaning and activating copper and gold-plated surfaces. Copper-Nu and Solder-Nu effectively remove oxides, sulfides, carbonates and etch residues from metal surfaces to facilitate soldering. After water rinsing, these solutions leave a chemically active surface without etching away valuable base metal.

Formula 5610 "Surf-Kote"—A thin, non-tacky resinous protective coating for most solderable surfaces. Dissolves in all Kester resin fluxes during soldering. Can be removed with any Kester solvent or flux remover.

Formula 5720 "Screen Wash"—A cleaning solvent for rapid removal of most synthetic epoxy resin compounds with no attack on silk or stainless steel screen materials. Epoxy solder resists and marking inks are removed quickly from screening equipment and hands.

Formula 5740 "Fusing Compound"—A white wax-like solid melting at 120–130° F. The molten liquid possesses unusually high flash and fire points. The primary application is as a heat transfer medium for fusing or reflowing solder plating. Also has been used as a dross inhibitor on solder baths up to 550° F.

Formula 2400 Infrared Reflow Flux—An organic, chloride-type, very stable flux for reflowing solder plating on circuit boards. Particularly adapted to focused infrared equipment. Residues are water soluble.

Formula 5730 "Tinning Oil"—A high quality, very stable oil formulation designed for use in automatic soldering machines which employ an oil blanket or oil-injection system. Relieves interfacial tension between solder and base metal, eliminating icicling and bridging.

Formula 2410 Infrared Reflow Flux—An organic acid flux, free from chloride, for use with non-focused infrared equipment for reflowing solder plating on circuit boards. Residues are water soluble.

Formula 5780 "Peel-Kote"—A liquid, masking elastomer developed to provide a temporary resistant coating for soldering or painting. It is brushed on or parts are dipped and allowed to dry. Removal is by peeling the coating from the surface, leaving no residue.

SOLDER FORMS ALSO AVAILABLE FROM PIONEER

FOR INDUSTRIAL ELECTRONIC EQUIPMENT AND PARTS,
WE CAN SUPPLY ALL YOUR REQUIREMENTS,
OFFERING COMPLETE LINE WITH UP-TO-DATE STOCK, FAST DELIVERY AND INDUSTRIAL QUANTITY CONVENIENCE. AS NEW PRODUCTS ARE DEVELOPED, WE WILL OBTAIN THEM FOR YOUR IMMEDIATE AVAILABILITY.
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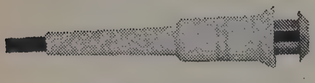
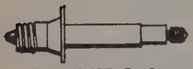
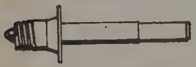
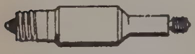
"STANDARD LINE" SOLDERING TOOLS


Model 750 Handle


S and HP Series
¼" Thread-On


S Series Thread-In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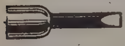
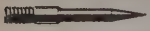
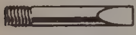
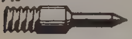
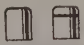
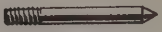

¼" Thread-On Style

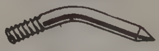

⅛" Thread-In Tiplets

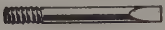

3/16" Thread-In Tips

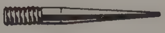

⅛" Princess Nibs

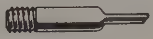

Thread-On Adapters

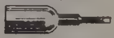

Pencil

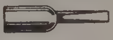

Angle Chisel

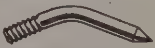

Chisel

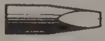

Needle

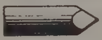

Micro Spade

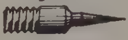

Stepped Chisel


Screwdriver


Angle Pencil


Taper Chisel


Pyramid


Precision

The modular "Standard Line" provides the professional with a durable yet economical iron for all types of soldering. Handles are perfectly balanced for comfort and fatigue-free soldering. Heaters provide fast recovery and maximum heat transfer. All irons are for operation on 120 VAC.

MODEL 750 OSHA® GROUNDED 3-WIRE HANDLE

The OSHA handle, when assembled with the S or HP Series heaters, is completely grounded from tip to plug and eliminates electrostatic tip potential. A unique, spring-loaded ground plate reflects heat away from the operator's hand. **For use only with S or HP heaters.**
Ungar Model 750 OSHA Grounded Handle—Net Each. . **$6.33**

MODEL 777 CLEAN ROOM HANDLE

Convection-cooled, molded grip for "clean room" use. Octagonal handle prevents rolling. Stainless steel heat reflector. Accepts all Standard Line heaters and integral heater/tips, including the S and HP series.
Ungar Model 777 Clean Room Handle—Net Each. **$3.27**

MODEL 776 CORK GRIP HANDLE

Same as Model 777, but red with cork grip.
Ungar Model 776 Handle—Net Each. **$3.27**
Ungar Model 7070 Technician's Soldering Kit—42 W, 120 VAC with No. 776 handle, No. 1237-S heater, and Nos. 111, 113 and 116 tips. Net Each. **$9.37**

500 SERIES CERAMIC HEATERS

The most economical and popular 27-watt ceramic heaters and integral heater/tips. For use only with Models 776 and 777 handles. Model 537 Thread-On Heater will accept all ¼" Thread-On Tips and, with No. 100 Adapter, all ⅛" Tiplets and Nibs; with No. 101 Adapter, all 3/16" Thread-In Tips.

S SERIES STAINLESS STEEL HEATERS

Constructed of corrosion-resistant stainless steel. Units feature improved 2- or 3-wire versatility, high strength, resistance to abuse and provide positive transfer of heat to the tip. Wedge-shaped base guide permits firm, taper-fit assembly to the handle. The heat reflecting shield also provides a positive ground when used with Model 750 OSHA grounded handle. Models 537-S, 1237-S and 4037-S Thread-On Heaters will accept all ¼" Thread-On Tips and, with No. 100 Adapter, all ⅛" Thread-In Tiplets and Nibs; with No. 101 Adapter, all 3/16" Thread-In Tips.

HP SERIES HIGH PERFORMANCE HEATERS

Also constructed of corrosion-resistant stainless steel and designed for applications requiring extra heat output. Units will out-perform bigger conventional irons. Respond automatically to temperature change, provide reserve power and fast recovery. Model 37HP will accept all ¼" Thread-On Tips and, with No. 100 Adapter, all ⅛" Thread-In Tiplets and Nibs; with No. 101 Adapter, all 3/16" Thread-In Tips.

ALL PARTS THREAD TOGETHER WITH FINGERTIP EASE

INTEGRAL HEATER/TIPS

Ungar No.	Temp. °F	Watts @ 120 VAC	Material	Tip Shape	Net Each
533†	650–700	27	Copper	Lg. chisel	$2.98
536†				Pyramid	2.98
539†				Sht. chisel	2.98
533-S	650–700	27	Copper	Lg. chisel	3.73
536-S				Pyramid	3.73
539-S				Sht. chisel	3.73
1233-S	750–800	42	Copper	Lg. chisel	4.43
1236-S			Iron clad, plated	Pyramid	4.43
1239-S				Sht. chisel	4.43
4033-S	850–1000	50	Iron clad, plated	Lg. chisel	5.95
4036-S				Pyramid	5.95
4039-S				Sht. chisel	5.95
33 HP	850–1000	50	High perf.	Lg. chisel	9.17

†Not for use with No. 750 OSHA handle.

HEATERS

Ungar No.	Temp. °F	Watts @ 120 VAC	Description	Net Each
		FOR ¼" THREAD-ON TIPS		
537†	600–650	27	1.01" lg. x .312" diam.	$2.98
537-S	600–650	27	3.67" lg. x .365" diam.	3.73
1237-S	700–750	42	3.65" lg. x .375" diam.	4.43
4037-S	800–850	50	3.45" lg. x .365" diam.	5.95
37HP*	800–850	50	3.27" lg. x .365" diam.	9.17
		FOR ⅛" THREAD-IN TIPLETS AND NIBS		
535†	600–650	27	1.175" lg. x .312" diam.	2.98
535-S	600–650	27	3.18" lg. x .365" diam.	3.73
1235-S	700–750	42	3.56" lg. x .365" diam.	4.43
4035-S	800–850	50	3.56" lg. x .365" diam.	5.95
		FOR 3/16" THREAD-IN TIPS		
4045-S	800–850	50	3.56" lg. x .365" diam.	$5.95

†Not for use with No. 750 OSHA handle. *Chrome-plated, co rosion-resistant threads.

TIPS AND ADAPTERS

Ungar No.	Material	Tip Shape	Size, Ins. Ovrl. Lgth.	Size, Ins. Tip Diam.	Net Each
		¼" THREAD-ON TIPS			
PL-111	Plated*	Pencil	1¼	⅛	$1.37
111	Copper	Pencil	1¼	⅛	.68
PL-113	Plated*	Chisel	1¼	⅛	1.37
113	Copper	Chisel	1¼	⅛	.68
PL-114	Plated*	Micro spade	1	.05	1.37
PL-116	Plated*	Pyramid	1	5/16	1.37
116	Copper	Pyramid	1	5/16	.73
PL-133	Plated*	Taper chisel	1 1/16	⅛	1.37
133	Copper	Taper chisel	1 1/16	⅛	.73
PL-138	Plated*	Needle	1¼	3/64	1.37
PL-151	Plated*	Screwdriver	1¼	⅛	1.37
PL-153	Plated*	Chisel	1 1/16	3/16	1.37
PL-155	Plated*	Stepped chisel	1¼	1/16	1.37
		⅛" THREAD-IN TIPLETS			
PL-331	Plated*	Pencil	¾	⅛	$1.10
331	Copper	Pencil	¾	⅛	.47
PL-332	Plated*	Angle pencil	⅝	⅛	1.10
332	Copper	Angle pencil	⅝	⅛	.47
PL-333	Plated*	Chisel	¾	⅛	1.10
333	Copper	Chisel	¾	⅛	.47
PL-338	Plated*	Needle	¾	1/32	1.10
PL-340	Plated*	Micro spade	9/16	3/64	1.10
7062	Plated*	Precision	¾	3/32	1.93
7154	Plated*	Pencil	¾	1/16	1.10
7155	Plated*	Chisel	¾	1/16	1.10
		⅛" PRINCESS NIBS			
6960	Plated#	Pencil	⅜	1/16	$1.23
6950	Copper	Pencil	⅜	1/16	.62
6961	Plated#	Screwdriver	7/16	1/16	1.23
6951	Copper	Screwdriver	7/16	1/16	.62
6962	Plated#	Spade	⅜	1/16	1.23
6952	Copper	Spade	⅜	1/16	.62
6963	Plated#	Precision	⅜	1/16	2.12
6953	Copper	Precision	⅜	1/16	1.18
		3/16" THREAD-IN TIPS			
PL-823	Plated*	Pyramid	1	3/16	$1.27
823	Copper	Pyramid	1	3/16	.58
PL-824	Plated*	Chisel	1	3/16	1.27
824	Copper	Chisel	1	3/16	.58
PL-833	Plated*	Chisel	1¾	3/16	1.70
PL-834	Plated*	Angle chisel	1¼	3/16	1.70
		ADAPTERS			
100	¼" thread-on heaters to ⅛" thread-in tips				$0.45
101	¼" thread-on heaters to 3/16" thread-in tips				.45

*Iron clad and silver plated. #Iron clad and gold plated.

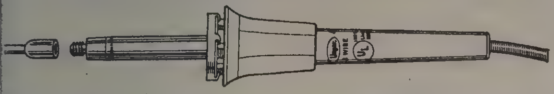
QUANTITY DISCOUNTS AVAILABLE ON REQUEST

Ungar®

3-WIRE AND DI® LINE SOLDERING IRONS, DE-SOLDERING TIPS AND ACCESSORIES

3-WIRE SOLDERING IRONS

R USE WITH MORE THAN 40 INTERCHANGEABLE TIPS FOR SOLDERING AND DE-SOLDERING



ovides many of the advantages of the Standard Line as a oduction soldering tool with approved grounding. Lightweight, egrated iron, has molded handle and octagonal cool grip. readed metal body for tip selection. Accepts ¼″ thread-on s, with adapter #100, ⅛″ nibs and Tiplets; with adapter #101 all 3⁄16″ thread-in tips. Choose from more than 40 tips and soldering accessories. Simplified design makes it easy for in-shop lacement or change of heating element or cord. Three wattages ailable; temperature ranging from 650° F to 1000° F approx. vire line is designed to eliminate static induced currents, iron is ecially desirable for work on MOSFET and other IC compo- nts. Meets OSHA requirements. UL Listed.

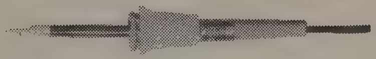
Ungar No.	Voltage	Watts	Tip Temperature	Net Each
127*	120	27	650° F–750° F	$9.58
135*	120	35	750° F–850° F	9.58
145*	120	45	900° F–1000° F	9.58

dapter and tip not included; all temperatures approx.

REPLACEMENT PARTS FOR 3-WIRE SOLDERING IRONS

ngar No.	Description	Net Each
127-S	27 W heating element assembly	$4.02
135-S	35 W heating element assembly	4.02
145-S	45 W heating element assembly	4.02
129	Heat reflector	.50
130	Threaded body for heating element	2.68
136	Handle and cord set assembly	4.47

NEW DOUBLE INSULATED D I® LINE



- **Easy to use—lightweight and compact design with flexible cord set.**
- **Easy to change—rugged stainless steel thread-in heaters.**
- **Cool—handle is molded of durable plastic, with finger-ease grip.**
- **Safe—new heater and handle with two-conductor cord set and safety plug, are double insulated. Meets OHSA requirements. UL Listed.**
- **Plus—use any Standard Line thread-on tips or with Ungar's #100 adapter, all ⅛″ Tiplets and nibs. With adapter #101, all 3⁄16″ thread-in tips. Choose from more than 40 tips and de-soldering accessories.**

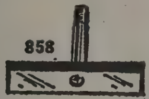
Ungar No.	Volts	Watts	Tip Temperature*	Net Each
360	120	27	650° F–750° F	$5.42
361	120	35	750° F–850° F	5.42
362	120	45	850° F–950° F	5.42
363†	120	45	850° F–950° F	6.72
555	120	Thread-in handle		3.95

*All temperatures are approximate. †With integral tip.
Note: Use heater and handle together.

DE-SOLDERING TIPS AND ACCESSORIES

DE-SOLDERING TIPS

57



858

Removes components 70% faster than ordinary soldering iron tips. Melts solder on all terminals simultaneously. Avoids lug akage; shorting and PC board rupturing. Use with Standard e heating unit #4045-S. With #101 adapter, fits Standard Line aters #1237-S and #4037-S; 3-wire irons #135 and #145; new I Line heaters #361 and #362.

Ungar No.	Tip Type	Size, In. O.D. x L.	Net Each
857	Slotted	1″ x 3⁄16″	$1.57
858	Bar	1½″ x ⅜″	1.57

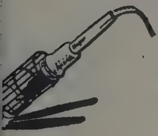
UNGAR SOLDER-OFF BULB

soldering bulb with TFE tip facilitates accurate printed cuit soldering and cleaning. May be used with "Imperial" l "Standard Line" soldering irons. (Not illustrated.)

gar No. 7805 Solder-Off Bulb—Net Each........... **$2.15**

gar No. 7851 Replacement TFE Tip—Net Each...... **$1.13**

SOLDERING IRON HOLDER



Protects operator from burns; prevents iron breakage. Use with Ungar Standard Line, Imperial Line, 3-Wire Line and D I Line. Attaches easily to bench; angle adjustable.

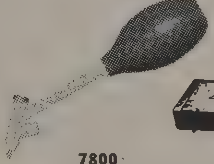
Ungar No. 8000 Holder—Net Each.. **$3.67**

KLEEN-TIP SPONGE AND TRAY

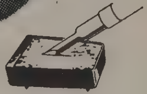
ecially processed sponge provides the surest way to clean dering tips. Removes oxidation, prevents contamination and ures soldering reliability. Phenolic tray. Fastens to bench.

gar No. 400—Net Each.............................. **$1.97**

gar No. 455 Refill Sponge—Individually packaged.
t Each.. **.77**



7800



400, 455

MODEL 7825 DE-SOLDERING ATTACHMENT

Melts and removes solder in one operation. Vacuum action lifts solder from PC boards. Tips use special liner for long life. For use with #4037-S or 37 HP Standard Line heating unit and #776, 750 or #777 handles; also 3-wire iron #145 and new DI Line heater #362. Uses No. 7806 or 7812 Tips below.

Ungar No. 7825 De-Soldering Attachment—Net Each.. **$12.37**

HOT-VAC® DESOLDERING, CLEANING TOOL

Reduced PC repair and rework time. Hot-Vac® melts and removes solder in fast, one-hand operation. Complete with Standard Line Handle #777, Heating Unit #4037-S and Tip #7806, with special liner for long life.

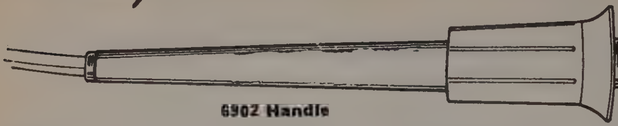
Ungar No. 7800 Hot-Vac® Tool—Net Each........... **$21.15**

Ungar No. 7806—Replacement tip for above; .057″ dia. hole.
Net Each.. **$1.27**

Ungar No. 7812—Same as above, but with .033″ dia. hole.
Net Each.. **$1.75**

QUANTITY DISCOUNTS
AVAILABLE ON REQUEST

Ungar / Princess® SOLDERING TOOLS, ACCESSORIES


6902 Handle

6910, 6915, 6918 Heat Capsules

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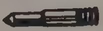

6950, 6960

6951, 6961

6952, 6962

6953, 696

Miniature soldering iron designed to meet requirements for precision micro-electronic circuitry and high density assembly. Offer thermo-efficiency and work capacity never before achieved in small feather-weight irons. Slim design, turquoise handle assures deft soldering. Choice of easy-to-assemble units thread together for versatility in tip shapes and temperature capabilities. Low initial investment, economical maintenance and inexpensive parts replacement.

PRINCESS HANDLES

Slim, cool design is molded of heat-resistant nylon in pastel turquoise. New, cool plastic grip. Integral cord set, available in 2 or 3-wire models. Rated 120 volts AC/DC. Cords are flexible vinyl-covered. Heat capsule threads into handle socket. Perfectly balanced, pencil slim, new cooler operation. UL listed.

Ungar No.	Cord Type	Net Each
6902	2-conductor with plug	$6.07
6903	3-conductor with NEMA plug	8.57

PRINCESS HEAT CAPSULES

Threaded to accept the special thread-in Princess soldering nibs and mating to the Princess handles with finger-tip ease. Also accept "Standard Line" ⅛" Tiplets if desired (will not accept Imperial tips). Choice of three wattages and temperature ranges to suit most production requirements. For 120 VAC/DC operation. Size, 3⅛" long; extends 2⅜" from handle. Wt., 0.2 oz.

Ungar No.	Watts	Temperature Range	Net Each
6910	10	575° F to 650° F	$7.60
6915	15	700° F to 775° F	7.60
6918	18	775° F to 850° F	7.60

PRINCESS SOLDERING NIBS

Choice of gold-plated iron clad or unplated cadmium copper tips in four standard shapes. Finger-tip ⅛" thread-in use on any Princess heat capsule listed above. Ungar's ⅛" Standard Line Tiplets may also be used (see listing on another page). Wt., .03 oz.

Ungar No.	Shape	Lgth., In.	Tip Stepped to:	Net Each
6950*	Pencil	7/16	.080" x .015"	$0.62
6951*	Screwdriver	½	.080" x .055"	.62
6952*	Spade, 45°	7/16	.080" dia.	.62
6953*	Precision point	7/16	.080" x .005"	1.18
6960	Pencil	7/16	.080" x .015"	1.23
6961	Screwdriver	½	.080" x .055"	1.23
6962	Spade, 45°	7/16	.080" dia.	1.23
6963	Precision point	7/16	.080" x .010"	2,12

*Cadmium copper tips; all others, gold-plated iron-clad.

PRINCESS IC DE-SOLDER KIT

Ideally suited for PC boards 1/32" or less, using low-density circuitry, unplated eyelets or mounting holes. Includes 3-wire grounded Princess handle, 18-watt heat capsule and three (No. 6945, 6947, 6948) de-solder tips. (Not Illustrated.)

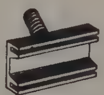
Ungar No. 6939 De-Solder Kit—Net Each............**$24.70**

DE-SOLDER TIPS

6944

6945

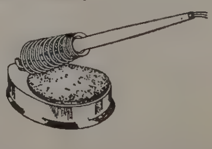
6947


6948

Iron-clad, nickel-plated and pre-tinned tips may be used with Ungar "Standard" line heating units No. 535, 535-S, 1235-S and 4035-S or Princess heat capsules (for lower or higher tip temperatures).

Ungar No.	Tip Temp., at 18 W	Description	Net Each
6943	700° F	TO pkg. (cup) .6" dia.	$3.35
6944	710° F	TO pkg. (cup) .5" dia.	3.35
6945	720° F	TO pkg. (cup) ⅜" dia.	3.35
6946	780° F	TO pkg. (cup) .28" dia.	3.35
6947	750° F	Slotted (lead and tab) straightener	2.65
6948	570° F	Dual inline IC	3.75

PRINCESS SOLDERING IRON HOLDER



Plastic base for convenient holding of Princess iron. Comes with specially-processed sponge for tip cleaning. Weight, 3 oz.

Ungar Model 6990 Holder—
Net Each......................**$5.90**

Ungar No. 6991 Sponge Refill—Replacement cleaning sponge for above holder.
Net Each......................**$0.85**

PRE-ASSEMBLED PRINCESS COMBINATIONS

MODEL 6975 SOLDERING IRON

All-in-one package provides a complete Princess soldering ir
with three interchangeable copper nibs. Includes one 6902 hanc
with 2-conductor cord and plug, one 6910 Heat Capsule rated
watts, one 6950 pencil nib, one 6951 screwdriver nib and one 69
spade nib.

Ungar No. 6975 Princess Assembly—Net Each........**$14.9**

MODEL 6900 SOLDERING STATION

Fully assembled iron with three interchangeable copper nibs, pl
Princess holder with cleaning sponge. Includes: 6902 handle wi
2-conductor cord and plug, 6910 heat capsule rated 10 watts, 69
pencil nib, 6951 screwdriver nib, 6952 spade nib, and 6990 solde
ing iron holder complete with cleaning sponge.

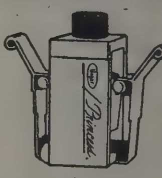
Ungar No. 6900 Soldering Station—Net Each.........**$19.9**

PRINCESS DUAL INLINE AND TO-5 EXTRACTO

No. 6982 extracts up to 16-pin dual inline IC's; use 6948 de-solder tip. No. 6983 extracts most TO-5 encased devices; use with Nos. 6943, 6944, 6945, or 6946 TO de-solder tips.

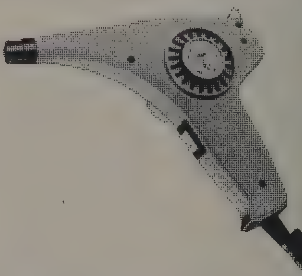
Ungar No. 6982 Dual Inline—
Net Each.............**$3.15**

Ungar No. 6983 TO-5—
Net Each.............**$3.65**


6982

698

NEW PRINCESS HEAT GUN



Hot air tool offers
unique combination
features and benefits
users of heat shrinka
products as well as ma
other lab and indust
uses. Lightweight of o
13 oz. Insures positi
control wherever prec
hot air direction is
quired. Reduces opera
fatigue. Air stream wid
at nozzle is ⅜". Reduci
baffle, included with g
reduces air stream wid
to .200"; 4 baffle reflect
are included for prefor
and shrink tubing ap
cations. Reflectors are
signed to decrease shrinking time by directing hot air flow arou
all tubing surfaces simultaneously. Delivers an air flow te
perature at the nozzle of approx. 750° F to 800° F in secon
Designed for either hand-held use, or may be placed on table
workbench without need for holder. On-off cold switch at trig
position. Allows cooling or drying as well as heat applicatio
For solder preforms and all polyvinyl, olefins, silicone rubber a
TFE heat shrink materials; also ideal for shrink film packagi
epoxy curing and encapsulation. UL Listed. Rated 250 wat
120 VAC only.

Ungar No. 6966C Princess Heat Gun—3-wire model. With NEM
plug for approved grounding. Net Each................**$44.9**

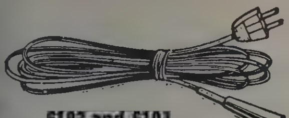
REPLACEMENT PARTS

Ungar No.	Description	Net Each
168	Cone and insulator	$5.6
182	Heating element with diode assembly	9.2
183	Motor and scroll assembly	15.9
187	3-wire cord assembly	5.0
188	Hot-off-cold switch	3.2
189	Heat gun case	13.3
6956	½" large reflector	.5
6957	1¼" large reflector	.5
6958	Reducing baffle	1.2
6964	Reflector for shrink tubing	2.4

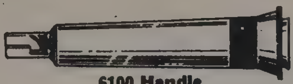
QUANTITY DISCOUNTS AVAILABLE ON REQUEST

Ungar® / *Imperial*®

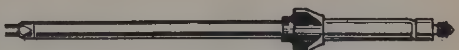
PRECISION MATCHED COMPONENTS, SOLDERING TOOL



6102 and 6103 Cord Set



6100 Handle



6200, 6201, 6202 and 6203 Heat Cartridges

Interchangeable cord sets, tips and heat cartridges ideal for critical micro-miniature components. Reliable, low wattage, high temperature performance. Perma-Cool handle has double cushion of air combined to 5 heat-transition surfaces for continuous cooling. Components individually packaged on cards; assemble to suit your needs. All electrical tools and components are UL Listed and rated at 120 volts AC/DC. **Not interchangeable with "Standard Line".**

PERMA-COOL COLORED HANDLE

Cool, pastel turquoise handle has been proven to reduce operator fatigue. Virtually indestructible, handle is made of high strength plastic resin. Diecast heat sink built-in. Pencil type design for easy handling. UL Listed. Size, 0.8" O.D. at grip; 4.7" lg. Weight, 1 oz.
Ungar No. 6100—Handle only. Net Each.......................................**$2.82**

INTERCHANGEABLE CORD SETS

Instantly adapts your iron to any 2 or 3 wire outlet. Molded female connector plugs onto the Perma-Cool handle without tools. Vinyl-covered cord, 18 gauge, 65 strands extra-flexible copper; terminals and connectors molded polyvinyl chloride. Center conductor (3-wire type) is insulated with green polyvinyl. Weight: 2½ oz., 2-wire; 4 oz., 3-wire. Supplied in pastel turquoise color only.

Ungar No.	Description	Net Each
6102	Standard 2-wire cord set with plug	$4.10
6103	3-wire cord set with NEMA plug	6.08

INTERCHANGEABLE LONG-LIFE HEAT CARTRIDGES

Stainless steel, sealed cartridge with element at tip and threaded end for quick tip changes; keeps heat at tip where it belongs. Four ratings available: **6200:** 45 watts for 750-950° F; accepts all tip Nos. 6304 through 6482. Size, 7⅓" l. x .363" dia. (2½" l. from flange). Wt., 1.1 oz. **6201:** Same, but 35 watts for 650–850° F. **6202:** Same, but 25 watts for 600–800° F. **6203:** 55 watts for heat range, 850° to 1150° F (2.65" l. from flange). Accepts Imperial® MINI-TIPS® only.

Ungar Number	Rated Watts	Net Each	Ungar Number	Rated Watts	Net Each
6200	45	$7.28	6202	25	$7.28
6201	35	7.28	6203	55	8.62

THREAD-ON IMPERIAL SOLDERING TIPS

For Imperial heat cartridges only. New, improved iron-clad tips are pre-tinned and chrome-plated for improved performance.

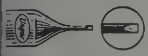
TIPS FOR 6200, 6201, 6202 OR 6203 HEAT CARTRIDGES

Ungar No.	Shape	Material	Size, In. O.D. x L.	Temp. (°F)* With Cartridge Rated 25 W	35 W	45 W	Net Each
6304	Micro-chisel	Iron clad	3/64 x ½	750	800	890	$1.82
6305	Micro-spade	Iron clad	3/64 x ½	750	800	890	1.82
6312	Pencil	Copper	⅛ x ¾	750	800	910	.87
6313	Pencil	Iron clad	⅛ x ¾	690	750	860	1.82
6316	Offset pencil	Iron clad	⅛ x ¾	690	750	860	1.82
6318	Long taper chisel	Copper	⅛ x ¾	750	800	890	.87
6319	Long taper chisel	Iron clad	⅛ x ¾	690	750	860	1.82
6324	Long taper pyramid	Copper	⅛ x ¾	750	800	890	.87
6325	Long taper pyramid	Iron clad	⅛ x ¾	690	750	860	1.82
6331	Screwdriver	Iron clad	⅛ x ¾	690	750	860	1.82
6333	Needle	Iron clad	⅛ x ¾	690	750	860	1.82
6366	Long taper chisel	Iron clad	3/16 x ¾	680	730	850	2.15
6368	Long taper pyramid	Copper	3/16 x ¾	....	....	....	1.03
6473	Long taper chisel	Copper	⅜ x ¾	....	....	....	1.03
6481	Tapered screwdriver	Iron clad	¾ x 3/32	690	750	860	1.82
6482	Micro-spade stepped	Iron clad	3/64 x ½	700	770	860	1.82

*Slight variation in line voltage will give ±25° F deviation.

IMPERIAL COMPLETE SOLDERING IRON

Ungar No. 6010—Includes one 6100 handle, one 6102 cord set, one 6200 heat cartridge and 6318, 6368 and 6473 Mini-Tips. Net Each.......................................**$16.78**



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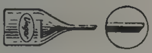

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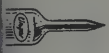

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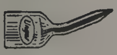

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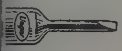

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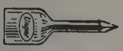

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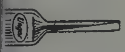

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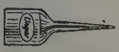

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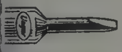

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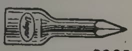

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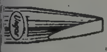

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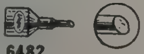


6482

ANTI-SEIZE

ngar No. 8001—Specially formulated lubricant for use on etals operating at high temratures. Reduces tip thread izure and prolongs tip life. oz. tube.
et Each.............**$1.28**

QUANTITY DISCOUNTS AVAILABLE ON REQUEST

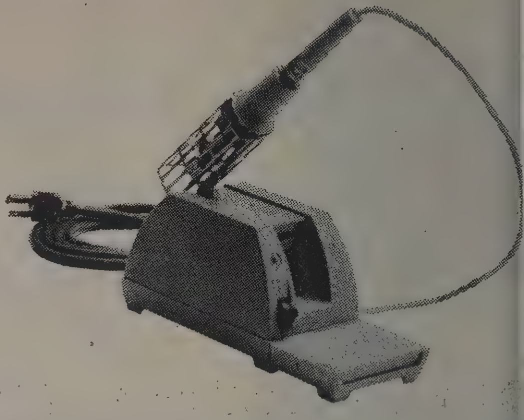
Ungar® Soldering Irons and Propane Torch

UNGARMATIC® CONTROLLED SOLDERING STATION

Low-voltage, grounded three-wire system for soldering in critical equipment. Thread-together modular design allows quick, on-line heater or tip change. Specially designed handle with cool grip provides operator comfort. The stand/power supply has on-off switch and indicator light. Iron cord is super flexible, 3-wire and burn-resistant. Snap-on sponge tray can be removed and placed elsewhere. Long-life interchangeable tips are iron-clad, chrome-plated and pre-tinned. Power-supply input, 120 VAC, 60 watts; output, 24 VAC, 2 amps. Three temperature ranges; 600° F, 700° F, and 800° F. Available as complete station or individual components; power supply, soldering iron, heater or tips.

Ungar No.	Description	List Each
50T6*	Complete station, 600° F	$41.67
50T7*	Complete station, 700° F	41.67
50T8*	Complete station, 800° F	41.67
60T6	Soldering iron only, 600° F	22.00
60T7	Soldering iron only, 700° F	22.00
60T8	Soldering iron only, 800° F	22.00
70	Power supply only—includes switch, pilot lamp and power cord.	30.00
76	Thread-in heater, 600° F	9.95
77	Thread-in heater, 700° F	9.95
78	Thread-in heater, 800° F	9.95
71	Handle and cord set	9.58
72	Iron holder and mounting assembly	2.49
73	Fuse, 1 A, 3AG; pack of 5	1.49
73A	Fuse, 2½ A, 3 AG; pack of 2	1.49
74	Neon lamp assembly	1.19
75	Switch and cap assembly	.75
79	Spring-loaded tip retainer	.75
89	Tray and sponge	1.83

*Includes power supply, handle and cord set, sponge tray, iron holder, heater and #87 tip.



Ungar No.	Tip Description	List Each
80	Long screwdriver, ⅛″	$1.83
81	Screwdriver, 15⁄64″	1.83
82	Spade, 1⁄32″	1.83
83	Screwdriver, 3⁄32″	1.83
84	Long screwdriver, 5⁄64″	1.83
85	Stepped spade, 3⁄64″	1.83
86	Needle tip, 3⁄64″	1.83
87	Screwdriver, 1⁄16″	1.83
88	Long screwdriver, 3⁄64″	1.83
92	Screwdriver, ⅛″	1.83
93	Screwdriver, 1⁄32″	1.83
94	Short conical, 1⁄32″	1.83
95*	Adapter	1.10

*For micro applications. Adapter permits use of all thread-in Tiplets and Nibs.

TYPE 200 QUICK CHARGE CORDLESS SOLDERING STATION

Nickel cadmium powered iron allows unrestricted freedom
hard-to-reach assemblies and breadboard prototype work. Per
for radio, TV and other electronic service and repair, in the f
or at the bench. Iron stores and recharges in holder, which
built-in sponge tray. Ungar No. 200 Quick Charge Solder
Station—Complete with iron and battery, No. 197 tip, iron hol
with built-in charger and cleaning sponge. List Each.... $21.

Ungar No.	Tip Description	List Each
91	Replacement sponge/ 1 per card	$0.75
195	Micro-spade, 3⁄16″ dia. step down to .075″ dia., 1⅞″ l.	2.50
197	Chisel, 3⁄16″ dia., ⅛″ pt., 1⅞″ l.	2.50
201	Iron with built-in Quick Charge Ni-Cad battery (tip and holder not incl.)	18.15

MODEL 5001 VERSA TORCH™

A self-contained, pocket-sized torch which provides total freedom and portability for heating and soldering. Refills in seconds from standard propane or MAPP gas cylinders. Provides up to 30 minutes of continuous use per refill. Fits into a pocket or tool kit and weighs just 11 ozs. An adapter allows the use of any ¼″ Thread-On Soldering Tip. Has pinpoint burner tip for conventional flame heating. A detachable stand is included.

Ungar Model 5001 Versa Torch—Complete with torch, stand, pinpoint flame tip, ¼″ Thread-On adapter, No. 111 pencil tip, No. 113 chisel tip, No. 116 pyramid tip, spark lighter and operating manual. Net Each.................................$24.95

Ungar Model 17550 Refill Propane Cylinder (14 oz.)
Net Each..$2.50

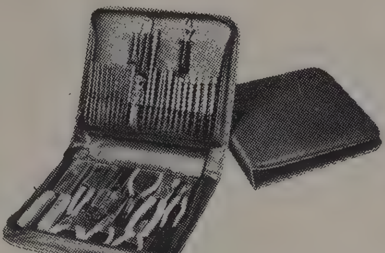
VACO® Tool Cases and Kits

ORIGINAL SUPER CASE
70260

ɔpular assortment of 48 precision engi-ered tools. Includes screwdrivers, nut ivers, electrical tools, pliers and spe-ılty tools on two custom-fitted pallets. orage space in bottom for meters, power ɔls and other equipment. Large pocket lid. Black simulated top-grain leather vers sturdy molded case. Measures 19″ 14½″ x 6″. Shipping Weight 20 lbs.

ıco No. 70260—Net Each...**$230.00**

SUPER ZIP
70390



This compact super assortment holds 36 popular professional tools. Includes interchangeable 90-series handle and screwdriver, nut driver and hex driver blades plus pliers, electrical tools, and offset and regular screwdrivers. Zippered vinyl case is tough, rugged and lightweight. Measures 12½″ x 10¼″ x 1⅜″. Shipping Wt. 8 lbs.

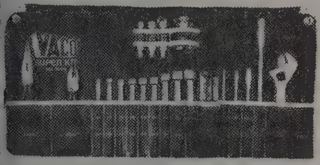
Vaco No. 70390—Net Each...**$124.00**

SUPER CASE II
70380

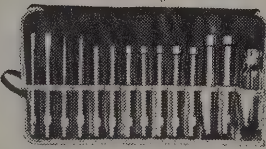
The Super Case II contains 45 of the most popular professional tools and a versatile terminal service kit with crimping tools. Includes handy, interchangeable 90-series screwdriver, nut driver and hex driver blades and handles, plus pliers, screwdrivers, electrical tools. Rugged wood case is covered with tough rugged vinyl. Measures 18¼″ x 3⅞″ x 4⅝″. Shpg. Wt. 12 lbs.

Vaco No. 70380—Net Each...**$196.00**

VACOMBO® KITS



90500



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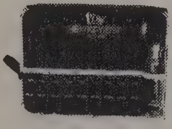

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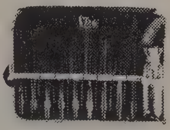
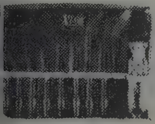


90040

ıco No. 99500 Super Kit—Contains 22 tools including pliers, ro handles, nut drivers, screwdrivers, reamer, and 6″ adjustable rench. Net Each.....................................**$48.74**

ıco No. 90500R Super Kit—Includes 3 screwdrivers, 9 regular ıt drivers and 3 stubby nut driver blades and extension blade d full size and stubby handles plus diagonal cutters, long nose tting plier and adjustable wrench. Pouch measures 19⅝″ long 3⅞″ wide. Shpg. Wt. 2 lbs. Net Each..............**$45.44**



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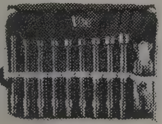

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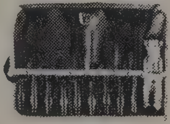


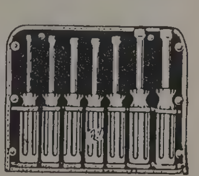
90060

ıco No. 90041 Metric Hex Key Kit—Includes 8 metric hex key ades plus full size handle. Pouch measures 9″ long x 7″ wide. pg. Wt. 1 lb. Net Each..............................**$12.00**

ico No. 90051 Metric Nut Driver Kit—Includes 9 hollow shaft etric hex nut driver blades plus full size handle. Pouch measures long x 7″ wide. Shpg. Wt. 1 lb. Net Each...........**$14.64**

ıco No. 90060 Bristol Type Screwdriver Kit—Includes 9 Bristol pe fluted spline screwdriver blades plus full size handle. Pouch easures 9″ long x 7″ wide. Shpg. Wt. 1 lb. Net Each...**$12.00**

STAND UP—HANG UP KIT



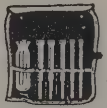
ı ideal kit for work bench or to roll up d store in tool box. Punched for hanging wall. Buttons into cylinder for standing bench. Contains one each No. S6, S8, 0, S11, S12, S14 and S16. Size, 9½″ x ½″. Weight, 1½ lbs.

t No. K-7—Net Each........**$13.80**

Vaco No. 90000 Vacombo Kit—Includes 4 screwdriver and 9 hex nut driver blades plus full size handle. Pouch measures 12¼″ long x 7″ wide. Shpg. Wt. 2 lbs. Net Each..................**$16.30**

Vaco No. 90900 Hex Key Set—Includes 9 hex key blades plus full size handle. Pouch measures 9″ long x 7″ wide. Shpg. Wt. 1 lb. Net Each..**$10.78**

Vaco No. 90040 "Odd Ball" Hex Key Kit—Includes 9 hex key blades with unique "Odd Ball" tip for driving from any angle plus full size handle. Pouch measures 9″ long x 7″ wide. Shpg. Wt. 1 lb. Net Each..**$15.92**



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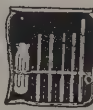

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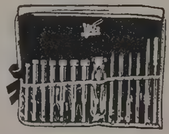

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Kit ZS60 (Fig. G)—Amberyl handle with clutch. ¼″ x 3″ hex wrench. 5/16″ x 3″ hex wrench, 11/32″ x 3″ hex. ⅜″ x 3″ hex, 7/16″ x 3″ hex and 7-section plastic tool roll.
Net Each..**$8.42**

Kit ZSX61—Above, with 5″ extension. Net Each....... **9.91**

Kit ZB50 (Fig. H)—Amberyl handle with clutch, ⅛″ x 3¾″ blade, 3/16″ x 3¾″ blade, ¼″ x 4¾″ blade, No. 1 Phillips x 3¾″, No. 2 Phillips x 3¾″, and 7-section plastic tool roll.
Net Each..**$6.56**

Kit ZBX51—Above with 5″ extension. Net Each........ **8.18**

All Purpose Kit No. RT14 (Fig. I)—Plastic tool roll contains 14 pieces including two Phillips bits, three regular screwdriver bits, seven hex wrenches, 5″ extension and a heavy duty handle. Weight, 1 lb., 8 oz.

Kit No. RT14—Net Each..............................**$18.43**

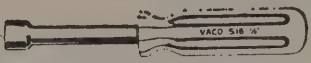
Vaco No. RT17—Same as No. RT14 above, except includes three square recessed drivers. Net Each.....................**$21.41**

Vaco No. ZC80 Vacombo Kit—Universal screwdriver kit contains 6 screwdriver blades plus handle. Net Each..............**$8.76**

Vaco No. TV27 Deluxe Radio/TV Kit—Contains 25 tools plus two handles. Net Each...................................**$40.66**

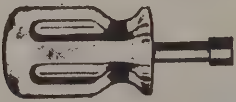
VACO® Hand Tools

HOLLOW SHAFT HEX NUT DRIVERS



Vaco No.	Hex Size, Inches	Handle Color	Overall Length, Inches	Net Each
3 INCH SHAFT LENGTH				
S5	5/32	Amber	6½	$1.44
S6	3/16	Black	6⅝	1.44
S7	7/32	Brown	6⅝	1.44
S8	¼	Red	6⅝	1.44
S9	9/32	Orange	6⅝	1.44
S10	5/16	Amber	6⅝	1.44
S11	11/32	Green	6⅝	1.44
S12	⅜	Blue	6⅝	1.44
S14	7/16	Brown	7	1.80
S16	½	Red	7	1.80
4 INCH SHAFT LENGTH				
S18	9/16	Red	8	$2.26
S20	⅝	Red	8	2.58
6 INCH SHAFT LENGTH				
S66	3/16	Black	9⅝	$1.84
S86	¼	Red	9⅝	1.84
S106	5/16	Amber	9⅝	1.84
S116	11/32	Green	9⅝	1.84
S126	⅜	Blue	9⅝	1.84
S146	7/16	Brown	10	2.16
S166	½	Red	10	2.16

STUBBY 1-1/4 INCH SHAFT LENGTH



SS8	¼	Amber	3½	$1.29
SS10	5/16	Amber	3½	1.29
SS12	⅜	Amber	3½	1.29

MAGNETIC NUT DRIVERS

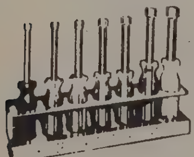
Similar to standard nut drivers but with powerful nut-holding magnet built into shaft.

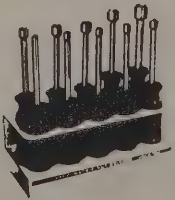
S8M	¼	Red	6⅝	$1.96
S10M	5/16	Amber	6⅝	1.96
S86M	¼	Red	9⅝	2.33
S106M	5/16	Amber	9⅝	2.33

METRIC NUT DRIVERS

Vaco No.	Hex Size, mm	Handle Color	Overall Length, Inches	Net Each
70204	4	Blue	6¾	$1.29
70245	4.5	Blue	6¾	1.29
70205	5	Blue	6¾	1.29
70255	5.5	Blue	6¾	1.29
70206	6	Blue	6¾	1.29
70207	7	Blue	6¾	1.29
70208	8	Blue	6¾	1.29
70209	9	Blue	6¾	1.29
70210	10	Blue	7	1.29
70211	11	Blue	7	1.29

NUT DRIVERS IN METAL STANDS

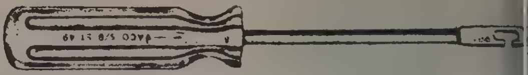




Vaco No. 70200 Metric Nut Drivers—One each of all 10 metric nut drivers. Identification label for easier selection. Net Each...$14.64

Vaco No. S-700 Standard Nut Drivers—Seven most popular nut drivers in sizes 3/16", ¼", 5/16", 11/32", ⅜", 7/16" and ½". Shpg. Wt., 2 lbs. 12 ozs. Net Each...................................$11.91

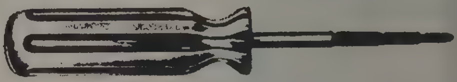
SPRING TOOL



Use to install or remove springs, motors, relays, etc." C" tip pr
vents slipping while pulling or pushing spring.

Vaco No. ST49 Spring Tool—Net Each....................$1.3

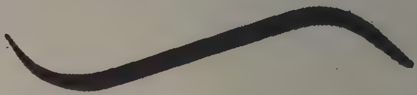
3-IN-1 TAPPING TOOL



Versatile tool has cutting taps to fit three most popular si
threaded holes—6-32, 8-32 and 10-24. Use to tap new holes or
clean and retap existing holes. Hardened steel blade has bla
oxide finish.

Vaco No. TT31 Tapping Tool—Net Each...............$3.3

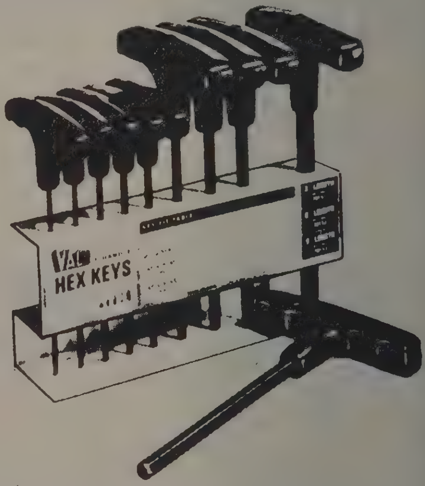
COTTER PIN EXTRACTOR



Multiple usage tool has pointed end for pulling cotter pins or f
use as a scratch awl and flattened end for use as a pry bar
scraper. Hardened steel with black oxide finish.

Vaco No. 70142 Cotter Pin Extractor—Net Each.........$1.3

T-HANDLE HEX KEY WRENCHES



Exclusive T-handle design delivers more power to hex hea
fasteners with greater comfort and less fatigue.

Hex Size, Inches	6" Blade		9" Blade	
	Vaco No.	Net Each	Vaco No.	Net Each
3/32	76206	$0.58	79206	$0.69
7/64	76207	.62	79207	.72
⅛	76208	.62	79208	.72
9/64	76209	.64	79209	.75
5/32	76210	.69	79210	.80
3/16	76212	.80	79212	.91
7/32	76214	.91	79214	1.07
¼	76216	1.01	79216	1.22
5/16	76220	1.49	79220	1.86
⅜	76224	1.76	79224	2.13

HEX KEY SETS

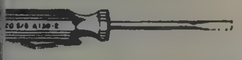
Vaco No. 70152 6" Hex Key Set—Contains all ten 6" blade hex ke
wrenches in metal bench or wall stand. Net Each......$11.1

Vaco No. 70153 9" Hex Key Set—Contains all ten 9" blade hex ke
wrenches in metal bench or wall stand. Net Each......$12.7

VACO® Amberyl® Screwdrivers

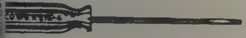
ROUND BLADE SCREWDRIVERS

POCKET CLIP STYLE



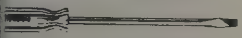
aco lo.	Blade, Ins. Dia.	Blade, Ins. Lgth.	Ov'l. Lgth. Ins.	Net Ea.
0	3/32	1¾	3⅛	$0.40
0-2	9/64	2	3¾	.43
0-2	9/64	2	3⅞	.56
0-3	9/64	3	4⅞	.56
6-2	3/32	2	4½	.62
6-3	3/32	3	5½	.62
6-4	3/32	4	6½	.62
1-2	9/64	2	4½	.62

CABINET STYLE



6-2	9/64	2	4¾	$0.86
6-3	9/64	3	5¾	.94
6-4	9/64	4	6¾	.98
6-6	9/64	6	8¾	1.01
6-8	9/64	8	10¾	1.08
6-10	9/64	10	12¾	1.18
6-3	3/16	3	6½	1.18
6-4	3/16	4	7½	1.29
6-6	3/16	6	9½	1.42
6-8	3/16	8	11½	1.52
6-10	3/16	10	13½	1.63

KEYSTONE STYLE



6-3	¼	3	6⅝	$1.54
6-4	¼	4	7⅝	1.56
6-6	¼	6	9⅝	1.63
6-8	¼	8	11⅝	1.72
6-10	¼	10	13⅝	1.89

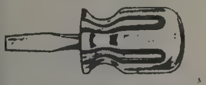
HEAVY DUTY KEYSTONE STYLE

6-4	5/16	4	8	$1.98
6-6	5/16	6	10	2.07
6-8	5/16	8	12	2.21

EXTRA HEAVY DUTY KEYSTONE STYLE

6-6	⅜	6	10¼	$2.46
6-8	⅜	8	12¼	2.62
6-10	⅜	10	14½	2.98

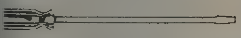
STUBBY STYLE



2	¼	1¼	3	$1.17
5	5/16	1¾	3⅞	1.54

SQUARE BLADE SCREWDRIVERS

GENERAL SERVICE



	3/16	3	6½	$1.52
	3/16	4	7½	1.56
	3/16	6	9½	1.61
	3/16	8	11½	1.72

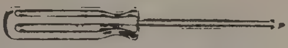
MEDIUM DUTY

	¼	3	6⅝	$1.74
	¼	4	7⅝	1.86
	¼	6	9⅝	1.94
	¼	8	11⅝	2.13
0	¼	10	13⅝	2.46
	5/16	4	8¼	2.46
	5/16	6	10¼	2.56
	5/16	8	12¼	2.58
0	5/16	10	14¼	2.82

HEAVY DUTY

	⅜	6	10½	$2.82
	⅜	8	12½	3.02
0	⅜	10	14½	3.45
2	⅜	12	16½	3.62

PHILLIPS SCREWDRIVERS



Vaco No.	Blade, Ins. Dia.	Blade, Ins. Lgth.	Ov'l. Lgth. Ins.	Net Ea.
P01	#0	2½	5¼	$1.04
P1	#1	3	6½	1.40
P2	#2	4	7⅝	1.74
P3	#3	6	10	2.38
P4	#4	8	12½	2.69
P5*	#2	3½	3⅞	1.54
P6*	#1	1¼	3	1.40
P12†	#0	2½	5	1.04

*Stubby style. †Pocket clip.

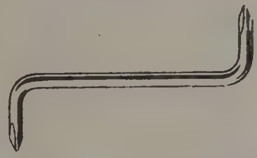
EXTRA LONG PHILLIPS SCREWDRIVERS

P18	#1	8	11½	$1.56
P28	#2	8	11⅝	1.81
P212	#2	12	15⅝	2.03
P202	#2	20	25	3.35

SUPER HARD PHILLIPS

P10	#1	3⅜	7¾	$1.94
P20	#2	4	8⅜	2.43
P30	#3	5⅞	11	3.30

OFFSET TYPE PHILLIPS



P120	#1, #2	.....	.....	$0.96
P230	#2, #3	.....	.....	1.60
P340	#3, #4	.....	.....	1.85

CUSHION GRIP SCREWDRIVERS

ROUND BLADE CABINET STYLE

73164	3/16	4	7 5/16	$1.64
73166	3/16	6	9 5/16	1.80
73168	3/16	8	11 5/16	1.89
73161	3/16	10	13 5/16	2.17
74164	¼	4	7¾	2.01

ROUND BLADE KEYSTONE STYLE

74166	5/16	6	9¾	$2.15
75166	5/16	6	10½	2.34
76168	⅜	8	13	2.96
76161	⅜	10	15	3.59
71132*	¼	1⅜	3¼	1.53

SQUARE BLADE

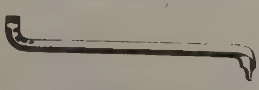
71044	¼	4	7¾	$2.34
71056	5/16	6	10½	2.84
71068	⅜	8	13	3.47

PHILLIPS BLADE

71001	#1	3	6 5/16	$1.54
71002	#2	4	7⅝	1.80
71003	#3	6	10½	2.58
71004	#4	8	13	3.41
71005*	#2	1¾	3⅝	1.55

*Stubby style.

STANDARD OFFSET SCREWDRIVERS

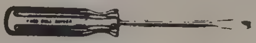


Vaco No.	Blade, Ins. Dia.	Blade, Ins. Lgth.	Ov'l. Lgth. Ins.	Net Ea.
VO1	2-6	3	3	$0.70
VO2	6-10	4	4	1.10
VO3	8-12	5	5	1.28
VO4	12-16	6	6	1.60

BULL DRIVER SCREWDRIVERS

The most powerful screwdriver available. Handle is 35% bigger, delivering up to 50% extra power. Exclusive comfordome® handle, fully fluted for fatigue-free driving.

ROUND BLADE KEYSTONE STYLE



Vaco No.	Blade, Ins. Dia.	Blade, Ins. Lgth.	Ov'l. Lgth. Ins.	Net Ea.
BD364	3/16	4	7⅝	$1.61
BD366	3/16	6	9⅝	1.69
BD144	¼	4	8½	2.05
BD146	¼	6	10½	2.21
BD156	5/16	6	11¼	2.75
BD158	5/16	8	13¼	2.88
BD408	⅜	8	13¼	3.44

SQUARE BLADE

BD284	¼	4	8½	$2.46
BD286	¼	6	10½	2.58
BD306	5/16	6	11¼	3.35
BD308	5/16	8	13¼	3.53
BD310	5/16	10	15¼	3.75
BD410	⅜	10	15¼	4.73

STUBBY STYLE

BD125	¼	1¼	3⅞	$1.53
BD135	5/16	1¾	3⅞	1.53

POCKET CLIP

BD183	9/64	3	5¾	$0.86

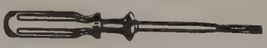
PHILLIPS BLADE

BD111	#1	3	6⅝	$1.64
BD122	#2	4	8½	2.05
BD133	#3	6	11¼	2.75

SUPER LONG SCREWDRIVERS

70155	3/16	20	25	$3.19
P202	#2	20	25	3.35
C718	7/16	18	23	6.45

SCREW HOLDING DRIVERS



Split-blade, screw-holding driver wedges into screw solt. Holds, starts and drives in awkward, hard-to-reach places; even drives self-tapping screws.

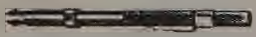
K-21▲	⅛	3	5¾	$1.94
K-23	⅛	3	5¾	1.71
K-28	⅛	8	10¾	2.05
K-34	3/16	4	7½	2.49
K-36	3/16	6	9½	2.53
K-38	3/16	8	11½	2.57
K-44	¼	4	7⅝	2.57
K-46	¼	6	9⅝	2.71
K-48	¼	8	11⅝	2.77

▲Has precision tip.

NON-MAGNETIC SCREWDRIVERS

VB210	9/64	10	12¾	$2.10

PHILLIPS SCREW HOLDING DRIVERS

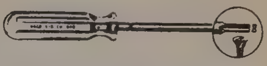


Holds, starts, retrieves any size of cross slot screw. Not designed for driving. All-metal construction, knurled handle.

Vaco No.	Overall Length	Net Each
K13	3″	$2.26
K14†	5″	2.82
K15	5″	2.64
K16	7″	2.75
K19	9″	2.88

†Pocket clip style.

CLUTCH HEAD SCREWDRIVERS

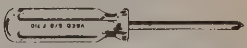


Vaco No.	Blade, Ins. Dia.	Blade, Ins. Lgth.	Ov'l. Lgth. Ins.	Net Ea.
CH430	⅛	3	6	$1.81
CH540	5/32	4¼	7¾	1.81
CH640	3/16	4¼	7¾	1.81
CH860	¼	6	9⅝	2.38
CH1060	5/16	6	10	3.09
CH510*	5/32	1½	3¼	1.61
CH610*	3/16	1¾	3¼	1.61

INSULATED BLADE SCREWDRIVERS

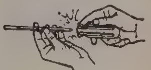
VR261	9/64	6	9	$1.47
VR361	3/16	6	9½	1.72

REED AND PRINCE DRIVERS FREARSON STYLE



F700	3/16	3	6½	$1.81
F710	¼	4	7⅝	2.03
F715	5/16	6	10¼	2.52
F720	⅜	8	12½	3.20
F705*	¼	2½	3⅝	1.94

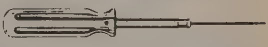
DUPLEX REVERSIBLE BLADE DRIVERS



Vaco No.	Blade End 1	Blade End 2	Net Each
DU1	#1	⅛″	$1.55
DU2	#1	3/16″	2.00
DUH4	#2	¼″	2.44
DU5*	#2	¼″	2.44
DUP12	#1	#2	2.69
DU34	3/16″	¼″	2.34

*Stubby style.

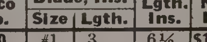
RECESSED HEAD HEX DRIVERS ALLEN TYPE



Vaco No.	Blade, Ins. Flats■	Blade, Ins. Lgth.	Ov'l. Lgth. Ins.	Net Ea.
AL2	.050	3¼	6¼	$1.26
AL4	1/16	3¼	6¼	1.26
AL5	5/64	3¼	6¼	1.26
AL6	3/32	3½	6¾	1.26
AL7	7/64	3½	6¾	1.44
AL8	⅛	3½	6¾	1.44
AL9	9/64	3½	6¾	1.44
AL10	5/32	3½	8¾	1.44
AL12	3/16	3½	9½	1.44
AL14	7/32	3⅝	9¾	1.60
AL16	¼	3⅝	9¾	1.60

■Across flats.

SQUARE RECESSED HEAD ROBERTSON STYLE DRIVERS

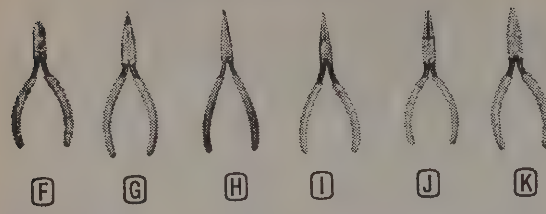


Vaco No.	Blade, Ins. Size	Blade, Ins. Lgth.	Ov'l. Lgth. Ins.	Net Ea.
R10	#1	3	6½	$1.26
R11*	#1	1¾	3¼	1.25
R20	#2	3½	7½	1.34
R21*	#2	2⅛	3⅝	1.33
R30	#3	3⅝	8⅝	1.44
R31*	#3	2⅛	3⅝	1.40

*Stubby style.

VACO® Hand Tools

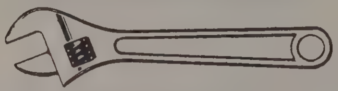
ELECTRONIC PLIERS



With cushion grips.

Vaco No.	Size, In.	Fig.	Description	Net Each
70277	4	F	Diagonal cutter	$8.81
70278	4	F	Diagonal cutter	8.91
70279	5	F	Diagonal cutter	9.20
70280	5	G	Long reach needle nose	9.39
70281	5	H	Bent needle nose	9.68
70301	4	I	Chain nose	7.36
70302	4	J	Round nose	8.71
70303	4	F	Diagonal cutter	6.78
70304	5	K	Flat nose	7.26

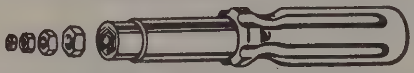
ADJUSTABLE WRENCHES



Neat, thin pattern design makes it easy to reach difficult spots. Available in five popular sizes covering light to heavy duty work. Carefully engineered worm gear operates smoothly; built for long life. Drop forged from tough alloy steel and with chrome finish for long wear. Individually boxed and labeled for easy selection.

Vaco Number	Description	Wt., Lbs. per Dozen	Net Each
7704	4″ adjustable wrench	1¼	$5.04
7706	6″ adjustable wrench	3½	5.21
7708	8″ adjustable wrench	6½	6.42
7710	10″ adjustable wrench	11	7.89
7712	12″ adjustable wrench	18	10.91

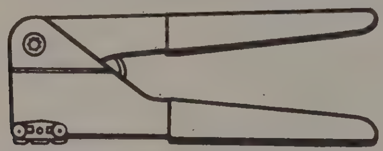
SELF-ADJUSTING NUT DRIVER



Easy to operate, just press and turn; automatically adjusts from ¼″ to 7⁄16″. Provides range of sizes equivalent to a four-piece socket wrench set in one compact tool. Hollow core construction permits use with bolt extensions up to 17⁄16″ in length. Exclusive break-proof, shock-proof Comfordome® handle.

Vaco No. SA711—Net Each........................... **$5.19**

POW'RIVETER



Quality unavailable in other blind riveters. Rivets expand up to their own head diameter for wide tolerance holes; 4 Pow'Rivet sizes replace 14 sizes of ordinary rivets. Low profile assures finished appearance on both sides; one length fits all thicknesses within grip range. Superior clamp-up action eliminates possibility of loose parts under adverse conditions; sealed stem for waterproof, dust-proof application. Pow'Rivet sizes, assortments and prices on request.

Vaco No. 495 Pow'Riveter—Pulls up ⅛″ and 5⁄32″ Pow'Rivets. With sample supply of rivets. Net Each.................. **$7.03**

Vaco No. 70197 Deluxe Pow'Riveter—Interchangeable heads for use with ⅛″, 5⁄32″ and 3⁄16″ Pow'Rivets. Net Each....... **$24.38**

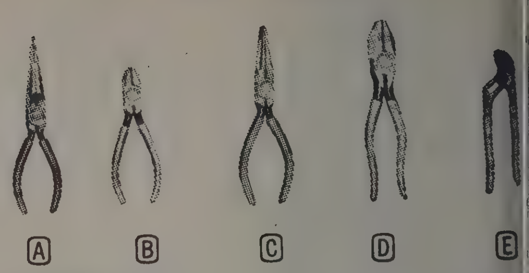
Vaco No. 175002 Professional Pow'Riveter—Interchangeable heads for use with ⅛″, 5⁄32″ and 3⁄16″ Pow'Rivets. Net Each.. **$37.58**

POW'RIVETS

Vaco No.	Dia. In.	Lgth. In.	Grip Range In.	Head Dia. In.	Hole Size In.
425	⅛	.40	To .250	.245	.136
528	5⁄32	.47	To .280	.255	.166
631	3⁄16	.53	To .312	.349	.199
650	3⁄16	.72	To .500	.349	.199

Vaco No. 425 Pow'Rivets—⅛″ dia. Net per 50 (**D425**).. **$ 1.45**
Net per 100 (**C425**).... **$2.54**; Net per 1000 (**MB425**) **17.89**
Vaco No. 528 Pow'Rivets—5⁄32″ dia. Net per 32 (**D528**).. **$ 1.45**
Net per 100 (**C528**).... **$3.85**; Net per 1000 (**MB528**) **28.33**
Vaco No. 631 Pow'Rivets—3⁄16″ dia., 0.53″ long.
Net per 27 (**D631**)...................................**$ 1.45**
Net per 100 (**C631**).... **$4.35**; Net per 1000 (**MB631**) **32.65**
Vaco No. 650 Pow'Rivets—3⁄16″ dia., .72″ long.
Net per 22 (**D650**)...................................**$ 1.45**
Net per 100 (**C650**).... **$6.32**; Net per 1000 (**MB650**) **45.70**
Vaco No. 400 Pow'Rivets—25 assorted Pow'Rivets. Net**$ 1.45**

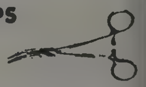
QUALITY PLIERS



With cushion grips.

Vaco No.	Size, In.	Fig.	Description	Net Each
88101	5	A	Short needle nose w/cutter	$6.5
88102	6	A	Long needle nose w/cutter	6.9
88103	7	A	Long needle nose w/cutter	7.5
88104	6	.....	Curved needle nose	6.7
88105	6	.....	Long nose	6.6
88106	7½	.....	Long reach needle nose	6.7
88201	4½	B	Diagonal cutting	6.0
88202	5	B	Diagonal cutting	6.0
88203	6	B	Diagonal cutting	6.3
88204	7½	B	Diagonal cutting	7.8
88205	7¼	.....	Heavy duty diagonal cutting	7.0
88301	6½	D	Heavy duty lineman's side cutter	6.9
88302	7½	D	Heavy duty lineman's side cutter	7.8
88303	8¾	D	Heavy duty lineman's side cutter	9.3
88401	6½	.....	Heavy duty slip joint	3.4
88402	8	.....	Heavy duty slip joint	4.1
88501	6	C	Long flat nose w/cutter	7.2
88503	7½	.....	Long reach flat nose	7.2
88601	5	E	Vacgruv adjustable plier wrench	3.7
88602	6	E	Vacgruv adjustable plier wrench	5.3
88604	10	E	Vacgruv adjustable plier wrench	6.9
88606	14	E	Vacgruv adjustable plier wrench	9.3

HEAT SINK FORCEPS



Self-clamping pincher is an excellent heat sink and also ho wires and component leads for soldering. Ratchet lock adjusts holding requirements, serrated jaws prevent movement.

Vaco No. 70296 Straight 6″ Forceps—Net Each.........**$6.**
Vaco No. 70297 Curved 6″ Forceps—Net Each.......... **6.**

SNAP RINGS AND PLIERS

Vaco No. 210 Internal Snap Ring Plier—Straight tips. Net Each...**$3.**
Vaco No. 210-45—As above, but 45° tips. Net Each..... **4.**
Vaco No. 210-90—As above, but 90° tips. Net Each..... **4.**
Vaco No. 220 External Snap Ring Pliers—Straight tips. Net Each...**$3.**
Vaco No. 220-45—Same as 220, but 45° tips. Net Each.. **4.**
Vaco No. 220-90—Same as 220, but 90° tips. Net Each.. **5.**

Housing Dia., Ins.	Internal Rings			External Rings		
	O.D. Ins.	Vaco No.	Net per 100	I.D. Ins.	Vaco No.	Ne pe 10
.250	......	......	......	.225	3100-25	$2.
.312	......	......	......	.281	3100-31	2.
.375	.415	3000-X37	$2.68	.338	3100-37	2.
.438	.482	3000-X43	2.77	.395	3100-43	3.
.500	.548	3000-X50	3.14	.461	3100-50	3.
.562	.620	3000-X56	3.38	......	......	......
.625	.694	3000-X62	3.64	.579	3100-62	4.
.688	......	......	......	.635	3100-68	4.
.750	.831	3000-X75	4.00	.693	3100-75	4.
.781	......	......	......	.722	3100-78	5.
.875	.971	3000-X87	4.33	.810	3100-87	5.
.938	1.041	3000-X93	4.58	.867	3100-93	5.
1.000	1.111	3000-X100	4.77	.925	3100-100	6.
1.023	1.136	3000-X102	4.87	.946	3100-102	6.
1.062	1.180	3000-X106	5.48	.982	3100-106	6.
1.125	1.249	3000-X112	5.67	1.041	3100-112	7.
1.188	1.319	3000-X118	5.82	1.098	3100-118	7.
1.250	1.388	3000-X125	6.09	1.156	3100-125	8.
1.312	1.456	3000-X131	6.42	1.214	3100-131	8.
1.375	1.526	3000-X137	6.86	1.272	3100-137	8.
1.438	1.596	3000-X143	7.16	1.333	3100-143	8.
1.500	1.660	3000-X150	7.65	......	......	......
1.562	1.734	3000-X156	9.85	......	......	......
1.625	1.804	3000-X162	10.30	......	......	......

VACO® Electrical Wiring Tools

TORQUE COMMANDER SETS

Vaco No. 70101 Screwdriver Set—Torque Commander handle and one each of #0, #1 and #2 Phillips, 3/32", 1/8", 3/16", 1/4" and 5/16" regular screwdrivers. Net Each.....**$7.75**

Vaco No. 70103 Nut Driver Set—Handle and one each of 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", and 3/8" nut drivers. Net Each..........................**$10.66**

Vaco No. 70105 Hex Key Set—Handle and one each of 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32" and 1/4" hex Allen type drivers. Net Each..........................**$10.66**

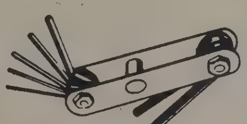
o No. 70110 Combination Set—Handle and one each of #1 #2 Phillips, 1/8", 3/16" and 1/4" regular screwdrivers, 3/16", 1/4", , 11/32" and 3/8" nut drivers. Net Each...............**$10.15**

o No. 70137 Square Recess Set—Handle and one each of #00, #1, #2 and #3 square recess drivers, 1/8", 3/16" and 1/4" regular ewdrivers, #1 & #2 Phillips screwdrivers. Net Each..**$10.15**

o No. 70139 Mobile Home Set—Handle and one each of 3/32", 3/16" and 1/4" regular screwdrivers, #1 and #2 Phillips screwvers, 1/4" hex nut driver, 5/32" clutch head driver, and #1 and #2 are recess drivers. Net Each.........................**$10.15**

o No. 70170 Metric Hex Key Set—Handle and one each of 7mm, 1.55mm, 2mm, 2.5mm, 3mm, 4mm, 4.5mm, 5mm, nm and 6mm drivers. Net Each....................**$9.50**

HEX KEY WRENCH SET



en piece set in pocket type tal case. For Allen, socket hollow head screws.

o No. HK17 Hex Key Set Pocket type set contains 0", 1/16", 5/64", 3/32", 1/8", 5/32" 1 3/16" blades. t Each.............**$1.97**

o No. 70147 Hex Key Set—Pocket type set contains 1/8", , 3/16", 7/32", 1/4" and 5/16" blades. Net Each............**$5.58**

o No. 70156 Metric Hex Key Set—Pocket type set contans 7mm, 1.5mm, 2mm, 2.5mm, 3mm, 4mm and 5mm blades. t Each...**$2.55**

o No. ZA70 Hex Key Set—Plastic pouch contains 1/16" 5/64", , 1/8" 5/32" and 3/16" blades plus handle. Net Each......**$8.06**

o No. ZF40 Hex (Bristol) Key Set—Designed to service all pular sizes of fluted spline or Bristol type recess head screws. th handle. Net Each.................................**$7.57**

HEX KEY WRENCHES IN PLASTIC POUCHES

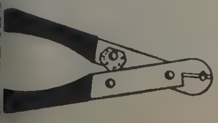
Vaco No.	Description	Net Each
SLK7	Short arm, 7 piece	$2.03
SLK11	Short arm, 11 piece	3.42
SLK13	Short arm, 13 piece	3.75
LLK7	Long arm, 7 piece	2.67
LLK11	Long arm, 11 piece	4.68
LLK13	Long arm, 13 piece	5.17
XLK9	Extra long, 9 piece	4.68
70161	Foot long, 7 piece	5.03
LM10	Metric, 10 piece	3.62

NUT DRIVER SET

ckel chrome finished hollow shaft drivers. Extra hard tempered kets. Break-proof, shock-proof handles. In two-tone plastic rage box with hinged cover. Contains 5 sizes: 3/16"; 1/4"; 5/16"; "; 3/8". Size, 5" w. x 1 1/8" d. x 7" lg. Wt., 1 lb.

t No. SP500—Net Each..........................**$8.59**

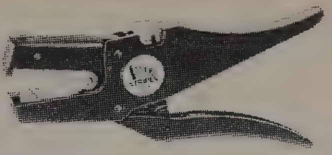
WIRE STRIPPER AND CUTTER



Spring loaded for quick response to working requirements. Cuts and strips 12–24 ga. wire, simply turn adjusting dial to size required. With cushion grip handles.

WS150 Wire Stripper and Cutter—Net Each..............**$2.14**

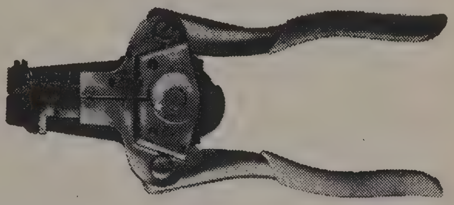
STRIPEX WIRE STRIPPER



The Stripex is designed to cut and strip wire and cable. It will handle most types of PVC cable including Kynor within a range of 38 thru 10 AWG, solid or stranded. Has 33 self-adjusting knives with variable depth control for different insulation thickness. Strip length guide for repeated equal strippings. Wire cutter is protected by transparent finger guard.

Vaco No. 70285 Stripex Wire Stripper—Net Each.....**$34.88**

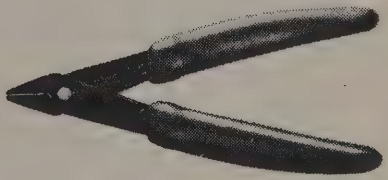
AUTOMATIC WIRE STRIPPER



Stripper handles 22 to 8 gauge solid or stranded wire with ease. Spring-loaded design keeps dies open ready for use. Single-squeeze action removes insulation up to 7/8". Holding jaws grip wire until handles are released. Removable strip length guide adjusts for repeated equal length stripping. Cushion grip handles.

Vaco Model 70334 Wire Stripper—Net Each..........**$10.00**

MICRO CUTTER

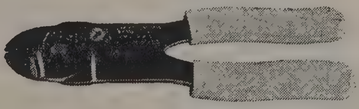


A precision wire cutter for electronic and electrical applications. Cuts wire from 14 gauge to the finest gauges. Flush cut blades allows cuts to be made parallel and tangent to circuit boards, etc. Coil spring opens handles after use. Cushion grip handles.

Vaco Model 70319 Standard Micro Cutter—Net Each...**$3.20**

Vaco Model 70351 Deluxe Micro Cutter—Same as above, except has retainer to hold cut off wire. Net Each..............**$4.00**

CRIMPING TOOLS



1900 Crimping Tool

Special crimping dies designed to provide strong, secure bond between terminal and wire. Wire stripping dies will handle #22 to #10 AWG wire without nicking wire. Bolt cutting dies handle 4-40, 6-32, 8-32, 10-24 and 10-32 bolts without deforming threads. Black oxide finish with deep etched markings. Cushion grip handles for operator comfort.

Vaco No. 1900 Crimping Tool—For crimping non-insulated terminals. Net Each....................................**$6.54**

Vaco No. 1963 Crimping Tool—Same as No. 1900, except crimps both insulated and non-insulated terminals and also cuts 5-40 bolts. Net Each....................................**$7.63**

Vaco No. 19730 Wire Plier—Similar to No. 1900, except crimps both insulated and non-insulated terminals, has nose-mounted wire cutter and stripping dies from #22 to #6. Net Each **$8.96**

Vaco No. 70286 Wire Plier—Same as No. 19730, except for metric sizes. Net Each....................................**$9.32**

Vaco No. 70362 Crimping Tool—For U-shaped barrel terminals. Cuts five sizes of bolts, strips wires from #30 to #18 AWG. Built-in wire cutter. Net Each...........................**$11.77**

Vaco No. 70393 Crimping Tool—Same as No. 70362, except for stripping wire sizes from #26 to #14. Net Each........**$11.77**

Weller® Professional Tools

WELLER SOLDERING GUNS, KITS

MODEL 8200 DUAL HEAT SOLDERING GUN

Two trigger positions provide instant switching to high (140 watts) or low (100 watts) heat. Tip heats instantly and spotlight comes on when trigger is pulled. UL Recognized.

MODEL 8200PK DUAL HEAT SOLDERING GUN KIT

Includes Weller dual heat 100/140 watt gun, rugged plastic utility case, three soldering tips, tip-changing wrench, flux brush, soldering aid and solder.

SERIES "D" DUAL-HEAT PROFESSIONAL GUNS

Exclusive dual-heat feature saves time, adds convenience, and greatly increases tip life. Triggermatic control switches instantly to high or low heat as the job requires. Tip life is increased by using high heat only when necessary. No wasted time or current. Twin spotlights eliminate shadows on work. Carefully engineered design provides long reach; handles difficult jobs with ease; slips between wiring without damage to insulation. Exclusive tip grip assures full constant heat; wiping action of tip-fastened nut eliminates contact resistance and oxidation. **Model D440:** Medium duty gun rated 145/210 watts. **Model D550:** Heavy-duty gun rated 240/325 watts. UL Recognized.

MODEL D550PK HEAVY-DUTY DUAL HEAT SOLDERING GUN KIT

Features 240/325 watt dual heat gun, break-proof plastic carrying case, soldering, smoothing and cutting tips, tip-changing wrench and solder.

SOLDERING GUN AND KITS—DEALER NET PRICES

Weller No.	Rating, Watts	Net Each, Lots of			Weller No.	Rating, Watts	Net Each, Lots of		
		1-2	3-11	12 Up			1-2	3-11	12 Up
8200	100/140	$14.20	$12.75	$11.35	D550	240/325	$19.20	$17.25	$15.35
8200PK	100/140	16.60	14.95	13.30	D550PK	240/325	22.50	20.25	18.00

SOLDERING GUN REPLACEMENT TIPS

Weller No.	For Gun or Iron No.	Tip Type	Net Pkg. 2	Weller No.	For Gun or Iron No.	Tip Type	Net Each
8125*	8100B, 8200	Solder	$1.25	7135N†	8100, 8100B, 8200, D-440	Solder	$1.25
8125N‡	8100B, 8200	Solder	1.25§				
7250	8250A, D-550	Solder	1.25	6120†	8100B, 8200, D-440	Smoothing	1.25
7250N†	8250A, D-550	Solder	1.25§	6110†	8100B, 8200, D-440	Cutting	1.25
7300	B,S-107,D-207	Solder	1.25	6130†	8250A, D-550	Cutting	1.25
7135	8100, D-440, 8100B, 8200	Solder	1.25	6140†§	WS-200, WD-250, S-500, D-550	Smoothing	1.25

*Premium plated tip; all others copper. †With tip nuts. ‡Premium plated; with tip nuts. §Net Each.

TEMPMATIC TEMPERATURE CONTROLLED SOLDERING TOOLS

Fast and reliable. Easy to handle, weighs 7 oz. Features quick change powerhead. Comes with 3/16″ chisel point, 700° F powerhead. 120 VAC.

Weller No. GT7A—Net Each, Lots of 1–2 .... **$20.00**
Net Each, Lots of 3–11 .... **$18.00**; 12 Up **16.00**
Weller No. GT6B—Same, but with 1/8″ conical point, 600° F powerhead.
Net Each, Lots of 1–2 ...... **$20.00**; 3–11 ...... **$18.00**; 12 Up **$16.00**
Weller No. 6B—Powerhead only, 1/8″ conical point, 600° F. Net Each **12.50**
Weller No. 7A—Powerhead only, 3/16″ chisel point, 700° F. Net Each **12.50**
Weller No. GT—Handle only, with trigger and cord. Net Each **7.50**

PROFESSIONAL SOLDERING IRONS

Extremely rugged, service grade tools. Stainless steel barrels, long life industrial grade double coated tips. Cool blue pencil handle of impact resistant plastic. Only 1¾ oz., 8″ long. 120 volts. UL Listed.

Weller No. WP25 Soldering Iron—25 watts, with 1/16″ screwdriver tip.
Net Each, Lots 1–11 .... **$9.20**; 12–47 .... **$8.25**; 48 Up **$7.35**
Weller No. WP40 Soldering Iron—40 watts, with 1/8″ screwdriver tip.
Net Each, Lots 1–11 .... **$11.70**; 12–47 .... **$10.50**; 48 Up **9.35**

REPLACEMENT TIPS FOR WP25 AND WP40

Weller No.	Tip Description	Net Each, Lots			Weller No.	Tip Description	Net Each, Lots		
		1-14	15-49	50 Up			1-14	15-49	50 Up
ST1	1/16″ screwdriver	$1.50	$1.35	$1.20	ST5	1/32″ single flat	$1.50	$1.35	$1.20
ST2	3/32″ screwdriver	1.50	1.35	1.20	ST6	1/32″ screwdriver	1.50	1.35	1.20
ST3	1/8″ screwdriver	1.50	1.35	1.20	ST7	1/32″ conical	1.50	1.35	1.20
ST4	3/16″ screwdriver	1.50	1.35	1.20	ST8	1/16″ screwdriver	1.50	1.35	1.20

PROFESSIONAL DESOLDERING/RESOLDERING TOOL

A must for servicing modern printed circuit boards and solid state equipment. Complete with .063″ opening tip. 120 volts; rated 40 watts. Two-wire cord.

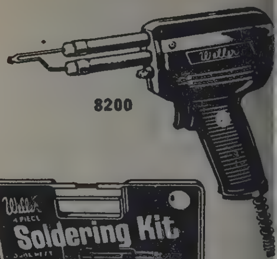
Weller No. DS40 Desoldering/Resoldering Tool—Net Each, Lots of 1–2 .... **$20.00**
Net Each, Lots of 3–11 .... **$18.00**; 12 Up **16.00**

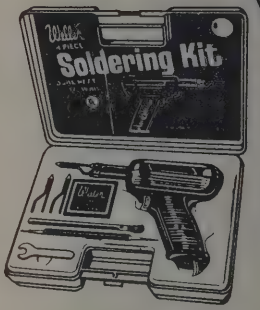
REPLACEMENT DESOLDERING TIPS FOR DS40

Weller No.	Hole Dia., In.	Net Each, Lots of			Weller No.	Hole Dia., In.	Net Each, Lots of		
		1-11	12-47	48 Up			1-11	12-47	48 Up
DST1	.038	$1.50	$1.35	$1.20	DST4	.063	$1.50	$1.35	$1.20
DST2	.046	1.50	1.35	1.20	DST5	.078	1.50	1.35	1.20
DST3	.059	1.50	1.35	1.20	DST6	.090	1.50	1.35	1.20

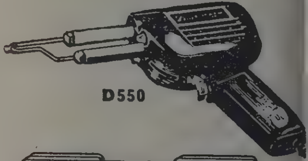
WELLER SOLDERING IRONS ARE AVAILABLE WITH 3-WIRE CORDS.

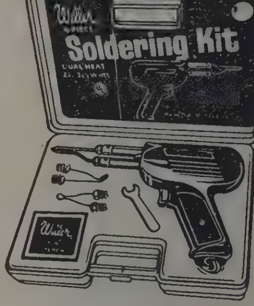
WRITE FOR PRICES.


8200

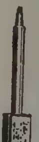


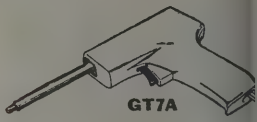
8200PK

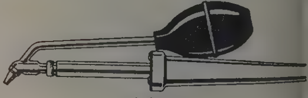

D550

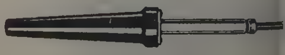


D550PK


6B


GT7A


DS-40


WP25, WP40

Weller® Professional Tools

SP-23

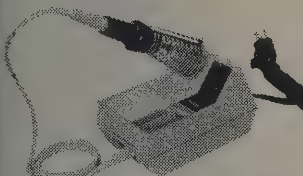
SP-40

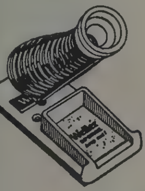
SP-80

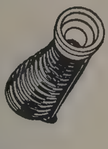
SP-120, SP-175

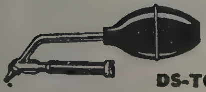
W-60

W-100


W-TCPN


Bench Stand


Side Rail Stand


DS-TCP

SOLDERING TOOL STANDS

Veller No. PH60—Bench type with base nd sponge for W60, WP25, WP40, and rons with barrel dia. up to 15/32″.

Veller No. PH100—Bench type with ponge for W100 and irons with barrel iameter up to 19/32″.

Veller No. SFA1—Side rail type for TCP1 nd irons with barrel dia. up to 3/8″.

Veller No. SFA60—Side rail type for W60 nd irons with barrel dia. up to 15/32″.

Veller No. SFA100—Side rail type for V100 and irons with barrel dia. up to 19/32″.

PRICE TABLE

Weller No.	Net Each, Lots of		
	1-11	12-47	48 Up
PH60	$6.00	$5.40	$4.80
PH100	7.00	6.30	5.60
SFA1	2.00	1.80	1.60
SFA60	2.00	1.80	1.60
SFA100	3.35	3.00	2.70

INDUSTRIAL DESOLDERING ADAPTERS

Veller No. DS-TCP—For use with WTCP nd WTCP-L. Net Ea., Lots 1–11 **$10.00**
2–23......**$9.00**; 24 Up...... **8.00**

Veller No. DS60—For use with W60.
let Each, Lots of 1–11..........**$10.00**
2–23......**$9.00**; 24 Up...... **8.00**

"MARKSMAN" SOLDERING IRONS

High efficiency irons with stainless steel barrels; heat and impact resistant handles. For 120 V. Complete with replaceable copper plated tip and instruction booklet packed in a vinyl pouch. UL Recognized.

Weller No.	Watts	Type	Tip	Overall Length	Wt., Oz.	Net Each, Lots of		
						1-11	12-47	48 Up
SP-23	25	Pencil	MT-1 cone	8¼″	1¾	$ 5.80	$ 5.25	$ 4.65
SP-40	40	Pencil	MT-10, ¼″ dia.	8¼″	2	7.50	6.75	6.00
SP-80	80	Med. duty	MT-20, ⅜″ dia.	9⅜″	4	10.80	9.75	8.65
SP-120	120	Med. duty	MT-30, ½″ dia.	11⅜″	10	15.35	12.00	10.70
SP-175	175	Hvy. duty	MT-40, ⅝″ dia.	12½″	16	15.85	14.25	12.70
SP-23K	With SP-23 iron, 3 tips, 5′ rosin core solder and aid tool with instructions					8.35	7.50	6.70

PLATED REPLACEMENT TIPS FOR "MARKSMAN" IRONS

Pkg. of 2 tips, except MT-20 to MT-40, pkg. of 1.

Weller No.	For Marksman Iron	Tip Type	Net Pkg. of 2, Lots of		
			1-11	12-47	48 Up
MT-1	SP-23	Cone shape	$1.25	$1.13	$1.00
MT-2	SP-23	Screwdriver	1.25	1.13	1.00
MT-3	SP-23	Chisel	1.25	1.13	1.00
MT-5	SP-23	Woodburning	1.25	1.13	1.00
MT-6	SP-23	Smoothing	1.25	1.13	1.00
MT-10	SP-40	¼″ chisel	2.10	1.90	1.70
MT-20	SP-80	⅜″ chisel*	2.10	1.90	1.70
MT-30	SP-120	½″ chisel*	2.50	2.25	2.00
MT-40	SP-175	⅝″ chisel*	3.35	3.00	2.70

*Price indicated is for single tip.

CONTROLLED OUTPUT SOLDERING PENCILS AND TIPS

MODEL W-TCPN LOW VOLTAGE PENCIL

Precision built. transformer powered soldering station. Features low voltage, temperature controlled soldering pencil. Choice of interchangeable tips in temperature selections of 600° F, 700° F and 800° F. Includes soldering pencil, power unit, cord set and handle, iron holder, sponge tray, switch and light, and heating element. **Replacement tips available:** Ranging from 1/32″ to 15/64″ dia., in screwdriver, long screwdriver, narrow screwdriver, conical and single flat shapes, each in temperatures of 600° F, 700° F and 800° F. Weight per carton, 21 lbs.

Weller No. W-TCPN—
Net Each, Lots of 1–11......**$50.00**; 12–23......**$45.00**; 24 Up......**$40.00**

REPLACEMENT TIPS FOR W-TCPN, W-TCP-L, TCP-1, TCP12

Tip Description	Weller Number			Net Each, Lots of		
	600° F	700° F	800° F	1-24	25-99	100 Up
1/16″ screwdriver	PTA6	PTA7	PTA8	$2.00	$1.80	$1.60
1/16″ single flat	PTAA6	PTAA7	PTAA8	2.00	1.80	1.60
3/32″ screwdriver	PTB6	PTB7	PTB8	2.00	1.80	1.60
3/32″ single flat	PTBB6	PTBB7	PTBB8	2.00	1.80	1.60
⅛″ screwdriver	PTC6	PTC7,	PTC8	2.00	1.80	1.60
⅛″ single flat	PTCC6	PTCC7	PTCC8	2.00	1.80	1.60
3/16″ screwdriver	PTD6	PTD7	PTD8	2.00	1.80	1.60
3/16″ single flat	PTDD6	PTDD7	PTDD8	2.00	1.80	1.60
1/32″ screwdriver	PTH6	PTH7	PTH8	2.00	1.80	1.60
1/32″ conical	PTP6	PTP7	PTP8	2.00	1.80	1.60
1/32″ single flat	PTF6	PTF7	PTF8	2.00	1.80	1.60
15/64″ screwdriver	PTE6	PTE7	PTE8	2.00	1.80	1.60
3/64″ long screwdriver	PTK6	PTK7	PTK8	2.00	1.80	1.60
5/64″ long screwdriver	PTL6	PTL7	PTL8	2.00	1.80	1.60
⅛″ long screwdriver	PTM6	PTM7	PTM8	2.00	1.80	1.60
1/32″ long conical	PTO6	PTO7	PTO8	2.00	1.80	1.60
1/16″ narrow screwdriver	PTR6	PTR7	PTR8	2.00	1.80	1.60

CONTROLLED OUTPUT INDUSTRIAL SOLDERING IRONS

Sensing device at tip assures reliable soldering; won't overheat; maintains selected maximum temperature. Two-wire cord. With 700° F tips. "Temperature Sensing" tips are available in standard industrial configurations at 600°, 700° and 800° F; see listings below. Models W60 and W100 have new blue color.

Weller No.	Watts	Type	Tip	Overall Length	Wt., Oz.	Net Each, Lots of		
						1-11	12-47	48 Up
W60	60	Pencil	¼″ screwdriver	7¼″	2½	$20.85	$18.75	$16.70
W100	100	Pencil	⅜″ screwdriver	8¼″	3½	26.70	24.00	21.35

PREMIUM PLATED REPLACEMENT TIPS FOR W60 SOLDERING IRON

For Model W60 blue series tools only.

Point Size	Description	Reach	Weller Number			Net Each, Lots of		
			600° F	700° F	800° F	1-24	25-99	100 Up
1/16″	Screwdriver	15/32″	CT5A6	CT5A7	CT5A8	$2.00	$1.80	$1.60
3/32″	Screwdriver	15/32″	CT5B6	CT5B7	CT5B8	2.00	1.80	1.60
⅛″	Screwdriver	15/32″	CT5C6	CT5C7	CT5C8	2.00	1.80	1.60
3/16″	Screwdriver	15/32″	CT5D6	CT5D7	CT5D8	2.00	1.80	1.60
¼″	Screwdriver	15/32″	CT5E6	CT5E7	CT5E8	2.00	1.80	1.60

PREMIUM PLATED REPLACEMENT TIPS FOR W100 SOLDERING IRON

For Model W100 blue series tools only.

Point Size	Description	Reach	Weller Number			Net Each, Lots of		
			600° F	700° F	800° F	1-14	15-49	50 Up
⅛″	Screwdriver	15/32″	CT6C6	CT6C7	CT6C8	$2.90	$2.65	$2.35
3/16″	Screwdriver	15/32″	CT6D6	CT6D7	CT6D8	2.90	2.65	2.35
¼″	Screwdriver	15/32″	CT6E6	CT6E7	CT6E8	2.90	2.65	2.35
⅜″	Screwdriver	15/32″	CT6F6	CT6F7	CT6F8	2.90	2.65	2.35

PREMIUM PLATED REPLACEMENT TIPS FOR W200 SOLDERING IRON

¼″	Screwdriver	1⅞″	CT2E6	CT2E7	CT2E8	$4.20	$3.75	$3.35
⅜″	Screwdriver	1⅞″	CT2F6	CT2F7	CT2F8	4.20	3.75	3.35
7/16″	Chisel	19/16″	CT2G6	CT2G7	CT2G8	4.20	3.75	3.35
½″	Chisel	19/16″	CT2H6	CT2H7	CT2H8	4.20	3.75	3.35

Weller® Professional Tools

SERIES MP MINIATURE SOLDERING STATION

Designed for PC electronics, and for fast and economical production soldering. Closed loop temperature control system with low voltage output. Non-burnable cord; replaceable tips in wide range of configuration. New plug-in pencil for maximum flexibility and reduced maintenance cost.

Weller No.	Description	Qty./ Box	Net Each, Lots of 1-11	12-23	24 Up
MP156	650° F miniature soldering station	1	$52.35	$48.00	$42.70
MP157	750° F miniature soldering station	1	52.35	48.00	42.70
MP101	MP power unit	1	35.25	30.00	26.70
MP126	650° F soldering pencil	1	21.70	19.50	17.35
MP127	750° F soldering pencil	1	21.70	19.50	17.35
MP202	Sponge	10	.75	.75	.75
MP213	Funnel	1	.75	.75	.75
MP214	Iron holder assembly	1	1.50	1.50	1.50
MP210	Barrel nut assembly	1	1.85	1.85	1.85
MP303	Iron receptacle 10/contr circ	1	7.95	7.95	7.95
MP304	Switch w/light	1	3.75	3.75	3.75

REPLACEMENT TIPS FOR SERIES MP AND SERIES W-MCP

Weller No.	Reach, Inches	Description	Net Each, Lots of 1-24	25-99	100 Up
MP131	1/64"	Conical	$1.67	$1.50	$1.33
MP132	1/32"	Bent Conical	1.67	1.50	1.33
MP133	1/32"	Single Flat 45°	1.67	1.50	1.33
MP134	3/64"	Bent Conical	1.67	1.50	1.33
MP135	3/64"	Single Flat 45°	1.67	1.50	1.33
MP136	1/16"	Narrow Screwdriver	1.67	1.50	1.33
MP137	5/64"	Screwdriver	1.67	1.50	1.33
MP138	8/64"	Chisel	1.67	1.50	1.33

MODEL W-TCP-2 CONTINUOUSLY VARIABLE TEMPERATURE PENCIL

Small and lightweight, ideal for low temperature, miniature soldering applications. Continuously variable temperature, controlled at tip, from 200° F to 450° F, with SCR and thermistor control circuit. Simply dial temperature needed for a specific job. Rated 30 watts; operates from 24 V isolated winding at power unit for safety. Complete with 1/16" premium plated screwdriver tip and power unit. Operates from 120 VAC, 50–400 Hz (230/250 V available on request, at same price).

Weller No. W-TCP-2—
Net Each, Lots 1–11.......**$99.15**; 12–23.......**$89.25**; 24 Up.......**$79.35**
Weller No. STA (1/32" single flat) **or STB** (1/16" screwdriver) **Replacement Tip**—For W-TCP-2. Net Each, Lots 1–24.....**$2.00**; 25–99.....**$1.80**; 100 Up.....**$1.60**

DESOLDER AND SOLDER STATION

Power vacuum desoldering station designed for PC board repair. Closed loop temperature control protects sensitive components. See-thru solder is easy to clean or replace. Non-burnable cord for safety and long life. High impact resistant tool handles and stainless steel barrels. Operates from factory air and line voltage. Complete with foot switch, indicating light/on-off switch, twin safety tool holder, vacuum adjustment and gauge, tip and sponge holder, five assorted tips and instruction manual. Beige with blue tool handles.

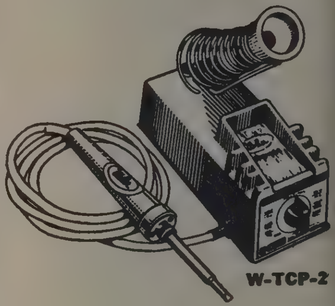
Weller No.	Description	Net Each
DS100	Desolder and solder station; 1 per box	$412.50
DS101	Soldering iron; 1 per box	24.25
DS102	Desoldering iron; 1 per box	37.15
DS103	Collector tube; 5 per box	2.25
DS104	Clean out tool; 5 per box	2.25
DS105	Sponge holder with sponge and tool; 1 per box	8.25
DS106	Sponge; 10 per box	1.50
DS107	Tool holder; 1 per box	31.50
DS108	Retainer springs; 5 per box	1.50
DS201	Fuses; 5 per card	.40
DS202	Installation kit; 1 per box	22.90
SW60	Switch assembly; 1 per box	6.75
HE60	Heating element; 1 per box	6.00
BA60	Barrel nut assembly; 1 per box	1.90
DS204	Filter sponge; 10 per box	.40
DS217		18.75
DS218		18.75

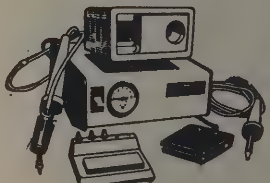
REPLACEMENT TIPS FOR SOLDER AND DESOLDER STATION

Weller No.	Size*, Inches	Net Each	Weller No.	Size*, Inches	Net Each
DS110	.060 x .025 x .50	$3.75	DS114	.125 x .071 x .50	$3.75
DS111	.090 x .025 x .50	3.75	DS115	.060 x .025 x .75	3.75
DS112	.076 x .036 x .50	3.75	DS116	.098 x .045 x .75	3.75
DS113	.098 x .045 x .50	3.75	DS117	.090 x .025 x .75	3.75

*O.D. x I.D. x Length; all tips packed 5 per card.

Series MP


W-TCP-2


DS100

WE CARRY MOST MAJOR BRANDS. IF YOU CAN'T FIND WHAT YOU WANT, CALL OR WRITE US FOR INFORMATION.

DURACELL® Batteries

MERCURY DURACELL BATTERIES

Mercury Duracell batteries offer more power per unit of volume than any other type. Sizes range from the RM312, which is aspirin tablet size, up thru the Power-Pak types. Voltage stability is excellent, as is storage life. Types with **R** in the suffix are rated at 1.35 volts per cell; all others rated 1.4 V. All have flat terminals unless otherwise noted. Types with suffix **T** have solder tab on negative terminal; suffix **T2**, solder tabs on both terminals.

Number	Volts	mAH	Use	Size, Inches	Oz.	Net
P401	1.4	1000	Paging	29/64 dia. x 1 1/8	0.4	$1.10
P675	1.4	220	Calculator	29/64 dia. x 7/32	0.07	.65
M1	1.4	1000	Phys. hndcp.	5/8 dia. x 21/32	0.43	1.03
M1R	1.35	1000	Electronic	5/8 dia. x 21/32	0.43	1.20
M1RT2‡	1.35	1000	Electronic	5/8 dia. x 21/32	0.43	1.33
M3R	1.35	2200	Electronic	1 dia. x 21/32	0.93	1.90
M4R	1.35	3400	Electronic	1.2 dia. x 21/32	1.6	2.43
M12	1.4	3600	Tape rcrdr.	5/8 dia. x 1 61/64	2.0	1.77
M12R	1.35	3600	Tachometer	5/8 dia. x 1 61/64	2.0	1.90
M12RT2‡	1.35	3600	Electronic	5/8 dia. x 1 61/64	2.0	2.03
M42	1.4	14000	Elec. "D"	1.2 dia. x 2 3/8	5.9	4.86
M42R	1.35	14000	Elec. "D"	1.2 dia. x 2 3/8	5.9	5.36
M42RT†	1.35	14000	Elec. "D"	1.2 dia. x 2 3/8	5.9	5.43
M42RT2‡	1.35	14000	Elec. "D"	1.2 dia. x 2 3/8	5.9	5.50
M312	1.4	45	Phys. hndcp.	5/16 dia. x 9/64	0.02	.37
M400	1.4	75	Phys. hndcp.	29/64 dia. x 9/64	0.04	.80
M401	1.4	800	Radio "N"	29/64 dia. x 1 1/8	0.4	1.06
M401R	1.35	800	Electronic	29/64 dia. x 1 1/8	0.4	1.20
M411	14	160	Electronic	1 x 19/32 x 1 27/64	1.08	2.40
M412	22.4	160	Electronic	1 x 19/32 x 1 31/32	1.65	3.20
M413	28	160	Electronic	1 x 19/32 x 2 1/2	2.04	4.00
M415*	42	160	Electronic	1 x 19/32 x 3 1/2	3.03	5.99
M450R	1.35	350	Electronic	29/64 dia. x 9/16	0.18	1.20
M502R	1.35	2400	Electronic	1/2 dia. x 1 61/64	1.05	1.70
M575	1.4	100	Phys. hndcp.	.455 dia. x .129	0.05	.27
M601R	1.35	1800	Electronic	5/8 dia. x 1 5/32	1.2	1.60
M601RT2‡	1.35	1800	Electronic	5/8 dia. x 1 5/32	1.2	1.73
M625	1.4	350	Phys. hndcp.	5/8 dia. x 1/4	0.14	.97
M625R	1.35	250	Electronic	5/8 dia. x 1/4	0.14	1.07
M625RT2‡	1.35	250	Electronic	5/8 dia. x 1/4	0.14	1.20
M630	1.4	350	Phys. hndcp.	5/8 dia. x 1/4	0.17	.93
M640♯	1.4	500	Radio	5/8 dia. x 7/16	0.26	.99
M640R	1 35	500	Electronic	5/8 dia. x 7/16	0.26	1.07
RM675	1.4	160	Phys. hndcp.	29/64 dia. x 13/64	0.07	$0.52
TR112	2.8	350	Electronic	21/32 dia. x 19/64	0.29	1.93
TR112R	2.7	250	Electronic	21/32 dia. x 19/64	0.29	2.46
TR114R	5.4	250	Electronic	21/32 dia. x 1 1/16	0.59	2.86
TR115	7.0	350	Dictating	21/32 dia. x 1 5/16	0.73	3.40
TR115R	6.75	250	Electronic	21/32 dia. x 1 5/16	0.73	3.60
TR118	11.2	350	Medical	21/32 dia. x 2 1/32	1.13	3.42
TR126	8.4	600	Radio	3/4 dia. x 2	1.6	2.50
TR132	2.8	1000	Paging	21/32 dia. x 1 5/16	1	1.79
TR132R	2.7	1000	Electronic	21/32 dia. x 1 5/16	1	2.13
TR133§	4.2	1000	Radio, Pag.	21/32 dia. x 2	1.4	2.57
TR133R	4.05	1000	Radio, Pag.	21/32 dia. x 2	1.4	2.73
TR134	5.6	1000	Gar. door	21/32 dia. x 2 39/64	1.9	2.80
TR134R	5.4	1000	Electronic	21/32 dia. x 2 39/64	1.9	3.26
TR135	7.0	1000	Gar. door	21/32 dia. x 3 1/4	2.4	3.16
TR135R	6.75	1000	Electronic	21/32 dia. x 3 1/4	2.4	3.86
TR136	8.4	1000	Gar. door	21/32 dia. x 3 29/32	2.9	3.66
TR136R	8.1	1000	Electronic	21/32 dia. x 3 29/32	2.9	4.40
TR137	9.8	1000	Electronic	21/32 dia. x 4 9/16	3.4	4.20
TR137R	9.45	1000	Electronic	21/32 dia. x 4 9/16	3.4	4.86
TR145	7	250	Electronic	21/32 dia. x 1 3/16	0.58	3.10
TR146X*§	8.4	575	Radio	1 x 21/32 x 1 3/4	2.0	2.06
TR163	4.2	500	TV tuner	21/32 dia. x 1 5/16	0.87	2.80
TR164	5.6	500	Radio	21/32 dia. x 1 3/4	1.16	2.50
TR164R	5.40	500	Electronic	21/32 dia. x 1 3/4	1.16	3.33
TR165	7	500	TV tuner	21/32 dia. x 2 3/16	1.45	3.15
TR165R	6.75	500	Electronic	21/32 dia. x 2 3/16	1.45	3.60
TR169	12.6	500	Electronic	21/32 dia. x 3 61/64	2.88	5.36
TR175	7	160	Radio	31/64 dia. x 1 1/32	0.4	2.20
TR177*	9.8	160	Radio	35/64 dia. x 1 29/32	0.67	2.20
TR233	4.2	2200	Radio	1 1/64 dia. x 1 31/32	3	4.40
TR233R	4.05	2200	Electronic	1 1/64 dia. x 1 31/32	3	4.86
TR234	5.6	2200	Electronic	1 1/64 dia. x 2 19/32	3.88	5.84
TR234R	5.4	2200	Electronic	1 1/64 dia. x 2 19/32	3.88	6.33
TR235R	6.75	2200	Electronic	1 1/64 dia. x 3 1/4	4.63	7.79
TR236R	8.10	2200	Electronic	1 1/64 dia. x 3 29/32	4.76	9.26
TR286*	8.4	750	Radio	1 dia. x 1 15/16	1.6	2.50
TR289*	12.6	750	CB radio	1 dia. x 2 25/64	3.6	4.94
ZM9♯	1.4	2400	Radio "AA"	1/2 dia. x 1 31/32	1	1.10
4R82	8.1	250	Paging	81/32 dia. x 1 13/32	0.9	2.60
9R81	1.4	800	Paging	29/64 dia. x 1 1/8	0.4	1.19

*Snap terminals. †1 tab, 1 flat terminal. ‡2 tab terminals. §Add suffix **B** for blister pack; add **1c** to price. ♯Add suffix **B2** for blister pack (2).

MERCURY POWER-PAK™ BATTERIES

ercury Power-Pak batteries are used in heavy duty industrial pplications where extreme reliability is required. Detailed terinal drawings and precise specifications are available on request.

Number	Volts	mAH	Use	Terminals	Net
02157	1.35	28,000	Radiation eqpt.	Socket	$15.56
02250	9.45	250	Radiation eqpt.	Tabs	3.90
02351	5.4	2,200	Fire alarm	Flat	8.46
02358	10.8	250	Radiation eqpt.	Leads	5.19
02362	16.2	250	Radiation eqpt.	Leads	6.92
02435	6.75	250	Radiation eqpt.	Flat	4.32
02462	97.2	1,000	Transmitter "B"	Leads	48.44
02465	47.25	1,000	Geophysical	Leads	31.12
02478	9.8	2,400	Recorder	Flat	9.96
02580	27	3,400	Electronic	Socket	41.51
02642	7.0	2,400	Fire alarm	Flat	7.35
02651	1.35	14,000	Electronic	Leads	6.05
02702	2.7	2,200	Geophysical	Leads	5.17
02904	5.4	3,400	Meter	Leads	9.52
02905	6.75	3,400	Test equipment	Leads	10.89
02907	9.45	3,400	Electronic	Leads	13.30
02908	10.8	3,400	Radiation eqpt.	Leads	15.12
03145	8.4	3,600	Depth finder	Snap	9.95
03236	4.2	1,000	Electronic	Flat	1.95
03314	16.8	2,400	Transceiver	Flat	12.58
03394	11.2	3,600	Electronic	Snap	14.70
03496	4.2	500	Paging	Button	1.80
03996	8.4	575	Medical	Snap	1.87

DURACELL PHOTO BATTERIES

uffix **B** indicates blister pack. **B2** indicates pack of 2.

Number	Volts	Wt. Oz.	Net Each	Mallory Number	Volts	Wt. Oz.	Net Each
X1B	1.35	0.6	$1.24	**PX30***	1.5	1.5	$1.29
X13B	1.35	0.14	1.04	**PX30B**	1.5	1.5	1.30
X14B	2.7	0.3	1.97	**PX32**	5.6	1.2	2.50
X19*‡	4.5	1.2	1.70	**PX625B**	1.35	0.15	1.04
X21*‡	4.5	1.2	1.70	**PX640B**	1.35	0.38	1.11
X23B	5.6	2.0	1.11	**PX675B**	1.35	0.07	1.04
X24*‡	3.0	1.0	1.57	**PX825***	1.5	0.38	.65
X25B	4.05	0.5	2.51	**PX825B2***	1.5	0.38	1.30
X27B	4.05	1.6	.93	**TR112R**	2.7	0.29	2.46
X28B	6.0	0.13	2.54	**7R31**	4.2	0.67	2.04
				7R31B	4.2	0.67	2.05

Alkaline; all other mercury. ‡Available in single blister pack, dd **1c** to price.

ALKALINE DURACELL BATTERIES

Designed for high drain use such as photoflash, movie cameras, lighting, etc.; up to 10 times longer life than zinc-carbon types.

STANDARD ALKALINE DURACELL BATTERIES

Number	Volts	Use	Wt. Oz.	Net Each
MN1300‡	1.5	All purpose "D"	5 1/4	$0.585
MN1400‡	1.5	All purpose "C"	2 1/3	.585
MN1500‡§	1.5	All purpose "AA"	.82	.52
MN1604†	9.0	Radio	1 1/2	1.17
MN2400‡	1.5	All purpose "AAA"	.4	.52
MN9100‡	1.5	All purpose "N"	.34	.488

†Add suffix **B** for blister pack; add **1c** to price. ‡Add suffix **B2** for blister (2). §Add suffix **B4** for blister (4).

SILVER OXIDE DURACELL, GRID BIAS CELLS

Number	Volts	Size, In.	Net Each	Mallory Number	Volts	Net Each
MS13	1.56	.21 x .31	$0.40	**MS212**	1.56	$0.27
MS41	1.56	.16 x .46	.40	**MS312**	1.56	.39
MS76B	1.56	.21 x .46	.67			

*Standard package, weight, 8 oz.; all others 4 oz.

NICKEL CADMIUM RECHARGEABLE BATTERIES

Mallory nickel cadmium batteries can be recharged 1000 times or more and deliver constant power during discharge. Safety vent prevents bursting due to internal over-pressure.

Number	Rating AH	Size	Net Each
NC15AA	0.5	"AA"	$ 2.45
NC14C	1.0	"C"	2.66
NC13D	1.2	"D"	2.66
BC1	Charger for above		12.57

GLOBE

gel/cell® RECHARGEABLE BATTERIES, BATTERY PACKS, CHARGERS

COMPLETELY SEALED, RECHARGEABLE GEL/CELL BATTERIES FOR LONG LIFE, COMPACTNESS, HIGH POWER-TO-SIZE RATIO

Small, but powerful rechargeable batteries feature exclusive gelled electrolyte held permanently between plates and sealed in polystyrene cases. Compact and long-lasting battery contains no liquid to splash around or ooze out. Can be operated, stored or charged in any position, even upside down. Compact sizes for every application including many mini-sizes with a high power-to-weight ratio. Ideal for building into transportable equipment such as tape recorders, TV sets, medical apparatus and test instruments. Completely maintenance free, install it and forget it. Uniquely suited to operate lighting, security and supervisory systems in the event of commercial power outage. No need to check liquid levels, water or electrolyte is never added. Battery can be recharged again and again, up to 500 or more charge/discharge cycles. If not completely discharged during each cycle, 1000 or more cycles of operation are possible. Special lead-calcium grids assure long shelf life, very little capacity loss when in storage. Self discharge is only 2% to 3% per month. Reliable lead dioxide system eliminates danger of permanent cell reversal and resulting loss of ability to recharge, provides years of dependable service. Protective self-sealing relief valves prevent excessive cell pressure build-up if batteries are accidentally over-charged. Battery is not affected by memory or previous use history, accepts a full charge time after time and delivers full power when you want it. Batteries may be connected in series to obtain any multiple of 2 volts or in parallel for other than standard capacities. Wide operating temperature range. Gel/Cells can be used in tropical or frigid climates. A fully charged Gel/Cell will operate over a temperature range of −76° F to +140° F. Gel/Cells are rated at 77° F. Their capacities increase above 77° F and decrease below 77° F. Durable, high impact, polystyrene case is non-conductive, will not rust or deteriorate.

Globe Part Number*	Nom. Volts	Capacity in Amp Hrs. at 20 Hr. Rate	20 Hr. Rate, mA	Max. Cont. Cur. (Amps) with Std. Terminals	Int. Res., Milliohms	Watt Hours per Lb.	Watt Hours per Cu. Inch	Size, Inches			Wt., Lbs.	List Price	Net Each
								W.	D.	H.			
GC280-1	2	7.5	375	80	6	14.9	1.1	2.06	1.97	3.97	1.1	$11.00	$ 9.90
GC410-4	4	.9	45	40	60	10.9	.89	1.65	1.36	2.00	.37	10.67	9.60
GC426-1	4	2.6	130	60	47	12.1	.92	3.54	1.33	2.63	.86	12.80	11.52
GC610-1	6	.9	45	40	90	10.9	.9	2.00	1.65	2.24	.55	13.39	12.05
GC620-1	6	1.8	90	80	50	12.4	.94	2.95	2.00	2.36	.97	17.41	15.67
GC626-1	6	2.6	130	60	70	12.1	.92	5.28	1.33	2.63	1.34	15.52	13.97
GC626-2	6	2.6	130	60	70	12.1	.92	5.28	1.33	2.40	1.34	15.52	13.97
GC645-1	6	4.5	225	80	30	11.3	.93	5.92	1.33	3.90	2.4	20.13	18.12
GC660-1	6	6.0	300	80	25	14.0	1.1	4.57	1.99	3.81	2.6	21.44	19.30
GC680-1	6	7.5	375	80	20	14.5	1.1	5.96	1.97	3.97	3.3	22.88	19.99
GC6200	6	20.0	1,000	200	9	14.1	1.2	7.0	3.42	5.25	8.5	39.58	35.62
GC826-1	8	2.6	130	60	70	12.0	.93	7.00	1.31	2.64	1.75	20.81	18.73
GC1215-1	12	1.5	75	35	150	12.0	.81	7.02	1.33	2.58	1.5	26.79	24.11
GC1245-1	12	4.5	225	80	60	12.0	.96	5.95	2.52	4.02	4.5	29.20	26.28
GC1260	12	6.0	300	80	80	12.0	.95	5.96	3.16	3.98	5.7	35.82	32.24
GC12200	12	20.0	1,000	100	18	14.3	1.1	6.84	6.48	4.93	16.75	86.28	77.65

*Terminal style indicated by last digit:
1 = Dual Purpose—Solder-Lug/Tab Type, .187″ w. x .032″ thick.
2 = Displaced Flat Button—Interchanges with 4 "D" size batteries.
4 = Solder Lug—.120″ w. x .030″ thick.
GC12200 Terminals—.250″ x 0.32″, slip-on.
GC6200 Terminals—¼ x 20 threaded brass stud with wing nuts supplied.

RECHARGEABLE BATTERY PACKS

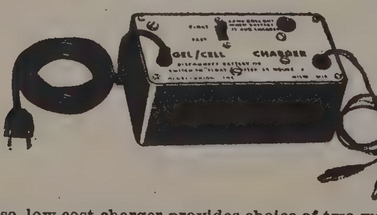
Rugged, portable power supply provides a great source of power for battery-operated equipment. Gives you dependable electrical power anywhere, indoors or out. Use it on camping, fishing and motor trips to power a portable radio, TV set, tape recorder, depth and fish finders, boat running lights, camp and emergency lights. Provides plenty of power for portable tools, communications equipment, test instruments, public addresses. Operates simply by connecting appliance to the power pack using a standard automobile cigarette lighter appliance plug. Any 12 volt or 14 volt appliance designed to operate from automobile cigarette lighters may be plugged directly into the power pack. Absolutely safe, operates efficiently in any position and is not harmed by extremes of temperature. Battery pack is easily recharged by self-contained charger which inserts into battery pack and plugs into standard wall outlet. Pays for itself many times over by letting you save on batteries. Charging time for 12-volt battery pack is 16–20 hours for complete charge; 18–24 hours for 14-volt battery pack. Temperature range, −76° F to +140° F. With handsome carrying case, shoulder strap, and self-contained battery charger.

PP1245

GC1200

Globe Part No.	Nom. Volts	Ampere-Hours (20 Hr. Rating)	Size, Inches			Wt., Lbs.	Net Each
			W.	D.	H.		
PP1245	12	4.5	8¼	2⅞	6½	6	$49.14
PP1260	12	6.0	4¼	4¼	6¼	7	58.22
PP1200	12	7.5	6¼	4¼	6¼	8	59.86
PP12120	12	12.0	8¼	3⅞	9	13	86.06
PP1426	14	2.6	6¼	2⅞	6½	4.5	52.44
PP1400	14	7.5	6¼	4¼	6¼	9.2	71.00

BATTERY CHARGERS



Easy to use, low cost charger provides choice of two well regulated output voltages. Panel switch selects "fast" or "float" voltage. In "fast" mode a fully discharged battery is recharged in 12 to 16 hours, or less; in "float" mode, 36 hours, or less. In either mode batteries can be brought to 75–80% of full charge in half the time. With switch in "float" position, batteries may be left on charge continuously. Indicating lamp stays on during charge, begins to glow dimly and goes out when battery is approximately 90% charged (50% on float setting). Protected from momentary shorts and reversed polarity. Chargers with 350 mA outputs recommended for batteries up to 3 ampere hour rating; 750 mA chargers for larger batteries or when charging smaller batteries in parallel. Black Bakelite* case with aluminum top panel. Size, 5⅞″ w. x 3⅛″ d. x 2¾″ h. Weight, 2 lbs. *Reg. Bakelite Corp. TM.

Globe Part No.	Nom. Output	End of Charge Voltage		For use with Battery Nos.	Net Each
		Fast	Float		
GRC6350M	350 mA	7.2 ± .2 V	6.9 ± .1 V	610, 620, 626	$38.15
GRC6750M	750 mA	7.2 ± .2 V	6.9 ± .1 V	645, 660, 680	38.15
GRC12350M	350 mA	14.6 ± .2 V	13.8 ± .1 V	1215	38.15
GRC12750M	750 mA	14.6 ± .2 V	13.8 ± .1 V	1245	42.80

Pioneer

INSTRUMENT LABORATORIES

The complete instrument capability with in-depth inventory, warranty and non-warranty service, modification, engineering, and technical support to meet your specific requirements.

ANALOG PANEL & SWITCHBOARD METERS
General Electric, Jewell, LFE/API, Rustrak, Simpson, Triplett, Weston

CALIBRATORS
Pioneer Quik-E

CLAMP-ON AMMETERS
Amprobe, General Electric, Simpson, Triplett, Weston

DIGITAL PANEL METERS (DPM's)
LFE/API, Simpson, Weston

DIGITAL MULTIMETERS (DMM's)
B&K, Fluke, Simpson, Triplett, Weston

FREQUENCY METERS (ANALOG)
General Electric, JBT, Simpson

FREQUENCY COUNTERS (DIGITAL)
B&K, Fluke, Simpson

LOGIC PROBES
Continental Specialties

METER RELAY & CONTROLLERS
General Electric, Jewell, LFE/API, Simpson

OSCILLOSCOPES
B&K, Simpson

PRINTERS
Gulton

PYROMETERS
Fluke, LFE/API, Simpson, Triplett

PORTABLE STANDARDS & ANALYZERS
B&K, Simpson, Weston

RECORDERS
Amprobe, General Electric, Rustrak, Simpson

SHUNTS & CURRENT TRANSFORMERS
General Electric, LFE/API, Midwest, Simpson, Triplett, Weston

TACHOMETER GENERATORS
General Electric, Weston

TEMPERATURE METERS & CONTROLLERS
Amprobe, General Electric, Jewell, LFE/API, Simpson, Triplett

TEST EQUIPMENT
Amprobe, B&K, Simpson, Triplett, Weston

THERMOMETERS
Fluke, Weston

TIMERS
General Time

TIME ELAPSED METERS
General Electric, General Time, JBT, Simpson

TRANSDUCERS
General Electric, Weston

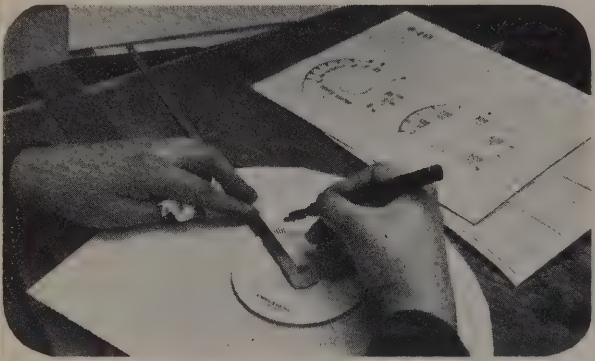
THESE PRODUCT LINES ARE STOCKED IN DEPTH AT ALL OF OUR LABORATORIES
CLEVELAND, DAYTON, GAITHERSBURG

Pioneer/Instrumentation

You receive the extras in service from Pioneer/Instrumentation. Whether for single units or larg quantities, standard models or special instrumentation, we can quickly fill your requirement We invite you to visit our laboratories in person to view and discuss our capabilities and how w may better serve you.

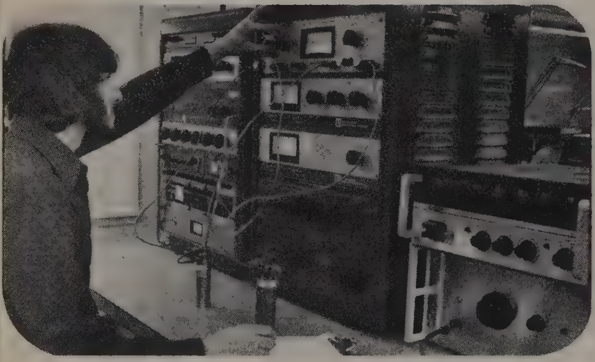
MODIFICATIONS

Modifications of panel, switchboard, an digital insturments, to your specification in single lot to OEM quantities are feature of our Laboratories. Deliver on special meters is normally thre days to three weeks.



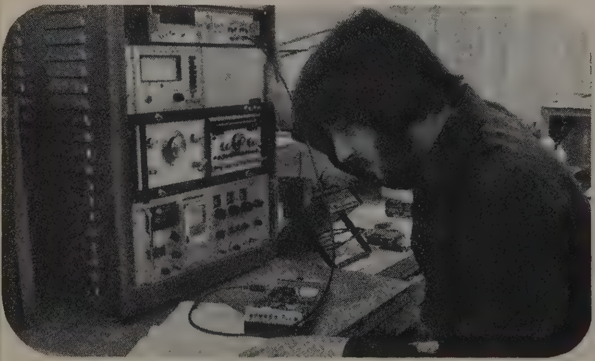
CUSTOM DIALS

Precise hand-drawn dials are used fo small quantity meter modification Tight accuracies, color bars, dual arc and special captions are standard service



CALIBRATIONS

Our instrument calibration test repor are accepted by all government service Delivery is from three to five days, c for out-of-town customers, one day o appointment. Standard cells require thre weeks, due to temperature stabilizatio and a series of readings to establis mean value.



REPAIRS

Repair services are available for all ou lines. We are the authorized sales servic center, warranty repair station and part distributor for Amprobe, Fluke, Genera Electric, Jewell, LFE/API, Rustrak Simpson, Triplett, and Weston. All nor digital repair work is fully estimated i writing before proceeding.

THESE SERVICES ARE AVAILABLE AT ALL OF OUR LABORATORIES

Pioneer/Instrumentation

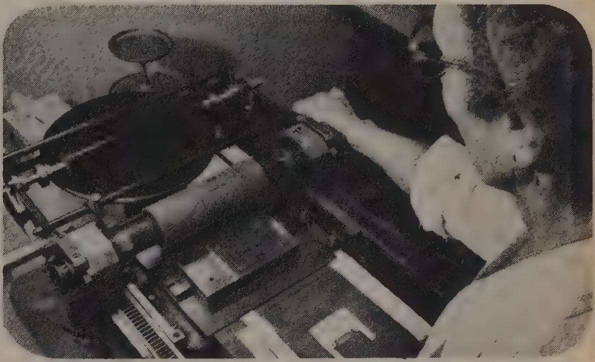
stock at the Cleveland, Dayton and Gaithersburg Laboratories: Panel and switchboard meters, truments and accessories from such well known names as Amprobe, B&K, Fluke, General ectric, General Time, Jewell, LFE/API, Rustrak, Simpson, Triplett and Weston.

INVENTORY

rge inventories of standard meters ows same-day shipping for a variety models. We become your warehouse r obtaining instruments from the untry's leading manufacturers.

CUSTOM PRINTING

rge quantities of custom dials are inted or silk screened. Color matching, ecial logos and symbols are furnished per your requirements.



INSPECTION

igid inspection of all parts and ssemblies enables Pioneer/Instrumentation to provide a 1-year warranty on all nits, whether standards or specials. igital panel meters, for instance, undergo 8-hour burn-in to insure reliability.

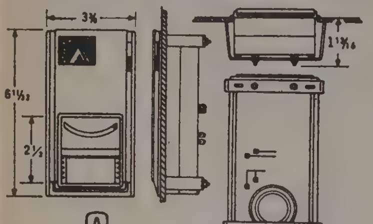
FULL SERVICE

ioneer/Instrumentation is fully equipped handle repairs one at a time or in uantities. Highly trained technicians, ull complement of spare parts, and pecial equipment enable us to provide omplete service on your instrumentation.

SALES OFFICES IN ALL OF OUR COMPONENT STOCKING BRANCHES

AMPROBE® CHART RECORDERS AND ACCESSORIES

Versatility: Used as chart recorder or indicating meter. **Trouble-Shooting:** Makes permanent, continuous record of operating conditions. **Strip Charts:** Pressure sensitive paper, simple drop-in loading; no ink, no ribbon, no threading. **Operation:** Simple, precise and foolproof. **Two Types Available:** Flush-mounting models (Fig. A) supplied with mounting hardware, one each of necessary strip charts, motor leads not furnished; cased models (Fig. B) have permanently attached motor line cord and one each of necessary strip charts. **Paper Size:** 2½" w. x 30' lg. **Chart Speeds:** 1" or 12"/hr., standard; other speeds available. Unless specified, 12"/hr. chart speed supplied. **Impressions/Minute:** 1/5 sec at 12"/hr.; 1/min at 1"/hr. **Accuracy (FS):** DC instruments, ±2% except L/FDV8600, ±3%; AC instruments*, ±3% except L/FAA1500, ±4%, and expanded scale voltmeters, ±1¼%. **Temperature Recorder Accuracy:** Models 8100 and 8101: Low Range: ±4° F up to +20° F, ±3° F from +20° F up; High Range: ±5° overall. Models 8102 and 8200: With RBT-12 probe, ±2° F from −20° F to +40° F, ±3° F elsewhere; With RBT-14 probe, ±2.5° F from +20° F to +100° F, ±3.5° F elsewhere. **Power Required:** 2.5 watts, 115 VAC, 60 Hz is standard; available for 220 VAC, 50 Hz or 12 VDC; pricing on request.
*Based on sinusoidal waveform.



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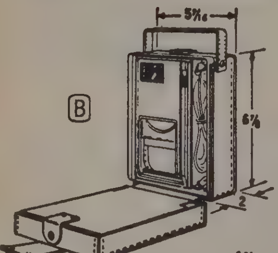

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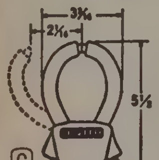

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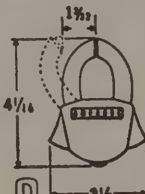

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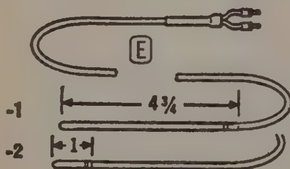

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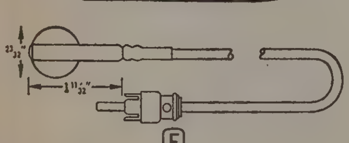

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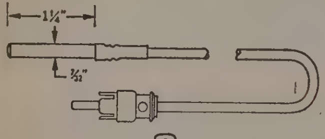

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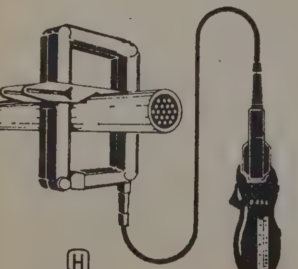

H

AC VOLTMETER RECORDERS

Amprobe Model	Fig.	Range, VAC	Net Each
FAV2X LAV2X	A B	95–130/190–260, expanded scale	$114.85 120.85
FAV3X LAV3X	A B	95–130/190–260/ 380–520, expanded scale	134.85 140.85
FAV8600 LAV8600	A B	0–150/300/600 (1380 ohms/volt)	118.85 124.85

*220 V 50 Hz only.

DC VOLTMETER RECORDERS

Three ranges; 3,333 ohms/volt. **Ranges:** 0–150/300/600 volts DC.

Amprobe Model FDV8600 (Fig. A)—
Net Each....................**$115.85**

Amprobe Model LDV8600 (Fig. B)—
Net Each....................**$121.85**

AC AMMETER RECORDERS

Amprobe Model*	Fig.	Range, Amps AC	Transducer	Net Each
LAA3	B	0–15/60/ 150/300	†	$274.85
FAA81 LAA81	A B	0–10/50/ 250/500	A-70FL	124.85 130.85
FAA82 LAA82	A B	0–5/25/ 100/250	A-60FL	119.85 125.85
FAA1500 LAA1500	A B	0–800/ 1500	A-50FL	164.85 170.85

*5 amp basic recorders also available; write for complete information. †With matched set of 3 transducers.

DC MICROAMMETER RECORDERS

Amprobe Model	Fig.	μADC Range	Resis., Ohms	Net Each
FDC8500 LDC8500	A B	0–500	300	$ 95.85 101.85

DC AMMETER RECORDERS

Write for complete information on 50 mV recorders also available.

DC MILLIAMMETER RECORDERS

Range: 0–1 mADC. **Resistance:** 36 ohms.

Amprobe Model FDB81 (Fig. A)—
Net Each....................**$95.85**

Amprobe Model LDB81 (Fig. B)—
Net Each....................**$101.85**

NEW MULTI-POINT RECORDERS

Uses single meter movement (time-sharing) with stepping relay to record up to 3 variables on one chart. Transducers continuously sense the variables, recorded in a fixed sequence, controlled by the stepping relay. Traces of variables have different dot patterns for easy identification. Use also as single-channel unit, recording just one variable. Paper size, chart speeds and power required are same as listed for other models (see above). **Size:** 7⅜" x 6¾" x 5⅛".

Amprobe Model	Ranges	Net Each
LAA3	0–15/60/150/300 amps AC; records 3 currents. With 3 transducers: 1, 2, 3 dots identify currents.	$274.85
LAV21	0–150/300/600 VAC; 0–15/60/150/300 amps AC; 1 dot or 3 dots indicates V or A on chart; with transducer	239.85
LT8200R	Records 2 temperatures, 1 event (4–300 amps AC, use A45-L for 0–4 A). With 1 current transducer. Temperature range determined by probes used: w/RBT-12, −40° to +60° F; w/RBT-14, −3.5° to +118° F. See Thermometer Probe listing, use two of same model.	229.85

AC VOLT/AMMETER RECORDERS

Amprobe Model	Fig.	Range	Net Each
LAV21♯	B	0–150/300/600 V; 0–15/60/150/300 A	$239.85
FAVA81* LAVA81*	A B	95–130/190–260 V; 0–10/50/250/500 A	169.85 175.85
FAVA82† LAVA82†	A B	95–130/190–260 V; 0–5/25/100/250 A	164.85 170.85
FAVA83* LAVA83*	A B	95–130/190–260/ 380–520 V; 0–10/50/250/500 A	186.85 192.85
FAVA84† LAVA84†	A B	95–130/190–260/ 380–520 V; 0–5/25/100/250 A	181.85 187.85
LAVA87*	B	0–150/300/600 V; 0–10/50/250/500 A	179.85

*Current transducer supplied: A-70FL; †A-60FL; ‡A-75FL (220 V, 50 Hz); §A-65FL (220 V, 50 Hz). ♯With matched transducer.

TEMPERATURE RECORDERS

FT8100 and LT8100 Series supplied with one FL-RBT-1 probe; LT8200R and LT8102 supplied without probe.

FT8100 LT8100	A B	−50° F to +100° F +50° F to +250° F	$136.85 137.85
FT8101 LT8101	A B	−45° C to +40° C, +10° C to +120° C	131.85 137.85
LT8102	B	−40° F to +60° F w/RBT-12 probe −3.5° F to +118° F w/RBT-14 probe	149.85
LT8200R	B	See listing below, left for ranges	229.85

ACCESSORIES

CURRENT TRANSDUCERS

See individual AC Volt/Ammeter Recorders for usage.

Amprobe Model	Fig.	Range, Amps AC	Net Each
A-75FL	C	0–10/50/250/500*	$36.50
A-70FL	C	0–10/50/250/500	36.50
A-65FL	D	0–5/25/100/250*	31.85
A-60FL	D	0–5/25/100/250	31.85

*220 V, 50 Hz.

THERMOMETER PROBES

Ranges: −50° to +100° F, +50° to +250° F. Leads, 12'. Probe, ³⁄₁₆" dia.

Amprobe Model	Fig.	Use with Model	Bulb	Net Each
FL-RBT-1	E-1	F/LT8100,	4¾"	$16.50
FL-RBT-2	E-2	F/LT8101	1"	16.50

Range: −40° to +60° F; leads, 15'.

RBT-12	F	LT8200R	1¹¹⁄₃₂"	$9.95

Range: −3.5° to +118° F; leads, 15'.

RBT-14	G	LT8200R	1¼"	$16.85

VOLTAGE ADAPTER AND ENERGIZER

Amprobe Model ADV-220 Motor Voltage Adapter—Permits recorders w/115 V motors (except time sharing models) to operate on 220 VAC. Net Each...**$8.50**

Amprobe Model AV-750 Voltage Adapter—Permits models LAV21, LAVA87 and LAV8600 to record up to 750 VAC.
Net Each....................**$6.25**

STRIP CHARTS

Complete information prices on request.

MODEL CT-50 AMPTRAN (FIG. H)

Flexible-link, split core transformer (5000 amps AC) can be clamped around bus or cable without shutting down service. Extends current ranges 50 times up to 5000 amps max. continuous duty. Can be adjusted in shape from 3¹⁵⁄₁₆" x 8⅞" rectangle to hexagon measuring 7½" across the flats. Output pick-up coil can accommodate jaws of current transducers. Eight foot cord on pickup coil permits positioning where it will be least affected by magnetic fields. Insulated for 5000 V (7000 V peak). May be used with Amprobe instruments calibrated for 50 or 60 Hz.

Amprobe Model CT-50—With carrying case and centering bars. Net..**$209.85**

AMPROBE TEST INSTRUMENTS AND ACCESSORIES

AMPROBE® ROTARY SCALES (FIG. A)

Extra easy reading, with six scales that rotate at the flick of a finger. Four current ranges, two voltage ranges on long, magnified scales minimize chances of error. One-hand operation. **Accuracy:** ±3% full scale, based on sinusoidal waveform. Self-shielding internal core magnet; insulated probe jaws dovetail; bayonet test leads. Light weight plastic case is ribbed for easy handling; shaped to fit into crowded switch boxes easily. **Size:** 7½″ long. Weight, 14 oz. Carrying case and test leads included. Current ranges, amps AC; voltage ranges, volts AC.

Amprobe Model RS-1—Current ranges, 0–6/15/40/100. Voltage ranges, 0–150/600. Net Each.......................... **$50.85***

Amprobe Model RS-2—Current ranges, 0–6/15/40/100. Voltage ranges, 0–150/300. Net Each.......................... **$50.85***

Amprobe Model RS-3—9 scales. 5 current, 3 voltage and 1 ohm range. Ranges: 0–6/15/40/100/300, current; 0–150/300/600, voltage; 25 ohms mid-scale, ohmmeter. With battery attachment for ohmmeter readings. Net Each.......................... **$65.85***

Amprobe Model RS-3 for 400 Hz—As above, but calibrated for 400 Hz. Ideal for aircraft applications. Net Each...... **$94.85**

Amprobe Model RS-300—Current ranges, 0–6/15/40/100/300. Voltage ranges, 0–150/300/600. Net Each.......... **$61.50***

Amprobe Model RS-1000—Current ranges, 0–15/40/100/300/1000. Voltage ranges, 0–150/300/600. Ohmmeter, 25 ohms mid-scale. Battery attachment for ohmmeter. Net Each.... **$87.85**

Amprobe Model RS-1007—As above, but voltage ranges 0–150/300/750. Net Each.......................... **$87.85**

Amprobe Models RS-1000S and RS-1007S—Same ranges as RS-1000 and RS-1007, with manually set surge indicating capability for measuring motor starting current surges.
Net Each.......................... **$89.85**

*Also available with No. VLK-311R Extendo-Leads and No. A case with space for A-45L Energizer. Extendo-Leads end awkward, three-handed voltage readings and eliminate need for holding instrument while test probes are applied to circuit. To order, add suffix **A** to No. (e.g., RS-1A) and **$5.50** to price shown.

AMPROBE JUNIORS (FIG. B)

"Y" and "YT" models supplied with voltage test leads. "YO," "YT" and "YTO" models with test leads and ohmmeter attachment. "YTB" models with "YT" Model Jr., sturdy case and VLK-355R Extendo leads. Space is provided for A45L Energizer (see Accessories). "TM-YO" Test Master kits include "YO" Model Jr., A45L Energizer, ohmmeter attachment, test leads and sturdy case.

Amprobe Model	Amps	Ranges, AC Volts	Ohms*	Net Each
Y-550	0–50AC	0–150/600	....	**$27.85**
Y-500	0–100AC	0–150/600	....	**27.85**
Y-25	0–25 AC	0–125/250	....	**27.85**
YO-525	0–25	0–150/600	25	**33.50**
YO-550	0–50	0–150/600	25	**33.50**
YO-500	0–100	0–150/600	25	**33.50**
YT-1025	0–10/25	0–150/300	....	**33.50**
YT-25100	0–25/100	0–150/300	....	**33.50**
YT525/100	0–25/100	0–150/600	....	**33.50**
YTO525/100	0–25/100	0–150/600	25	**38.50**
YTB-1025	0–10/25	0–150/300	....	**39.85**
YTB-25100	0–25/100	0–150/300	....	**39.85**
TM-YO-525	0–25	0–150/600	25	**44.85**
TM-YO-550	0–50	0–150/600	25	**44.85**
TM-YO-500	0–100	0–150/600	25	**44.85**

*Mid-scale.

AMPROBE JUNIOR LINE-PROBE (ALP)

Traces up to ten pairs of conductors simultaneously. Measures volts, amperes, resistance, checks continuity. Supplied with case, fused battery attachment, ten station markers, two station holders, voltage leads and grounding leads.

Amprobe Model ALP-501—Current range, 0–100 amps AC. Voltage ranges, 0–150/600 VAC; 1K ohm mid-scale. Net... **$54.85**

VOLTPROBE® VOLTAGE TESTER (FIG. D)

Compact 10-range tester fits in a shirt pocket. Visual readout with series of windows that light to correspond with each voltage level. Frequency range, 25–800 Hz. Sliding probe pushes through body; second probe has coiled cord. AC ranges, 0–115/220/277/440/550 V. DC ranges, 0–115/220/400/600/750 V.

Amprobe Model VT-100—Net Each.................. **$10.45**

Amprobe Model VT-124—Above plus 24/48 VAC. Net. **15.85**

AMPROBE FASTEMP® THERMOMETERS (FIG. E)

Handy, pocket-sized thermometer checks surface, liquid, or gaseous temperatures with universal probe (included). Unit will accommodate up to three probes, each with a 15-ft. lead, for temperature monitoring of locations as much as 30 feet apart; special air and immersion probes also available. Probe selector switch, range switch calibration control, and press-to-read button all conveniently located in front. Press-to-read button can be locked on for continuous readings. Available in four dual-range models: −50° F to +50° F and +40° F to +150° F; −45° C to +10° C and +6° C to +65° C; +10° F to +110° F and +100° F to +250° F; −12° C to +43° C and +38° C to +120° C. Use 4 Eveready 915 batteries. Weight, 10 oz.

Amprobe Model T-150—Range, −50° F to +150° F.... **$49.85**

Amprobe Model T-150C—Range, −45° C to +65° C.... **49.85**

Amprobe Model T-151—Range, +10° F to +250° F.... **49.85**

Amprobe Model T-151C—Range, −12° C to +120° C... **49.85**

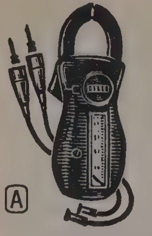
AMPROBE FASTEMP® TMVO

For servicing appliances (ovens, dryers), motors, furnaces (oil, gas), and industrial equipment. Measures: Temp., 70–1200° F (30°–640° C); 0–50/1000 mV; resis., 5 and 50 ohms mid-scale.

Amprobe Model T-152—With thermocouple, test leads, clip adapter and carrying case. Net Each.................. **$64.80**

MULTITESTERS (FIG. F)

Amprobe Model AM-1—Designed for industrial use. Voltage, 0–30/150/300 VAC; 0–3/15/30/300 VDC. Millivolts, 0–60/1200 mV. Current, 0–30/150 mA. Resistance, 0–200/2K/20K/200K ohms on scales of 1, 10, 100 and 1000. Temperature, +70° F to +1200° F (with TC-3, not supplied). Accuracy, ±3% FS DC; ±4% FS AC. Includes voltage test leads, alligator test leads. Net Each.. **$29.95**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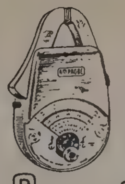
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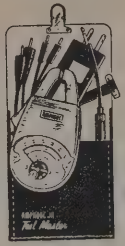
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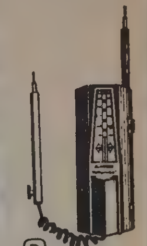
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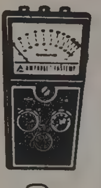
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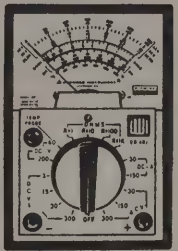
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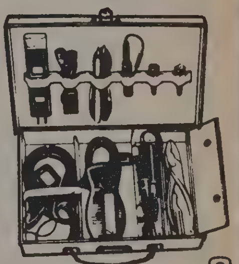
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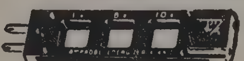
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MULTITESTERS (FIG. F) (Cont.)

Amprobe Model AM-2—For general purpose use. Voltage, 0–2.5/10/50/250/1000 VDC; 0–10/50/250/500/1000 VAC. Resistance, 0–10K/100K/1000K ohms. Current, 0–50 µA DC; 0–25/250 mA DC. Inductance, 0–5000 H; 250 pF–0.2 µF capacitance. Decibels, −20 to +22 and +20 to +36 dB. Accuracy, ±3% FS DC; ±4% FS AC. With test leads. Net Each.............. **$22.25**

Amprobe Model AM-3—Designed for industrial use. Voltage, 0–30/150/300/750 VAC; 0–3/30/150/300 VDC. Resistance, 0–500/5K/50K/5M (midscale readings: 5, 50, 500, 50K). Current, 0–10/15/150 µADC; 0–1.5/150 mADC; 0–5/25/100/250 AAC with A603 current transducer, not supplied; 0–10/50/250/500 AAC with A703 current transducer, not supplied. Millivolts, 0–75/300/750/1500 mVDC. Temperature, +70° F to +1200° F with TC-3 thermocouple, not supplied; −10° F to +250° F with thermometer probe RBT-11, 12, or 13, not supplied. Accuracy, ±3% F.S. DC, ±4% F.S. VAC, ±5% F.S. AAC, ±3% of arc on ohmmeter, ±3% of arc on low temp., ±3% F.S. on high temp. Includes test leads and alligator clips. Net Each....... **$63.50**

Amprobe Model TAM-3—Includes AM-3 multitester, A603 current transducer (50 Hz transducer A653 optional), RBT-12 universal temperature probe, TC-3 thermocouple and deluxe MM4 carrying case. Net Each.......................... **$134.85**

Amprobe Model TC-3—Thermocouple for AM-1. Net.. **$16.50**

Amprobe Model MM—Carrying case. Net Each....... **5.25**

Amprobe Model A603 AC Current Transducer—Ranges 0–10/50/250/500 Amps. Net Each.......................... **$31.85**

Amprobe Model A703 AC Current Transducer—Ranges 0–5/25/100/250 Amps. Net Each.......................... **$36.50**

Amprobe Model RBT-11 Immersion Probe—For Models LT-8200R and LT8102. −40° F to +60° F. Net Each...... **$9.95**

Amprobe Model RBT-12 Universal Probe—For Models LT8200R and LT8102. −40° F to +60° F. Net Each............ **$9.95**

Amprobe Model RBT-13 Air Probe—For Models LT8200R and LT8102. −40° F to +60° F. Net Each................ **$9.95**

AMPROBE TEST MASTER KITS (FIG. G)

Complete with sturdy carrying case with snap-lock, handle, built-in tool compartment and test leads.

Amprobe Model TM-33A—Contains RS-3 snap-around volt-ammeter-ohmmeter with 5 current, 1 resistance, 3 voltage ranges; Deca-Tran to extend current reading 10x up to 1200 amps; Extendo-Leads; Energizer; No. U case. Net Each.... **$118.85**

Amprobe Model TM-43A—Contains RS-3 snap-around volt-ammeter-ohmmeter; Deca-Tran; Extendo-Leads; Energizer; PSA-1 Phase Sequence Adapter; No. U case. Net Each. **$130.85**

Amprobe Model TM-63—Contains RS-3; Extendo-Leads; Energizer; No. A case. Net Each.......................... **$79.85**

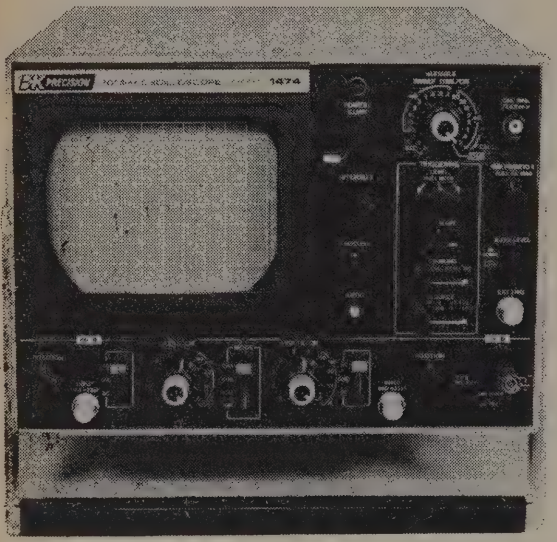
Amprobe Model TM-60—Contains Extendo-Leads; Energizer; No. A case. Net Each.......................... **$20.95**

ACCESSORIES

Model No.	Description	Net Each
PSA-1	**Phase sequence adapter,** permits determining phase sequence of three-phase circuits up to 550 VAC when used with Amprobe or other multimeter having appropriate AC voltage ranges.	**$18.50**
A-45L (Fig. H)	**Energizer,** for direct 5x and 10x sensitivity readings on permanently wired equipment and line voltage readings, in weatherproof pouch with shorting cap and adapter lead.	**8.75**
A-50-1	**Deca-Tran,** extends amperage readings 10x; up to 1200 amps max. With 2-ft. line cord for remote readings. Carrying case included.	**39.85**
CT-50	**Amptran** flexible-link, split-core transformer extends current readings 50x up to 6,000 amps, intermittent duty. Accommodates bus bar or cable. With carrying case.	**209.85**

B+K PRECISION Oscilloscopes

MODEL 1474 DUAL-TRACE TRIGGERED-SWEEP OSCILLOSCOPE



A dual-trace, 30 MHz, triggered-sweep oscilloscope applicable to servicing computers, music synthesizers, digital data equipment, CB, etc. A rise time of 11.7 nsec or less and a built-in signal delay line permit viewing of high-frequency, short-rise-time pulses. The dual-trace function allows measurement of propogation delay, phase shift, distortion, etc. The 5″ CRT permits an 8 x 10 cm screen with a bright, P31 blue phosphor. Frequencies below 10 kHz or above 30 kHz can be attenuated by switchable filters to allow synchronization on complex waveforms without "jitter."

VERTICAL AMPLIFIER (Ch. A and Ch. B):
Deflection Factor: 5 mV/cm to 5 V/cm, ±3% in 10 ranges with fine adjustment on all ranges.
Frequency Response: DC, from DC to 30 MHz; AC, from 10 Hz to 30 MHz; (both at −3 dB).
Rise Time: 11.7 nanoseconds or less.
Overshoot: 3% or less.
Input Impedance: 1 megohm ±2%, 22 pF.
Tilt: 3% or less.

SWEEP SYSTEM (Common to Ch. A and Ch. B):
Type: Automatic and triggered (NORM).
Mode for X-Y Operation: Ch. A = Y; Ch. B = X.
Sweep Time: 0.2 μsec/cm to 0.5 sec/cm, ±3% in 20 calibrated steps in a 1–2–5 sequence with vernier adjustment.
Sweep Magnification: Five times ±5%.
Linearity: 3% or better.

HORIZONTAL AMPLIFIER (Input thru Ch. B vertical Input):
Deflection Factor: 5 mV/cm to 5 V/cm, ±5% in 10 ranges with fine adjustment on all ranges.
Frequency Response: From DC to 1 MHz (at −3 dB).

Operating Modes: Ch A, Ch B, Dual, Add.
Probes: Two PR-36 probes supplied.
Power Required: 117/234 VAC, 50–60 Hz, 25 W.
Size: 14.5″ h. x 9.8″ w. x 17.8″ d.
Weight: 19.6 lbs.

B & K-Precision Model 1474 Oscilloscope—
With Probes—Net Each........................**$960.00**

MODEL PR-36

10:1/DIRECT Low-Capacitance Probe. Designed for oscilloscopes with bandwidth extending beyond 30 MHz. **Input Impedance:** 10:1, 10 megohms/18 pF; 1:1, 1 megohm, 120 pF. **Input Voltage:** 500 Vp-p. With spring-loaded clip-on tip and BNC connector.

B & K-Precision Model PR-36 Probe—Net Each......**$36.50**

MODEL 1472C DUAL-TRACE TRIGGERED-SWEEP OSCILLOSCOPE

A dual-trace, 15 MHz oscilloscope applicable to logic and digital design and troubleshooting. Measure propogation delays and phase shifts. Use A–B mode to compare amplifier input and output waveforms and display algebraic difference as a distortion curve. Features dual display of waveforms, their sum or difference, for fast, easy comparison. Triggered or automatic sweep. TV sync separator circuit for TV-H and TV-V. Vectorscope capability.

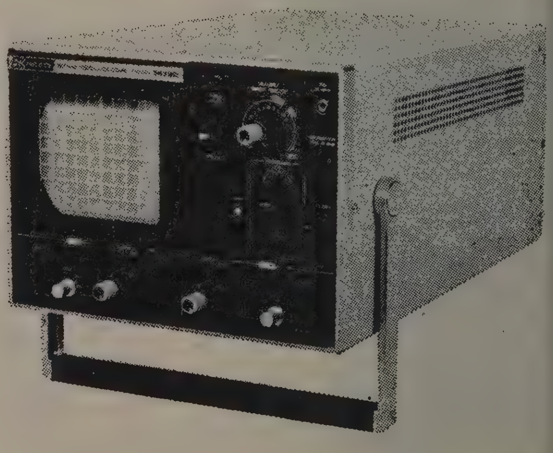
VERTICAL AMPLIFIER (Ch. A and Ch. B):
Deflection Factor: 10 mV/cm to 20 V/cm, ±5% in 11 ranges with fine adjustment on all ranges.
Frequency Response: DC, from DC to 15 MHz; AC, from 2 Hz to 15 MHz; (both at −3 dB).
Risetime: 24 nanoseconds.
Overshoot: 3% or less.
Input Impedance: 1 megohm, 27 pF.
Tilt: 5% or less.

SWEEP SYSTEM (Common to Ch. A and Ch. B):
Type: Automatic or triggered.
Sweep Time: 0.5 μsec/cm to 0.5 sec/cm, ±5% in 19 calibrated steps in a 1–2–5 sequence with vernier adjustment.
Sweep Magnification: 5 times.
Linearity: 3% or less.

HORIZONTAL AMPLIFIER (Input thru Ch. B vertical input):
Deflection Factor: .01 V/cm to 20 V/cm, ±5% in 11 ranges with vernier adjustment.
Frequency Response: From DC to 1 MHz (at −3 dB).

Operating Modes: Ch A, Ch B, Dual, Ch A + Ch B (algebraic sum), Ch A − Ch B (algebraic difference).
Horizontal Sweep Times: 0.5 μsec/cm to 0.5 sec/cm in 19 ranges with vernier adjustment, automatic or triggered.
Sweep Magnification: 5 times.
Internal Calibration: 1.0 V p-p squarewave at 1 kHz.
Probes: Two PR-35 probes supplied.
Power Required: 105–130 VAC, 50–60 Hz, 23 W.
Size: 9.84″ w. x 7.84″ h. x 14.56″ d.
Weight: 19.6 lbs.

B & K-Precision Model 1472C Dual-Trace Oscilloscope—
With Probes—Net Each..............................**$740.00**



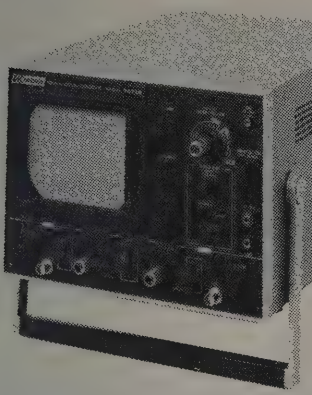
MODEL PR-35

10:1/DIRECT Low-Capacitance Probe. Designed to prevent ringing when used with extended bandwidth oscilloscopes such as the B & K-PRECISION Model 1472. **Input Impedance:** 10:1, 10 megohms/18 pF; 1:1, 1 megohm, 120 pF. Max. **Input Voltage:** 500 Vp-p. With spring loaded clip-on tip and BNC connector.

B & K-Precision Model PR-35 Probe—Net Each......**$31.00**

B+K PRECISION Oscilloscopes

MODEL 1471B DUAL-TRACE TRIGGERED-SWEEP OSCILLOSCOPE



Fully automatic triggered sweep lets you view the entire composite TV signal or any portion thereof, including the VITS and back porch. Special sync separator circuit operates in all sweep ranges, including TV-H and TV-V. DC to 10 MHz bandwidth and 10 millivolt sensitivity display smallest signal levels. DC amplifier permits measurement of AC and DC signal components. Front-panel Vectorscope capability. Mylar vector overlay and tilt stand.

Vertical Sensitivity: 10 mV/cm to 20 V/cm in 11 calibrated steps, each with fine adjustment.

Frequency Response: DC, from DC to 10 MHz; AC, from 2 Hz to 10 MHz (both at 3 dB).

Input Impedance: 1 megohm and 22 pF.

Horizontal Sweep Frequencies: 1µsec/cm to 0.5 sec/cm in 18 calibrated ranges, each with vernier adjustment.

Sweep Magnification: 5 times.

Internal Calibration: 1 V p-p square wave.

Power Required: 105–125 VAC, 50–60 Hz, 20 W.

Size: 9.8″ h. x 7.8″ w. x 16″ d.

Weight: 19.6 lbs.

Probes: Two PR-31 or PR-35 probes required but not supplied.

B & K-Precision Model 1471B Dual Trace Oscilloscope—Less probes (2 required). Net Each. **$520.00**
With Probes—Net Each. **$570.00**

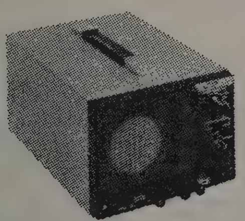
MODEL PR-31

Combination 10:1/DIRECT probe with spring-loaded clip-on tip and BNC connector. **Input Impedance:** 10:1, 10 megohms and 12 pF; DIRECT, 1 megohm and 120 pF.
B & K-Precision Model PR-31 Probe—Net Each. **$25.00**

MODEL PR-35

Combination 10:1/DIRECT probe with spring-loaded clip-on tip and BNC connector. Designed for use with scopes having bandwidth to 15 MHz. **Input Impedance:** 10:1, 10 megohms and 18 pF; DIRECT, 1 megohm and 120 pF.
B & K-Precision Model PR-35 Probe—Net Each. **$30.00**

MODEL 1403A "MINI-SCOPE"



An all solid-state, highly reliable and ruggedly constructed miniscope. Compact size for field use. General-purpose unit is ideal for most scope applications, especially monitoring on production lines.

Vertical Sensitivity: 10 mV/cm, or better.

Response: DC, from DC to 5 MHz; AC, 2 Hz to 5 MHz (both at −3 db).

Input Impedance: 1 megohm and 35 pF.

Sweep: Recurrent.

Time Base Ranges: 10–100 Hz; 100–1 kHz; 1–10 kHz; 10–100 kHz, continuously variable between ranges.

Power Required: 117/234 VAC, 50–60 Hz, 15 W.

Size: 6″ h. x 7½″ w. x 12″ d.

Weight: 8.4 lbs.

B & K-Precision Model 1403A Oscilloscope—With cable and spare fuse. Net Each. **$219.00**
B & K-Precision Model LC14 Case—Protective carrying case for Model 1403A "Mini-Scope." Net Each. **$10.00**

MODEL PR-21

Combination isolation/direct probe. Has switchable 100K resistor to prevent capacitive loading when measuring DC in RF circuits.
B & K-Precision Model PR-21 Probe—Net Each. **$10.00**

MODEL 1461 TRIGGERED-SWEEP OSCILLOSCOPE

Fully automatic triggered sweep lets you view the entire composite TV signal or any portion thereof. Special sync circuit operates in all sweep positions including TV-H and TV-V. 100% solid state. Fully regulated supply voltages hold calibration constant.

Vertical Sensitivity: 10 mV/cm to 20 V/cm in 11 calibrated ranges, each with fine adjustment.

Frequency Response: DC, from DC to 10 MHz; AC, 2 Hz to 10 MHz (both at −3 dB).

Input Impedance: 1 megohm and 22 pF.

Horizontal Sweep Frequencies: 1 µsec/cm to 0.5 sec/cm in 18 calibrated ranges, each with vernier adjustment, triggered or automatic.

Sweep Magnification: 5 times.

Internal Calibration: 1 V p-p squarewave at 1 kHz.

Probe: PR-31 or PR-35 required but not supplied.

Power Required: 117/234 VAC, 50–60 Hz, 20 W.

Size: 7″ h. x 10.25″ w. x 14.5″ d.

Weight: 17.3 lbs.

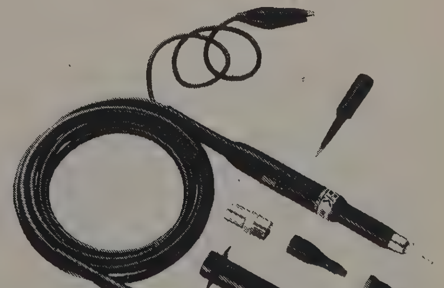
B & K-Precision Model 1461 Oscilloscope—Less probe (1 required). Net Each. **$436.00**
With Probes—Net Each. **$470.00**

MODEL PR-31

Combination 10:1/DIRECT probe with spring-loaded clip-on tip and BNC connector. **Input Impedance:** 10:1, 10 megohms and 12 pF; DIRECT, 1 megohm and 120 pF.
B & K-Precision Model PR-31 Probe—Net Each. **$25.00**

MODEL PR-35

Combination 10:1/DIRECT probe with spring-loaded clip-on tip and BNC connector. Designed for use with scopes having bandwidth to 15 MHz. **Input Impedance:** 10:1, 10 megohms and 18 pF; DIRECT, 1 megohm and 120 pF.
B & K-Precision Model PR-35 Probe—Net Each. **$30.00**



MODEL PR-37

Deluxe 10:1/Direct probe designed for oscilloscopes and frequency counters to 100 MHz. Includes spring-loaded retractable tip cover, insulating tip, BNC tip, IC tip and compensation-capacitor adjusting tool. Has BNC connector.
B & K-Precision Model PR-37 Low Capacity Probe—Net Each. **$40.00**

B+K PRECISION Frequency Counters

MODEL 1850 FREQUENCY COUNTER

Obtain 1 Hz resolution to 60 MHz in normal mode, or to 52 MHz with built-in prescaler. Covers all major land mobile bands, including the new "T" band. Automatic indication of MHz o kHz. Automatic suppression of leading zeroes. Flashing overrange indication. A temperature-compensated crystal oscillator provides stability at ±1 ppm from 0° C to +50° C. Provides period measurement.

Frequency Range: 5 Hz to 60 MHz normal guaranteed, 10 MHz to 520 MHz prescaled guaranteed.

Power Required: 105–130/212–258 VAC (internal jumpers), 50/60 Hz; 11–16 VDC.

Size: 3.25″ x 11.6″ x 7.5″ (handle at rest position).

Weight: 5 lbs.

Auto Gate Time: Normal, 10 msec (MHz reading), 100 msec and 1 sec (kHz reading); prescaled, 10 msec and 100 msec (MHz reading), 10 sec (kHz reading).

Manual Gate Time: Normal, 1 sec (kHz reading, 1 Hz resolution); prescaled, 10 sec (kHz reading, 1 Hz resolution).

Accuracy: ± time base accuracy, ±1 count.

Resolution: 1 Hz.

Period Range: 5 Hz to 1 MHz.

B & K-Precision Model 1850 Frequency Counter—With accessory battery cable. Net Each........................**$450.00**

B & K-Precision Model PR-37 Deluxe 10:1/Direct Probe—Net Each........................**$ 40.00**

MODEL 1820 UNIVERSAL FREQUENCY COUNTER

The Model 1820 features pushbutton control for rapid selection of all modes. For frequency measurements, the Model 1820 reads to a typical 100 MHz and as low as 5 Hz. In the period mode, accurate resolution of a 5 Hz signal is to 1 Hz. The Model 1820 is fully autoranging, with automatic decimal point location and MHz/kHz readout. In the accumulate mode, "event counts" are displayed by totalizing pulses, counted up to 999.999. The reset button restores the count to zero. In the elapsed-time mode, the Model 1820 counts from .01 to 9999.99 seconds plus overrange.

Frequency Range: 5 Hz to 80 MHz guaranteed, 100 MHz typical.

Auto Gate Time: 10 msec (MHz reading; 100 msec and 1 sec (kHz reading).

Manual Gate Time: 1 sec (kHz reading, 1 Hz resolution).

Accuracy: ± time base accuracy ± 1 count.

Period Range: 5 Hz to 1 MHz.

Totalize Range: 5 Hz to 80 MHz, 0 to 999999 plus overflow.

Elapsed Time Range: .01 to 9999.99 seconds, plus overrange.

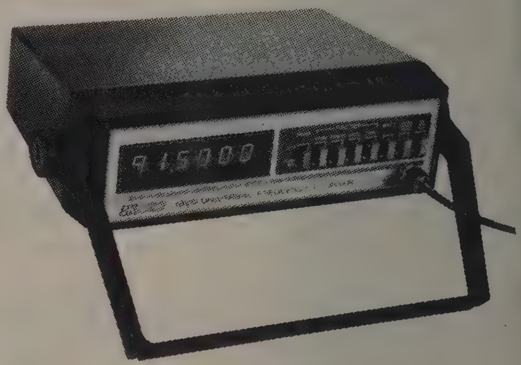
Power Required: 105–130/212–258 VAC (internal jumpers), 50/60 Hz.

Size: 3.25″ x 11.6″ x 7.5″ (handle at rest position).

Weight: 5 lbs.

B & K-Precision Model 1820 Frequency Counter—Net Each........................**$260.00**

B & K-Precision Model PR-37 Deluxe 10:1/Direct Probe—Net Each........................**$ 40.00**



MODEL 1801 AUTORANGING FREQUENCY COUNTER

Obtain 1 Hz resolution with the Model 1801 autoranging counter over a frequency range of 20 Hz to 40 MHz. Six-digit, solid-state readout with discrete, reliable TTL logic. Automatic indication of kHz or MHz. Automatic suppression of least significant digits in AUTO mode. Overrange indication.

Frequency Range: 20 Hz to 40 MHz guaranteed; 10 Hz to over 60 MHz, typical.

Auto Gate Time: 10 msec or 100 msec (MHz reading) or 1 sec (kHz reading) chosen automatically.

Manual Gate Time: 1 sec (kHz reading, 1 Hz resolution).

Accuracy: ± time base accuracy, ±1 count.

Resolution: 1 Hz.

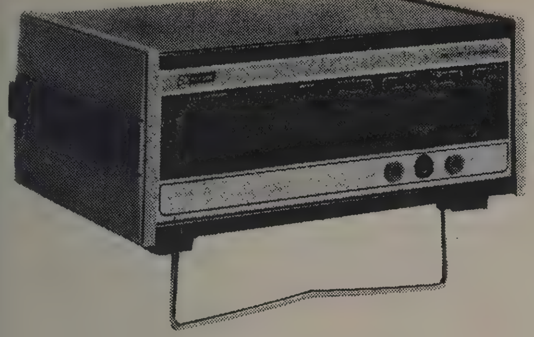
B & K-Precision Model 1801 Frequency Counter—Less probe. Net Each........................**$200.00**

MODEL PR-25

Compensated 10:1 and 1:1 probe. With BNC connector. Net Each........................**$15.00**

B+K PRECISION Digital Multimeters

MODEL 283 HIGH READABILITY DIGITAL MULTIMETER



A digital multimeter at least 6 times as accurate as a high quality analog VOM. High intensity, high reliability, 3½″ digit LED display provides maximum readability. The selectable HI/LO ohms function allows in-circuit resistance measurements without forward-biasing of semiconductor junctions. The AC power supply can be supplemented by an optional battery pack for rechargeable operation. The Model 283 has automatic polarity and 100% overrange capability. DC accuracy .5% and 1mV resolution.

Ranges: DC/AC Volts: 0 to 1, 10, 100, 1000 volts.
DC/AC Current: 0 to 1, 10, 100, 1000 mamps.
Resistance: 0 to 100, 1K, 10K, 100K ohm; 0 to 1 megohm, 10 megohms.

B & K-Precision Model 283 Digital Multimeter—With test leads and instruction manual. Net Each................**$170.00**

B & K-Precision Model BP-83 Rechargeable Battery Pack—Net Each................**$50.00**

B & K-Precision Model ES-28 Ten Ampere Current Shunt—Net Each................**$12.50**

B & K-Precision Model LC-83 Leatherette Carrying Case—Net Each................**$15.00**

B & K-Precision Model PR-21 Isolation/Direct Probe
Net Each................**$10.00**

MODEL 2810 DIGITAL MULTIMETER

A portable digital multimeter with a 3½ digit, 0.3″ LED display. Autozeroing on all but the 10-ohm range minimizes set-up time, while the 100% overranging capability reduces the need for frequent range changes. The 0.01 ohm resolution on the 10-ohm range is ideal for finding a shorted turn in a coil. A front-panel zero control eliminates the minute amount of test lead resistance on the 10-ohm range. The high/low-power ohms switch is operated independently from the range switch, allowing high/low selection on all four ohms ranges. The Model 2810 is protected against overload and RF interference on all ranges.

Ranges: AC/DC Volts: 0 to 0.1, 1, 10, 100, 1000 volts.
AC/DC Current: 1, 10, 100, 1000 mA.
Resistance: 0 to 10, 100, 1K, 10K, 100K, 10M ohms both high and low power.

Typical Accuracy: 0.5%.

Power Required: Four C size batteries—Ni-Cad, alkaline or carbon-zinc—with provision for AC recharging (batteries and recharger not included). **Size:** 6.4″ x 4.4″ x 2″. **Weight:** 2 lbs.

B & K-Precision Model 2810 DMM—Includes test leads. Net Each................**$119.95**

B & K-Precision Model BC-28 AC Adapter/Battery Charger—Net Each................**$ 8.00**

B & K-Precision Model BP-28 Rechargeable Batteries—Net Each................**$20.00**

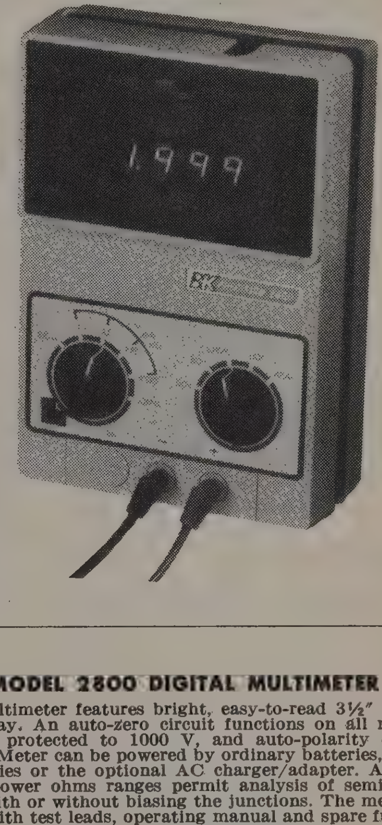
B & K-Precision Model ES-10 10-amp Current Shunt—Net Each................**$12.50**

B & K-Precision Model LC-28 Carrying Case—Net Ea..**$ 6.00**

B & K-Precision Model PR-21 Isolation Probe—
Net Each................**$10.00**

B & K-Precision Model RP-23 RF Demodulator Probe—
Net Each................**$15.00**

B & K-Precision Model PR-28 HV Probe—Net Each..**$24.00**



MODEL 2800 DIGITAL MULTIMETER

Digital multimeter features bright, easy-to-read 3½″ digit, 0.3″ LED display. An auto-zero circuit functions on all ranges, all ranges are protected to 1000 V, and auto-polarity eliminates switching. Meter can be powered by ordinary batteries, rechargeable batteries or the optional AC charger/adapter. Alternating high/low power ohms ranges permit analysis of semiconductor circuitry with or without biasing the junctions. The meter comes complete with test leads, operating manual and spare fuse.

Ranges: AC/DC Volts: 1, 10, 100, 1000 volts.
AC/DC Current: 1, 10, 100, 1000 mA.
Resistance: 100, 1K, 10K, 100K, 10M ohms.

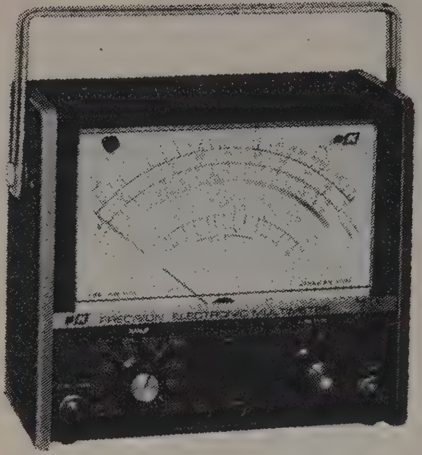
Typical Accuracy: 1%.

Power Required: Four C size batteries (not supplied). **Size:** 6.4″ x 4.4″ x 2″. **Weight:** 2 lbs. The Model 2800 uses the same accessories as the Model 2810.

B & K-Precision Model 2800 DMM—Net Each.......**$99.95**

B+K PRECISION Multimeters

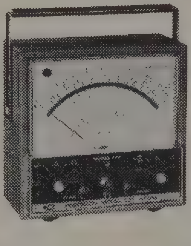
NEW MODEL 290 FET ELECTRONIC MULTIMETER



A check-out of the Model 290's features includes the following: Hi-Lo power ohms ranges; 15 megohms input impedance; 7" meter with 100° scale arc; 50 mV full-scale sensitivity, AC and DC; 50 μA current range; R x 0.1 ohm range with 1 ohm center scale; 75 ranges in all. Provides accuracy on DCV of 1.5% of full scale. Precision multipliers, 0.5%. Provides full protection for meter, FET input and circuits. Has zero center scale for FM alignment. **Power Required:** 105–125 VAC, 50–60 Hz; 3.9 watts. Includes PR-21 probe with 100K ohm isolation resistor. **Size:** 8" w. x 3⅝" d. x 7¼" h. **Weight:** 4¼ lbs.

B & K-Precision Model 290 FET Multimeter—Net Each..**$170.00**

MODEL 177
VACUUM TUBE VOLTMETER



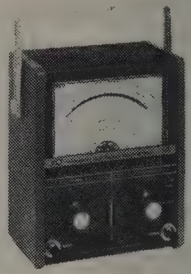
Highly versatile, rugged "old-stand-by" vacuum tube voltmeter features a built-in DC supply for resistance ranges—no ohmmeter battery required. Has 37 ranges, DC/AC/rms volts, resistance. Separate peak-to-peak and rms scales. Special calibration on low AC ranges. Large, 7" mirrored scale offers high accuracy. Input resistance, 11 megohms. High impact Cycolac® DC/AC/Ohms test probe is provided with heavy-duty switch. **Power Required:** 105–125 VAC, 50–60 Hz. **Size:** 7¼" w. x 3⅝" d. x 7⅛" h. **Weight:** 8 lbs. ®Reg. Borg-Warner trademark.

B & K-Precision Model 177 VTVM—Net Each......**$130.00**

B & K-Precision AV-1A RF Probe—Extends frequency range to 250 MHz. **Weight:** 1 lb. Net Each....................**$13.50**

B & K-Precision AV-2A High-Voltage Probe—Extends DCV range to 50,000 volts. **Weight:** 1 lb. Net Each.........**$19.50**

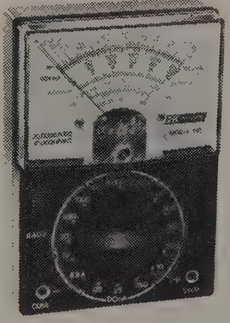
MODEL 277 FET
ELECTRONIC MULTIMETER



Features 7 low-power and 7 high-power ohms ranges—valuable when checking ohms in semiconductor or IC circuits, plus 36 additional ranges for measuring AC and DC volts, DC current and dB. Has 1 μA DC current range for sensitive semiconductor leakage testing. Also has .1 volt AC/DC volts scale for measuring transistor bias. Circuitry is 100% solid state. FET input, current and resistance circuits are protected against overload. Includes PR-21 probe with switchable 100K ohm isolating resistor. **Power Required:** One 1.5 V "D" cell, one 9 V NEDA 1604 cell. **Size:** $5\frac{13}{16}$" w. x 3⅝" d. x 7¼" h. **Weight:** 2 lbs.

B & K-Precision Model 277 Electronic Multimeter—Batteries not included. Net Each..............................**$120.00**

MODEL 110
20,000 OHMS/VOLT VOM



Accurate, rugged and versatile, the Model 110 reads DC volts with 1.5 V low range scale. The 10-ohm mid-scale ohms range allows accurate testing of coil and motor windings, even on high-current motors. Leakage resistances up to one megohm can also be measured. The ohms circuits are fuse-protected. **Power Required:** One AA size battery. **Size:** 5" x 3.5" x 1.5". **Weight:** 0.4 lb. Includes test leads and manual.

B & K-Precision Model 110 VOM—Net Each.........**$24.50**

B & K-Precision Model LC-10 Carrying Case—Net Ea. **6.00**

MODEL 115
30,000 OHMS/VOLT VOM

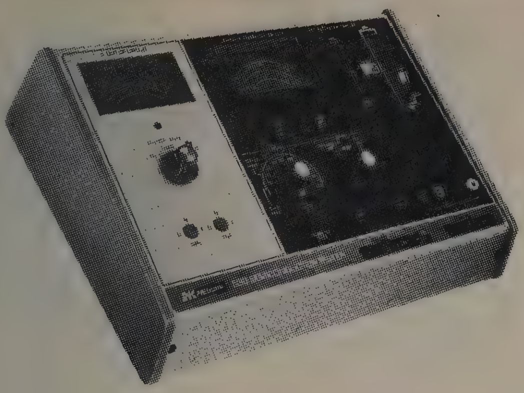
A quality VOM that should not be confused with inexpensive "look-alikes". Features includes a 5-ohm mid-scale range for checking the windings of coils, transformers and motors; and four DC current ranges to allow checks of thermocouples and oil burner controls. DC and AC voltage ranges extend to 1200 volts. Meter scales are uncluttered and simplified. The mirrored scale eliminates paralax errors. **Size:** 6" x 4" x 1.75". Includes test leads and instruction manual.

B & K-Precision Model 115 VOM—Net Each.........**$37.50**

B & K-Precision Model HV-12 HV Probe—Extends DCV range to 12 KV. Net Each......................**$ 8.00**

B+K PRECISION Semiconductor Test Instruments

MODEL 530 SEMICONDUCTOR TESTER



Patented Dynapeak™ circuitry allows in-circuit testing and lead identification of diodes, transistors, FET's and SCR's, even in low impedance circuits. Low duty cycle, high drive currents permit reliable testing of power transistors in circuit. Even the new power VFET's can be tested. Bright LED's identify whether a transistor is good and whether it is an NPN, PNP, or N or P channel FET. An audible tone also signals that the transistor under test is good. In out-of-circuit tests, the Model 530 measures beta from 20 to 600, g_m from 0.4 to 400 millimhos, F_t from 100 MHz to 1500 MHz, BV_{CES} and PIV to 100 volts and I_{CES} and I_{DSS} from 0.5 μA to 5 mA.

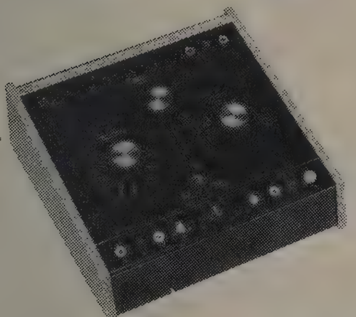
Power Required: 105–125 VAC, 60 Hz, 10 W.

Size: 7″ h. x 13″ w. x 3½″ d.

Weight: 5 lbs.

B & K-Precision Model 530 Semiconductor Tester—Net Each....................................**$295.00**

MODEL 501-A SOLID STATE DEVICE CURVE TRACER



The Model 501-A is to solid-state devices what the mutual conductance tube tester is to vacuum tubes. It's the best way to analyze semiconductors, by displaying their curves on the screen of an auxiliary scope. Measures gain (beta); leakage, breakdown voltage (non-destructive), output admittance, etc. Tests J-FET's MOSFET's, signal and power bipolar transistors, UJT's, diodes, triacs, SCR's, diodes. Electronic current limiting—no IR drops to affect curves. With FP-5 probe for in-circuit testing.

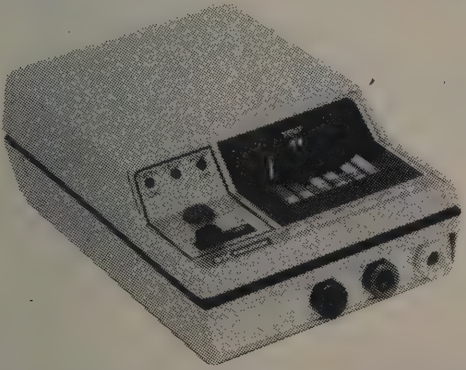
Power Required: 105–125 VAC, 60 Hz.

Size: 10″ w. x 9½″ d. x 4″ h.

Weight: 3 lbs.

B & K-Precision Model 501-A Curve Tracer—With cables, FP-5 probe. Net Each....................................**$182.00**

MODEL 510 PORTABLE TRANSISTOR TESTER



The Model 510 uses high current, low duty cycle testing tcehnique to test semiconductors even with resistive and capacitive shunt impedances. In LO drive, you get positive GOOD/BAD indication, polarity and lead identification. In HI drive, you get GOOD/BAD indication, polarity and base lead identification. Also tests FET's and SCR's.

Power Required: Four "AA" cells give over 100 hours use.

Size: 3¾″ w. x 6⅝″ h. x 1¾″ d.

Weight: 1 lb.

B & K-Precision Model 510 Transistor Tester—With test leads and carrying case. Net Each..............................**$90.00**

MODEL 520B TRANSISTOR TESTER

The Dynapeak™ circuit applies high current, low duty cycle pulses to test semiconductors even when shunted by resistances as low as 10 ohms and capacitances up to 15 μF. The 520B is fast, too. A complete test can take less than nine seconds. With the tester set to LO drive, just connect the test clips in any order to the leads of the device to be tested. Move the test switch thru its six positions until you hear a pulsating audio tone, which indicates a good semiconductor. All three leads are identified automatically. If you do not hear a tone, switch to HI drive and operate the test switch again. Now, a tone indicates a good semiconductor and identifies the base or gate lead. Each transistor testing as good also is identified as NPN or PNP. Leakage current measurements are made on devices out-of-circuit. The device is automatically identified as silicon or germanium and acceptable leakage limits are indicated for each on the meter panel.

IN-CIRCUIT TESTS:
Good/Bad Test: For PNP and NPN transistors, FET's and SCR's. Identifies NPN or PNP.

OUT-OF-CIRCUIT TESTS:
Good/Bad Test: For PNP and NPN transistors, FET's, SCR's, leakage and loss. Identifies NPN or PNP and silicon or germanium transistors. Measures reverse leakage from 0.1 μA to 5 mA.

APPLIED TEST CURRENTS:
Collector: 250 mA at 5% duty cycle.
Base: 125 mA at 5% duty cycle.
Test Repetition Rate: 10 per second.
Leakage Test Reverse Voltage: 2.0 V.

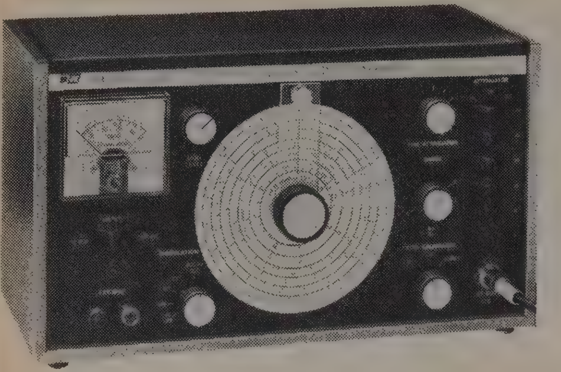
Power Required: 105–125 VAC, 50–60 Hz.
Size: 8″ h. x 7″ w. x 3½″ d.
Weight: 5 lbs.

B & K-Precision Model 520B Transistor Tester—With test leads and instruction manual. Net Each......................**$160.00**

B & K-Precision Model FP-5 "Dynaflex" Probe—Adjustable 3-prong probe for easy one-hand testing. Net Each......**$15.00**

B+K PRECISION Generators and Accessories

MODEL E200D WIDE-RANGE RF GENERATOR



Model E200D offers 100% solid state circuitry, calibrated meter monitors, RF level and % modulation, zener-regulated power supply. Wide-range coverage provides 100 kHz to 54 MHz on fundamentals; 54–216 MHz on harmonics. Outputs: Unmodulated RF; modulated RF; externally modulated RF; 400 Hz audio. Accuracy of better than 0.1% possible with internal crystal calibration. For trap, bandpass coil alignment; FM/AM receiver alignment; stage-by-stage amplifier gain tests; signal tracing. **Power Required:** 110–130 VAC, 50–60 Hz, 6 W. **Size:** 12¾" w. x 8" d. x 7¼" h. **Weight:** 10 lbs.

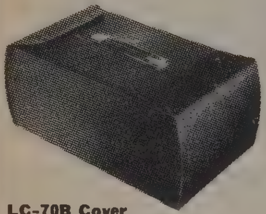
B & K-Precision Model E200D RF Generator—
Net Each.......................................**$250.00**

MODEL E310B SINE/SQUARE WAVE GENERATOR

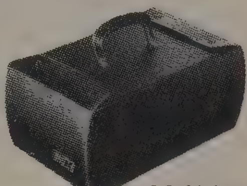
Latest version of the industry standard. For service shops testing hi-fi equipment, for schools, laboratories, industry. Features all solid state circuitry, FET in oscillator, all silicon transistors. Step attenuation of both sine and square wave outputs. Extended ranges, constant-voltage output. Fully shielded. Easy-to-read 5" dial with 12:1 gear ratio drive. **Power Required:** 110–130 VAC, 50–60 Hz. **Size:** 12¾" w. x 8" d. x 7¼" h. **Weight:** 9.5 lbs.

B & K-Precision E310B Sine/Square Wave Generator—
Net Each.......................................**$164.00**

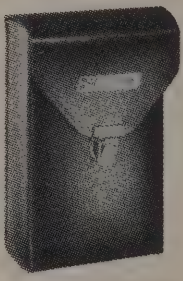
INSTRUMENT CARRYING CASES



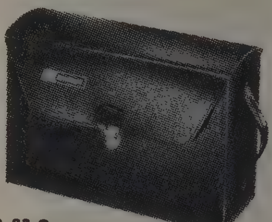
LC-70B Cover



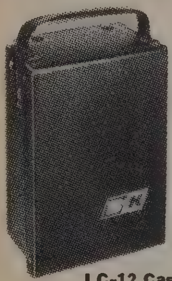
LC-14 Case



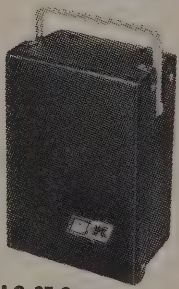
LC-18 Case



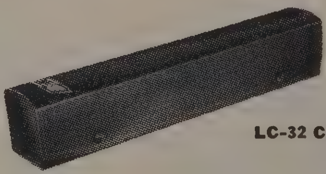
LC-83 Case



LC-12 Case



LC-27 Case



LC-32 Case

LC-28 Case

B & K-Precision Model LC-12—For Model 120P VOM. Net Each.......................................**$ 9.00**

B & K-Precision Model LC-18—For Model 1827 Frequency Counter. Net Each.......................................**$ 7.50**

B & K-Precision Model LC-28—For Model 280 VOM. Net Each.......................................**$ 6.00**

B & K-Precision Model LC-83—For Model 283 VOM. Net Each.......................................**$15.00**

B & K-Precision Model LC-14—For Models 1403 and 1403A Oscilloscopes. Net Each.......................................**$10.00**

B & K-Precision Model LC-18—For Model 1827 Frequency Counter. Net Each.......................................**$ 7.50**

B & K-Precision Model LC-70B—For Models 1460, 1465, 1470, 1471 and 1472 Oscilloscopes. Net Each....**$25.00**

B & K-Precision Model LC-74—For Models 1461, 1471B, 1472C and 1474 Oscilloscopes. Net Each......**$17.00**

B & K-Precision Model LC-27—For Model 277 FET meter. Net Each.......................................**$11.00**

B & K-Precision Model LC-32—For Model AV-2A, PR-28, HV-40 and HV-44 high voltage probes. Net Each............**$12.00**

B+K PRECISION Power Supplies and Counter

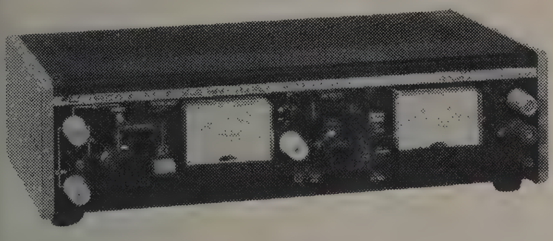
MODEL 1601 REGULATED POWER SUPPLY

Fail-safe overload protection automatically shuts power supply down whenever current exceeds the preset level, and overload ndicator on front panel lights up. STANDBY switch disconnects oad for safe, quick adjustments without disturbing adjustments. Current limit level can be set without shorting output terminals.

Output Voltage: 0 to 50 V at 0 to 2 A; 6.3 or 12.6 VAC. **Regulation:** Load, 0.07% typical; Line, 0.02% typical. **Ripple:** 5 mV p-p. **Power Required:** 105–125 VAC, 50–60 Hz. **Size:** 14.13″ l. x 10″ w. x 3.88″ d. **Weight:** 11 lbs.

B & K-Precision Model 1601 DC Power Supply—
Net Each....................................**$225.00**

MODEL 1602 REGULATED POWER SUPPLY



Output Voltage: 0 to 400 V at 0 to 200 mA; 6.3 or 12.6 VAC; 0 to −100 VDC at 2 mA max. **Regulation:** Load, 0.1%; Line, 0.1%. **Ripple:** 10 mV p-p. **Power Required:** 105–125 VAC, 50–60 Hz. **Size:** 14.13″ l. x 10″ w. x 3.88″ d. **Weight:** 11 lbs.

B & K-Precision Model 1602 DC Power Supply—
Net Each....................................**$250.00**

MODEL 1827 PORTABLE FREQUENCY COUNTER

Small, portable frequency counter provides 100 Hz to 30 MHz guaranteed range, 50 MHz typical. Covers all 40 CB channels. An exclusive battery saver feature electronically shuts off power to the display after 15 seconds of operation. The decimal point remains lit, indicating meter is on. The display button then restores the display for another 15 seconds. Use of an external power supply defeats the battery saver circuit. A complete range of optional accessories provides unequaled versatility. **Power Required:** 6 to 9 V (size AA batteries or external power supply jack). **Battery Life:** Eight hours minimum for normal usage. Sixteen hours required for battery recharge. **Size:** 1.75″ x 3.75″ x 6.6″. **Weight:** 1 lb.

Frequency Range: 100 Hz to 30 MHz guaranteed, 50 MHz typical.

Auto Gate Time: 10 and 100 msec (MHz reading) or 1 sec (kHz reading), chosen automatically.

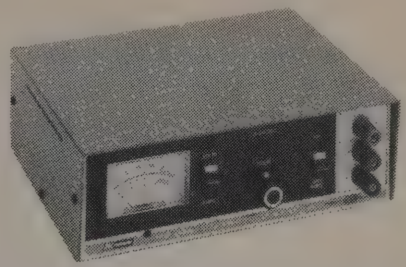
Manual Gate Time: 1 sec (kHz reading, 1 Hz resolution).

Accuracy: ±1 count.

Resolution: 1 ppm of a 6-digit scale.

B & K-Precision Model 1827 Frequency Counter— With input cable. Net Each........................	**$120.00**
B & K-Precision Model LC-18 Carrying Case— Net Each........................	**$ 7.50**
B & K-Precision Model BP-27 Battery Pack— Net Each........................	**$ 17.00**
B & K-Precision Model BC-27 AC Adapter/Charger— Net Each........................	**$ 14.00**
B & K-Precision Model SA-12 Automotive Power Cord— Net Each........................	**$ 12.00**
B & K-Precision Model SA-10 Signal Tap—Connects between the transmitter and the antenna to provide sample signal. Rated 100 watts. Net Each..........	**$ 12.00**
B & K-Precision Model MB-27 Mounting Bracket— Mounts the 1827 under the dash, a shelf or a transceiver. Net Each........................	**$ 4.00**
B & K-Precision Model SA-27 Pick-Up Antenna— Net Each........................	**$ 6.00**

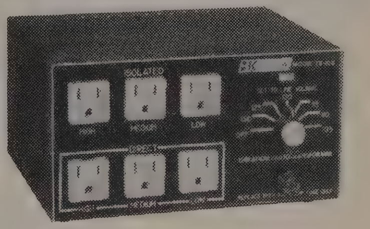
MODEL 1640 REGULATED POWER SUPPLY



The Model 1640 is designed specifically for servicing mobile equipment. The adjustable output allows you to evaluate transceiver performance over the full range of voltages encountered in 12-volt automotive systems. **Output:** 11–15 VDC at 0 to 3 A. Both voltage and current are metered. **Ripple:** Under 10 mV. **Size:** 3.75″ h. x 10.38″ w. x 9″ d. **Weight:** 9 lbs.

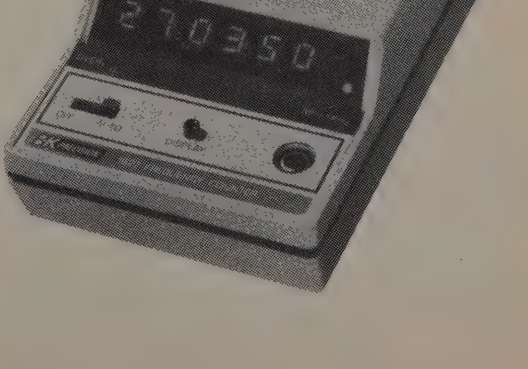
B & K-Precision Model 1640 Power Supply—
Net Each....................................**$100.00**

MODEL TR-100
ISOLATION AND AUTOTRANSFORMER



An isolation and autotransformer designed for use in industry, shops and schools. The three isolated outlets permit safe testing of transformerless equipment, eliminating a potential shock hazard. The TR-100 can also be used to vary the input line voltage applied to an electrical device or instrument under test. This feature is ideal for quality control testing by providing low, medium and high line voltages. The TR-100 will provide 400 VA continuous, 450 VA intermittent, on the isolated outlets; the direct outlets will provide 500/750 VA. Primary to secondary leakage current is less than 0.1 mA and meets ANSI specification C101.1, 1971, for leakage. CSA approved. **Size:** 4.5″ x 8.25″ x 7″. **Weight:** 12 lbs.

B & K-Precision Model TR-100 Autotransformer—
Net Each....................................**$55.00**



CONTINENTAL SPECIALTIES CORPORATION

CSC

Logic Probes and Counter

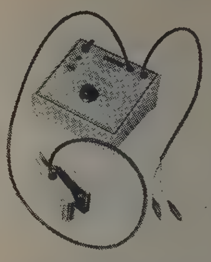
DIGITAL IC TESTERS

LOGIC MONITOR 1

Trace signals through all types of digital circuits. Unit clips over any DIP IC up to 16 pins. Each of its 16 contacts connects to a single-bit level detector that drives a high-intensity, numbered LED readout activated when the applied voltage exceeds a fixed 2 V threhold. Logic "1" turns LED on; logic "0" keeps LED off. A power-seeking gate network automatically locates supply leads and feeds them to the LM-1's internal circuitry. Saves minutes, even hours in design, troubleshooting, debugging of equipment. **Voltage Threshold:** 2 V ± 0.2 V. **Input Impedance:** 100,000 ohms. **Input Voltage Range:** 4-15 V max. across any two or more inputs. **Current Drain:** 200 mA at 10 V. **Size:** 4" l. x 2" w. x 1.75" d. when open. **Weight:** 3 ozs.

CSC Model LM-1 Logic Monitor—Complete.
List Price.. **$74.95**

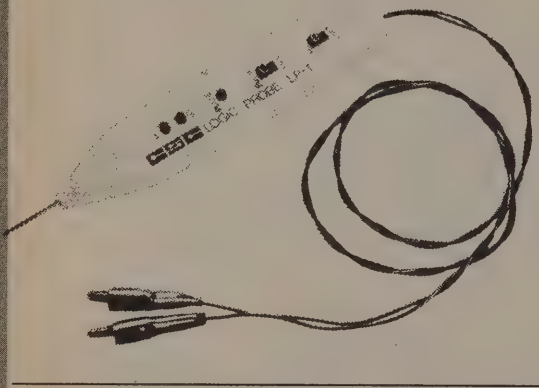
LOGIC MONITOR 2



Provides greater versatility and precision in testing all types digital circuits. The fully isolated power supply and selectab trigger threshold let you match the precise characteristics of t logic family under test, permitting more accurate measuremen The connector/display unit clips over any DIP IC up to 16 pir The power supply module contains the precision reference pow supply and logic family selector switch. Operation is simple. S the threshold switch to the proper logic family. Connect black cl lead to circuit ground. For CMOS circuitry, the red clip is co nected to circuit positive or Vcc. The clip module is then clipp over the IC and the LED display instantly gives the logic stat of all pins. **Logic Thresholds:** CMOS, 70% of circuit Vcc; HT 7.5 V; TTL, 2.4 V; DTL, 1.6 V; RTL, 1.2 V. **Maximum Visib Input Frequency:** 30 KHz at 50% duty cycle. **Size:** Test Cli 4" l. x 2" w. x 1.75" d. when open; Power Module, 6" w. x 5.63" x 3" h. max. **Total Weight:** 20 ozs. **Power Required:** 117 VA 50/60 Hz, 10 W; also available for 220 VAC, 50/60 Hz at slight higher price.

CSC Model LM-2 Logic Monitor—Complete.
List Price.. **$129.9**

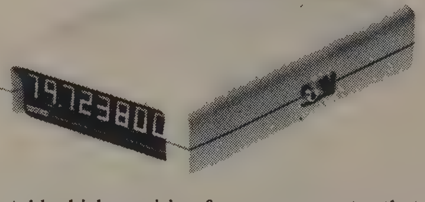
LOGIC PROBE LP-1



A compact, versatile design and test tool for digital applicatio By simply connecting the clip leads to the circuit power suppl setting the logic family switch to the proper position (TTL/DT or CMOS) and touching the probe tip to the IC pin in question, t LP-1 will give an instant picture of circuit conditions. Two lev detector LED's (HI for logic "1" and LO for logic "0") and blinking PULSE detector LED display the signal activity. On shot, low-repetition-rate, narrow pulses are stretched to second. A PULSE/MEMORY switch allows one shot even positive or negative transitions to be stored indefinitely. Hi frequency signals cause the PULSE LED to blink on and off at 3 Hz rate. When the high frequency signals are unsymmetric there is an additional indication. Duty cycles less than 30 activate the LO LED; duty cycles above 70% activate the H LED. **Input Impedance:** 100,000 ohms. **Threshold:** DTL/TT 2.25 V ± 0.15 V equals "Logic 1", 0.80 V ± 0.01 V equals "Log 0"; HTL/CMOS, 70% of Vcc equals "Logic 1", 30% of V equals "Logic 0". **Minimum Detectable Pulse Width:** 50 nan seconds. **Input Frequency:** Up to 10 MHz. **Input Overload Pr tection:** ± 50 V continuous; 117 VAC for less than 15 second **Size:** 5.8" l. x 1.0" w. x 0.7" d. **Weight:** 3 ozs. **Power Require** 30 mA at 5 VDC; 40 mA at 15 VDC; 36 V max. with polari reversal protection.

CSC Model LP-1 Logic Probe—Complete. List Price... **$44.9**

MAX 100



MAX-100 is a portable, high-precision frequency counter that sets new standards in performance and value. In a compact, portable case, it gives you *continuous readings* from 20Hz to a *guaranteed 100 MHz*, with 8-digit accuracy. Fast readings with 1/6-sec. update and 1-sec. sampling rate. Precise readings, derived from a crystal-controlled time base with 3 ppm accuracy. High-sensitivity readings from signals as low as 30 mV, with diode overload protection up to 200V peaks.

Input signals over 100 MHz automatically flash the most significant digit. And to indicate low-battery condition and extend remaining battery life, the *entire* display flashes at 1 Hz.

Price **$134.95**

SPECIFICATIONS

Range: 20 Hz to 100 MHz, guaranteed. **Gatetime:** 1 s **Resolution:** 1Hz. **Accuracy:** ± 1 count + time base err **Input Impedance:** 1 MΩ/56pF. **Coupling:** AC. **Sine W Sensitivity:** 30mVRMS @ 50 MHz. **Internal Time B Frequency:** 3.579545 MHz χ tal osc. **Setability:** ± 3 ppm 25°C. **Temp-Stability:** Better than 0.2 ppm/°C, 0-50 **Max. Aging:** 10 ppm/year. **Display:** Eight .6" LED digi **Lead-zero blanking:** decimal point appears between 6th a 7th digit when input exceeds 1 MHz. **Overflow:** with sign over 99,999,999 Hz, most significant (left hand) digit flash allowing readings in excess of 100 MHz. **Display upda** 1/6-second plus 1 sec. gate time. **Low Battery Indicat** When power supply falls below 6.6 VDC, all digits flash 1 Hz. **Power:** 6 AA cells (internal); **External:** 110 or 220 V Eliminator/charger; Auto cigarette lighter adapter; 7.2-10V ext. supply; **Bat. Charging:** 12-14hr. **Size (HWD):** 1.75" 5.63" x 7.75" (4.45 x 14.30 x 19.69cm.) **Weight:** less th 1.5 lb. (0.68 kg) w/batteries.

MAX-100 ACCESSORIES

Model 100-CLA	Mobile Charger/Eliminator	**$ 3**
Model 100-CA1	110V AC Charger/Eliminator	**$ 9**
Model 100-CA2	220V AC Charger/Eliminator	**$ 9**
Model 100-IPC	Input Cable with Clip Leads	**$ 5**
Model 100-LLC	Low-loss Tap-Off	**$14**
Model 100-MWA	Mini-Whip Antenna	**$ 3**
Model 100-CC	Carrying Case	**$ 9**

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Prototype Test Instruments

DESIGN-MATE™ PROTOTYPE AND TEST EQUIPMENT

he Design-Mate series combines performance accurate enough r the laboratory with the ruggedness required for day-in, day-out peration in development, production and educational applica- ons, at prices everyone can afford.

ESIGN-MATE 1 BREADBOARD/CIRCUIT DESIGNER

verything needed for fast, easy, solderless circuit design in one ackage. QT speed and versatility for circuit design and modifi- ation as fast as you can push in or pull out a lead, using one T-59S breadboarding socket and two QT-59B bus strips mounted n the top panel. Also built-in is an adjustable, precision regulated, -15 VDC, 600 mA, short-circuit-proof, fused power supply with ss than 20 mV noise and ripple at rated output of 9 watts maxi- um. A built-in 0-15 VDC meter lets you monitor voltages in ircuit or supply. Power supply and meter connections are easily ade via top-panel-mounted 5-way binding posts. Top panel also cludes on-off and voltage control potentiometer and LED power dicator. **Size:** 7.5″ w. x 6.5″ d. x 3.25″ h. max. **Weight:** 3 lbs. **ower Required:** 117 VAC, 50/60 Hz, 12 watts; also available for 20 VAC 50/60 Hz at slightly higher price.

SC Model DM-1 Circuit Designer/Breadboard—Complete.
ist Price..**$69.95**

DESIGN-MATE 2 FUNCTION GENERATOR

dvanced IC circuitry produces stable, low-distortion sine waves less than 2% THD), fast-rise-and-fall-time square waves (less han 0.5 microsecond across 600 ohms), and high-linearity triangle waves (better than 1% over full range). Frequency is accurate and epeatable to 5% of dial setting in 5 ranges: 1-10 Hz, 10-100 Hz, 00 Hz-1KHz, 1-10 KHz, 10-100 KHz. Shortproof output is djustable, 100 mV-10V p-p for all waveforms into open circuit. Panel includes toggle power switch, LED power indicator, function elector switch, frequency selector dial, amplitude control and wo 5-way binding posts. **Size:** 7.5″ w. x 6.5″ d. x 3.25″ h. max. **Weight:** 2 lbs. **Power Required:** 117 VAC, 50/60 Hz; also available or 220 VAC, 50/60 Hz at slightly higher price.

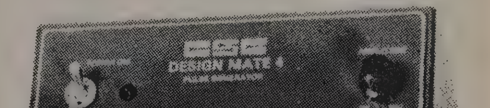
CSC Model DM-2 Function Generator—Complete.
List Price..**$74.95**

DESIGN-MATE 3 R/C BRIDGE

An indispensible tool for professionals and hobbyists alike. Makes precision measurements in seconds with positive LED indication. Readings are accurate within 5% of the dial setting on any range. Simple 2-control operation: set range switch, then turn Null Adjust dial until both LED's are lit. **Ranges:** Resistance, 10-100 ohms, 100-1K, 1K-10K, 10K-100K, 100K-1 meg; 1 meg-10 meg; Capacitance, 10-100 pF, 100-1000 pF, .001-.01 μF, .01-.1 μF, .1-1.0 μF. Panel includes toggle power switch, LED indicator, range selector switch, Null Adjust dial, twin LED null indicators and two 5-way binding posts. **Size:** 7.5″ w. x 6.5″ d. x 3.25″ h. max. **Weight:** 2 lbs. **Power Required:** 117 VAC, 50/60 Hz; also available for 220 VAC, 50/60 Hz at slightly higher price.

CSC Model DM-3 R/C Bridge—Complete. List Price....**$74.95**

DESIGN-MATE 4 PULSE GENERATOR

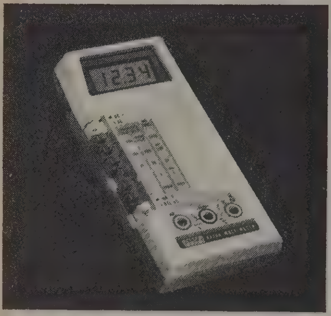


Pulse generator has the precision, flexibility and versatility of a laboratory instrument but is priced low enough for every engineer, technician, student and hobbyist working with digital circuitry. The unique combination of performance and price makes it ideal for a wide variety of applications in research and development, quality control, production testing, maintenance and trouble-shooting throughout the electronics industry as well as in medical, educational, communications and other allied fields. May be used as a clock source, delayed pulse generator, synchronous clock source, manual system stepper, pulse stretcher, burst generator, in tandem with one or more DM-4's used to gate the output of one or more additional DM-4's. **Frequency Range:** 0.5 Hz to 5 MHz. **Pulse Width and Pulse Spacing:** 100 nanoseconds to 1 second in 7 overlapping ranges with vernier control on all ranges. **Duty Cycle:** 10^7-to-1 range adjustable over entire pulse width/pulse spacing range; e.g. from 100 nanoseconds "ON" and 1 second "OFF" to 100 nanoseconds "OFF" to 1 second "ON". **Operating Modes:** Run, 0.5 Hz to 5 MHz as per width/spacing control settings; Trigger, DC to approx. 10 MHz; Gating, synchronous gating (leading edge of gate turns generator "ON"; One-Shot, manual pushbutton for single pulse. **Outputs:** Variable, 0.1-10 V positive pulse, less than 30 nanosec. rise/fall time, 400 ohms max.; TTL Output, 40 TTL loads, sinks 160 mA, less than 20 nanosec, rise/fall time; Sync Output, 10 TTL loads sink 160 mA, 40 nanosecs. wide, leads other outputs by approx. 20 nanosec. **Size:** 7.5″ w. x 6.5″ d. x 3.25″ h. max. **Weight:** 2 lbs.

CSC Model DM-4 Pulse Generator—Complete.
List Price..**$129.95**

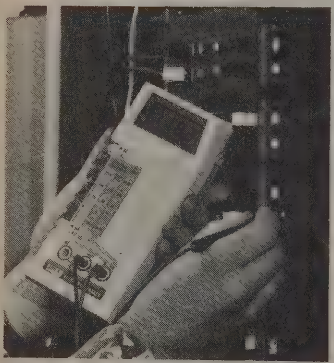
FLUKE

DIGITAL MULTIMETERS



8020A

8020A



8020A

Call toll-free 800-426-0361, John Fluke Mfg. Co., Inc.,
P.O. Box 43210, Mountlake Terrace, WA 98043.
In Washington, call (206) 774-2481.

8020A

- 26 Ranges—5 Functions plus New Conductance Function for up to 10,000 MΩ Leakage Measurements
- Extensive Overload and Transient Protection
- Rugged Construction—1 Year Warranty
- Hi/Lo Power Ohms for In-circuit Resistance and Diode Testing
- 10 MΩ AC/DC Input Impedance Doesn't Load Circuit
- 200 Hour, 9V-Battery Life—Low Battery Indicator
- Large LCD Readout—2000 Counts
- 1 Year Calibration Cycle—Only 3 Adjustments
- One Hand Operation
- Complete with Battery and Test Leads

The new Fluke 8020A continues the standard of excellence set by the highly successful 8000A multimeter family. Many features set the 8020A apart as a truly exceptional instrument. Twenty-four ranges and 5 functions include measuring capability up to 1000V dc, 750V ac, 2A ac/dc and 20 MΩ. HI/LO ohms are included for in-circuit resistance and diode test capability. In addition, a new Conductance function allows resistance and leakage measurements up to 10,000 MΩ, a must for circuit board work and component checking.

The 8020A has been designed with the user in mind and features exclusive one-hand operation. For harsh service environments, the 8020A has a ruggedized case and extensive overload/transient protection backed up by a 1-year warranty. Long term stability (1-year calibration cycle) is excellent with only three cal adjustments. Up to 200 hours of continuous operation can be expected from a single 9V alkaline battery.

BASIC SPECIFICATIONS

	DC Volts	AC Volts	DC Current	AC Current	Ohms	Conductance[5]
Range	0.2-1000V	0.2-750V	0.002-2A	0.002-2A	200Ω-20 MΩ	200 nS, 2 mS
Resolution	100 μV	100 μV	1 μA	1 μA	0.1Ω	0.1 nS
Accuracy[1]	(0.25 + 1)	(0.75 + 2)[2]	(0.75 + 1)	(1.5 + 2)[3]	(0.2 + 1)[4]	(0.3 + 1)[6]

[1] Accuracy for 1 year, ±(% Input + No. of digits), 18°C to 28°C

[2] Except 750V range, (1.0+2)

[3] Except 0.002A range, (2.0+2)

[4] Except 200Ω range, (0.3+3); 20MΩ range, (2.0+1)

[5] Conductance is the inverse of ohms (1/Ω) and is expressed in Siemens (S), formerly the mho. A decrease in conductance units is the same as an increase in resistance. Use of the conductance function allows very high equivalent resistance measurements, e.g., a 2 nS reading on the 200 nS range equals 500 MΩ.

[6] Except 200 nS range, (2.0+10)

GENERAL

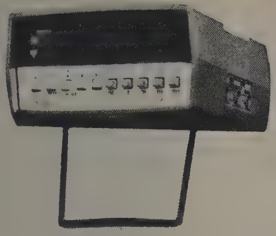
Number of Digits:	3½ (2000 count), autozero, autopolarity
Operating Temperature:	0°C to 50°C
Temperature Coefficient:	0°C to 18°C, 28°C to 50°C; less than 0.1 times the applicable accuracy spec per °C
Input Impedance:	10 MΩ, all voltage ranges
Overload Protection:	Protected up to 1000V dc/750V rms on respective voltage ranges, to 2A on current shunts, to 300V dc/rms for both resistance and conductance.
Calibration Cycle:	1 Year
Power Requirements:	9V battery, transistor type, NEDA 1604; 200 hours life typical with alkaline; indicator shows when battery has 10% of life remaining.

SEE LAST FLUKE PAGE FOR PRICES

DIGITAL MULTIMETERS

8030A

- Measures AC/DC Volts, Current and Resistance
- True RMS on all AC Functions
- Diode Test
- In-Circuit Resistance Measurement
- Overload Protection on all Functions
- Functional Self Check



8030A

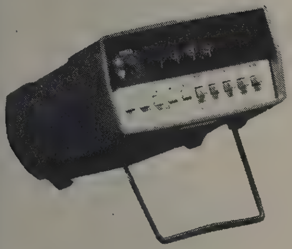
Model 8030A is a 3½ digit, six-function hand-held multimeter with features that qualify it as an excellent field service and troubleshooting instrument. Measurement functions include ac volts, dc volts, ac current, dc current, resistance and diode test. Each function, with the exception of diode test, has five selectable ranges for a total of 26 ranges (one range for diode test).

True RMS conversion techniques offer high accuracy for noise and other distorted waveforms. AC coupling rejects dc bias during ac voltage measurements. DC coupling is used on the ac current ranges to provide the ac and dc capability necessary for measuring power supply and SCR regulator currents.

In-circuit resistance measurements can be made using the normal resistance ranges. Parallel semi-conductor junctions are ignored by impressing less than 200 mV across the unknown resistance.

The diode test function allows measurement of diode and transistor forward voltage drops. A 1 mA bias current is forced through the junction, and the resultant voltage drop is displayed in millivolts.

Durability in the field is assured by extensive input overload protection, rugged, shock-resistant mechanical design, and the use of disposable alkaline batteries. A battery eliminator is also provided for ac line operation. Optional power configurations include rechargeable nickel-cadmium batteries and choice of 100V ac, 115V ac, or 230V ac battery eliminator/chargers.



8030A

SPECIFICATIONS

	DC Volts	AC Volts	DC Current	AC Current	Ohms	Diode Test
Range	0.2-1100V	0.2-750V	200µA-2A	200µA-2A	200Ω-2000kΩ	0-2000 mV[4]
Resolution	100 µV	100 µV	100 nA	100 nA	0.1Ω	—
Accuracy[1]	(0.1 + 1)	(0.5 + 2)[2]	(0.35 + 1)	(1 + 2)[3]	(0.4 + 1)	(0.2 + 1)

[1] Accuracy for 1 year, 18°C to 28°C, ±(% Reading + No. of digits)
[2] From 5% of range to full range, 45 Hz to 1 kHz
[3] From 5% of range to full range, 45 Hz to 5 kHz, 200 mA and below
[4] At nominal 1 mA test current

Ordering Information

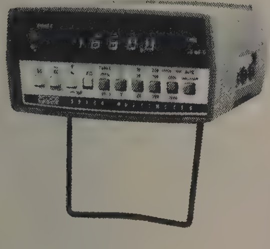
8030A	DMM with disposable batteries, battery eliminator and test leads
8030A-01	DMM with rechargeable batteries, battery charger/eliminator and test leads
8030A-03	DMM with disposable batteries and test leads

8040A

- Five Functions, 26 Ranges
- 0.05% Basic DC Accuracy
- True RMS on all AC Measurements
- Selectable Manual or Auto Ranging
- 10 MΩ Input Impedance
- 1100V Overload Protection

The 8040A is a portable 4½ digit, five-function digital multimeter featuring the capabilities of more sophisticated bench instruments while retaining the size of a handheld VOM. Measurement functions include ac volts, dc volts, ac current, dc current and resistance. A total of 26 ranges is provided, five each for ac and dc volts, five each for ac and dc current, and six for resistance measurements. To ensure optimum accuracy when measuring other than pure sinusodial inputs, all ac measurements are made using True RMS conversion techniques. Ranging is switch selectable as well as automatic as a convenience feature to guarantee optimum resolution.

Model 8040A is the smallest autoranging digital multimeter in its class, with rugged mechanical design and overload protection features similar to those found in the 8030A. The 8040A uses disposable alkaline batteries and includes a battery eliminator for ac line operation. Optional power configurations include rechargeable nickel-cadmium batteries and choice of 100V ac, 115V ac or 230V ac battery eliminator chargers.



8040A

SPECIFICATIONS

	DC Volts	AC Volts	DC Current	AC Current	Ohms
Range	0.2-1100V	0.2-750V	200 µA-2A	200 µA-2A	200-20MΩ
Resolution	10 µV	10 µV	10 nA	10 nA	0.01Ω
Accuracy[1]	(0.05 + 2)	(0.5 + 10)[2]	(0.3 + 3)	(1 + 10)[3]	(0.2 + 3)

[1] Accuracy for 6 months, 18°C to 28°C, ±(% Reading + No. of digits)
[2] From 5% of range to full range, 45 Hz to 10 kHz
[3] From 5% of range to full range, 45 Hz to 20 kHz

Ordering Information

8040A	DMM with disposable batteries, battery eliminator and test leads
8040A-01	DMM with rechargeable batteries, battery charger/eliminator and test leads
8040A-03	DMM with disposable batteries and test leads

all toll-free 800-426-0361, John Fluke Mfg. Co., Inc.,
.O. Box 43210, Mountlake Terrace, WA 98043.
n Washington, call (206) 774-2481.

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FLUKE

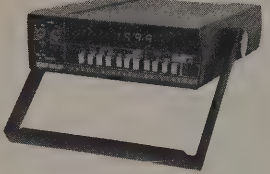
DIGITAL MULTIMETERS

Ron [illegible]

8000A

221-0043

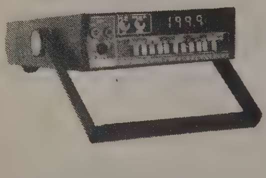
The versatile 8000A Digital Multimeter offers a wide range of measurement capability through its excellent specifications and complete selection of options and accessories. Special versions of the 8000A, now available as standard units, expand the applications served by this outstanding DMM.



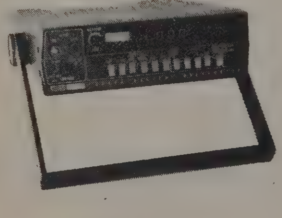
8000A

8000A-05

8000A-06



8000A/MAS



8000A/MTR

SPECIFICATIONS

	DC Volts	AC Volts	DC Current	AC Current	Ohms
Range	0.2-1200 V	0.2-1200 V	200 μA-2 A	200 μA-2 A	200 Ω-20 MΩ
Resolution	100 μV	100 μV	100 nA	100 nA	0.1 Ω
Accuracy[1]	(0.1+1)	(0.5 +2)	(0.3+1)	(1+2)	(0.2+1)

[1] Accuracy for 1 year, ±(% Input + No. of Digits), 15°C to 35°C

OPTIONS

RECHARGEABLE BATTERY PACK—
8000A-01

The rechargeable battery pack is entirely self-contained within the 8000A package. It is supplied with standard "D" sized nickel-cadmium batteries which provide, under normal conditions, 1000 discharge-charge cycles of operation. The battery pack will provide a minimum of eight hours operation, with recharge requiring less than 14 hours. Recharging is automatic whenever unit is plugged in and does not affect normal bench operation.

DATA OUTPUT—
8000A-02

The data output option provides parallel, buffered BCD data of the digital readout, polarity and overload. It is suitable for driving a digital printer or providing input to systems. The non-isolated buffered output will sink up to 10 mA of current and has a 15 kΩ pull-up resistor.

HIGH CURRENT—
8000A-05

The Fluke 8000A-05 Digital Multimeter offers extended current measurement capabilities to 20 amps with the -05, line, and -015, battery, options.

All of the specifications for the basic 8000A apply to the 8000A-05, -015 plus the following current specifications:

Range (DC)	10.00 A (1 min. operation 10 A to 20 A)
Accuracy (DC)	10 A Range ±(0.5% of reading + 1 digit)
Range (AC)	10.00 A (1 min. operation 10 A to 20 A)
Accuracy (AC)	10 A Range 45 Hz to 3 kHz ±(1% of reading + 2 digits)

LO OHMS—
8000A-06

The Model 8000A-06 features 0.001Ω resolution and 2 ohm and 20 ohm resistance ranges. The instrument includes a front panel lead resistance cancellation control assuring the user that his measurement of the unknown R does not include the resistance in his test leads. All basic 8000A specs apply plus the following:

Range	1.999 Ω, 19.99 Ω
Accuracy	1.999 Ω range ±(1% of rdg +2 dig)
(1 yr, 15°C-35°C)	19.99 Ω range ±(0.5% of rdg +2 dig)

MILLIAMP-SECONDS—
8000A/MAS

The 8000A/mAS (or Mass Meter) calibrates x-ray tubes by directly measuring current, as a function of time. Addition of mA-sec function has extended overall measurement capability to 31 ranges of ac/dc volts and current, resistance and mAS.

Ranges	2000, 200, 20, 2 mA sec and 200 μA sec.
Accuracy	±(1% of input + 1 digit)

ANALOG METER—
8000A/MTR

The Fluke Model 8000A/MTR is similar to the Model 8000A but also includes an analog panel meter and rechargeable batteries.

This instrument provides 26 ranges including five ranges each of ac and dc voltage, five ranges each of ac and dc current and six ranges of resistance. The analog panel meter included in the unit is invaluable for peaking or dipping measurements. The panel meter also serves to monitor battery level.

HIGH VOLTAGE—
8000A/HV

The Model 8000A/HV Digital Multimeter is similar to the popular Fluke 8000A with the addition of transient voltage protection on all ac/dc voltage ranges. The instrument will withstand transient voltages up to 6000 volts, 10 microseconds in duration, with a maximum duty cycle of 60 transients per second.

Call toll-free 800-426-0361, John Fluke Mfg. Co., Inc.,
P.O. Box 43210, Mountlake Terrace, WA 98043.
In Washington, call (206) 774-2481.

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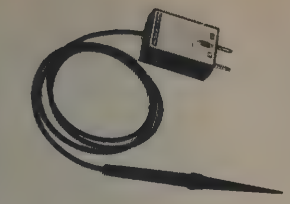
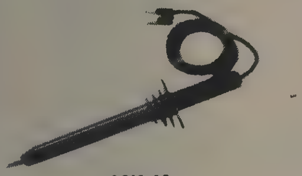
VOLTMETER ACCESSORIES



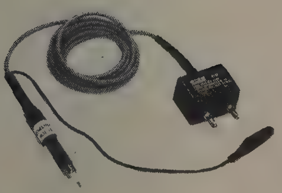
80T-150



80K-40

80I-600

81RF



82RF

80T-150 Temperature Probe

- Converts DC Voltmeters and Stripchart Recorders to Thermometers
- Wide Temperature Range, −50°C to +150°C or −58°F to +302°F
- Reads Out Directly in Degrees (1 mV DC/°)
- 350V Standoff Allows Measurements in Live Electrical Circuits
- Fast Responding/Low Thermal Mass

The 80T-150 converts dc voltage measuring instruments into direct reading thermometers. It is ideal for a wide range of design, trouble-shooting and evaluation applications and is compatible with surface, ambient and liquid uses. Surface measurements are particularly applicable since no surface preparation is required as with thermocouples. For liquid measurements, recommended applications range from water, lubricants and fuels to most solvents. Liquids with levels as shallow as ½″ can be measured since the temperature sensor is in the probe tip.

For the electronics designer, both device temperatures and local ambients can be quickly monitored to confirm difficult thermal calculations. The troubleshooter will find the probe's direct temperature output a convenient way to attach "hard numbers" to those service problems which show up as overheated components and hot spots. The probe's 350V dc standoff ability makes it much safer than the time honored "hot finger test." A host of non-electronic applications range from air conditioning servicing to lubricant preparation. Send for Application Bulletin AB-28.

SPECIFICATIONS

Range (field selectable by internal jumpers):	−50°C to +150°C or −58°F to +302°F
Accuracy (including nominal 0.25% dc measuring instrument error):*	
+15°C to +35°C (ambient)	±1°C (1.8°F) 0°C to 100°C, decreasing linearly to ±3°C (5.4°F) at −50°C and +150°C
0°C to +15°C and +35°C to +50°C ambient:	Add 1°C (1.8°C) to above
Sensitivity (80T-150 output):	1mV dc/°C or 1mV dc/°F
DC Measuring Instrument Capability	
Input Resistance:	Rated accuracy is achieved with a ≥ 1MΩ input R instrument although operation down to 100K is possible with additional error.
Instrument Type:	With probe output in millivolts/degree, a DMM provides the most convenient readout. For example, a 3½ digit DMM with a ±150 mV range will resolve any centigrade reading to 0.1° (e.g., 150.0 mV = 150.0°C). A FET voltmeter with adequate sensitivity and a dc polarity switch can also be used. Also, strip chart recorders provide a convenient way of looking at temperature trends.
Voltage Standoff:	350V dc or peak ac.
Settling Time:	5.5 seconds to settle within 2° for a 50° change
Output Termination:	Standard ¾″ spaced double banana plug
Power:	Internal disposable battery; 1,000 hours continuous use.

*Additional voltmeter error adds directly to overall measurement uncertainty.

80K-40 General Purpose High Voltage Probe

The 80K-40 is a handheld probe for general purpose HV measurements up to 40 kV. Accuracy and stability of the 1000:1 division ratio is ensured by special metal film resistors having matched temperature coefficients. This unique probe offers an unusually high input impedance to minimize loading of the circuit under test.

(80 K-40) Voltage Range	1 kV to 40 kV.
Input Resistance	1000 MΩ
Division Ratio	1000:1
Overall Accuracy	20 kV to 30 kV ±2% (Calibrated 1% at 25 kV).
Upper Limit	Changes Linearly from 2% at 30 kV to 4% at 40 kV.

80I-600 AC Clamp-on Current Transformer

The 80I-600 is designed to extend the ac current measuring capabilities of DMM's up to 600 amperes by use of a 1000:1 division ratio. A clamp-on transformer design allows measurements to be made without breaking the circuit under test.

Because of the 80I-600's high efficiency and quadrature type of winding, wire size and location of the conductor within the transformer jaws do not affect accuracy of the current measurement.

Range	2A-600A.
Frequency Response	30 Hz - 1 kHz
Accuracy	±3%
Division Ratio	1000:1.

81RF, 82RF RF Probes

	82RF	81RF
Frequency Response	100 kHz to 100 MHz; ±1 dB	100 kHz to 200 MHz: ±1 dB 200 MHz to 500 MHz; ±3 dB
Extended Response (Useful for relative readings)	20 kHz to 250 MHz	200 kHz to 700 MHz
Voltage Range	0.25 V to 30 V RMS 350 VDC Max.	.25 V to 30 V RMS 200 VDC Max.

Physical Accessories

Carrying Cases, Dust Covers, Rack Mounting Hardware, Test Leads are included in the complete line of physical accessories available to protect or enhance the convenience of your Fluke instrument. Ask for the "Digital Voltmeter Accessories" data sheet.

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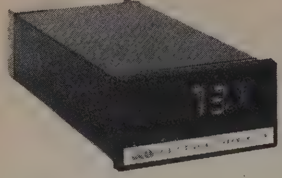
FLUKE

DIGITAL THERMOMETERS



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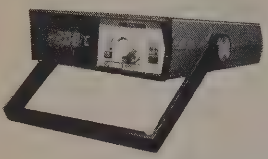

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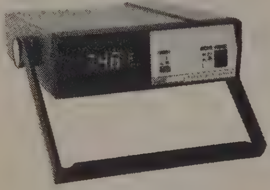


2175A

2162A DIGITAL COMPARATOR

2162A

2161A MULTIPOINT SELECTOR

2161A

Call toll-free 800-426-0361, John Fluke Mfg. Co., Inc.,
P.O. Box 43210, Mountlake Terrace, WA 98043.
In Washington, call (206) 774-2481.

2160A/2170A SERIES

The 2160A and 2170A series Digital Thermometers complement a broad temperatur measurement capability that offers unique performance and features to the use Temperature resolution of 1 degree and 0.2 degree is available in either panel moun or portable bench models. The compact panel mounted versions conform to DI Standards and are designed for use in industrial enviroments. Advanced Fluke LS technology means low parts count, low power consumption and high reliability Temperature scale selection (°F or °C) is easily accomplished through front pane access to a jumper plug on panel mount units and with a front panel switch on th bench models. A further convenience is the ability to calibrate panel mount instruments in place without removal from the panel.

Fluke specifies accuracy in a unique manner. The Total Instrument Accuracy approach gives the accuracy in real terms, °F and °C, and takes operating time an ambient temperature into account. Total Instrument Accuracy gives the user a clea picture of operating accuracy instead of the usual calibration accuracy.

Superior conformity to NBS curves is achieved with 48 straight line segments whic have been computer optimized for best possible fit for each thermocouple type. Al models feature a high intensity LED display. Open thermocouple indication is provided by a blinking display on all models.

OEM purchase agreements are available on Fluke's line of 2160A/2170A line o thermometers.

2160A/2170A DIGITAL THERMOMETER FOR SINGLE-TYPE OF THERMOCOUPLE

The 2160A and 2170A are panel mounted four-digit 1°F/C or 0.2°F/C, respectively, thermocouple thermometers capable of resolving over the temperature span of any of eight thermocouple types.

2165A/2175A DIGITAL THERMOMETER FOR SINGLE-TYPE OF THERMOCOUPLE

The 2165A and 2175A are portable single-point instruments housed in rugged bench mount cases. They can be equipped with rechargeable batteries for complete portability.

2166A/2176A DIGITAL THERMOMETERS FOR TEN THERMOCOUPLES OF THE SAME TYPE

The 2166A and 2176A are bench typ instruments with the capability of monitoring up to ten thermocouples of the same type. Thermocouple channel selection is by means of the 10-position fron panel rotary switch. Power is either line voltage or external 12 volts DC.

2168A DIGITAL THERMOMETER FOR EIGHT TYPES OF THERMOCOUPLES

The 2168A is a portable, single-point instrument capable of accepting any one o eight thermocouple types as an input.

SPECIFICATIONS

	2160A SERIES	2170A SERIES
Type of Temperature Sensor	Thermocouple	Thermocouple
Temperature Range (Dependent on Thermocouple Type)	−328° to 3999°F −200° to 2328°C	−99.8° to 999.8°F −99.8° to 999.8°C
Resolution and Repeatability	1°F or C	0.2°F or C
Thermocouple Types	J, K, T, E, R, S, B, C	J, K, T, E

OPTIONS

2161A—Panel mounted, multipoint switch unit for use with 2160A and 2170A. Provides rotary switch selection of ten additional thermocouple inputs of the same type. An eleventh switch position permits cascading 2161A units.

2162A—Panel mounted digital comparator compatible with 2160A and 2170A. Six thumbwheel switches provide single high or low limit or on/off control. Relay output provides for external control. Units may be cascaded for a dual limit.

01—Rechargeable battery pack for use in 2165A and 2175A. Mounts inside instrument to provide continuous 8-hour operation.

02—Field installable option, integral to 2160A and 2170A, provides a BCD, character parallel isolated output of displayed temperature.

04—Field installable option, integral to 2160A and 2170A, provides an isolated analog output voltage proportional to displayed temperature. The -02 and -04 options are mutually exclusive.

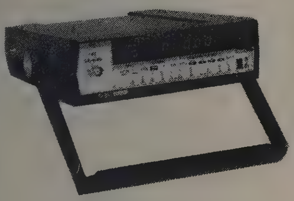
ACCESSORIES

Field conversion using of thermocouple type is readily achieved by the appropriate conversion kit. Thermocouple probes are available in the common J, K, and T types. Carrying cases, dust covers and rack mounting hardware are also available to protect and enhance the convenience of your Fluke instrument. Ask for the 2160A/ 2170A Data Sheet.

SEE LAST FLUKE PAGE FOR PRICES

FLUKE

MULTIFUNCTION COUNTER



1900A

1900A

Fluke's versatile 1900A multifunction counter provides frequency, period, period averaging, and totalize measurements over a wide range of applications. In frequency mode, the 1900A verifies the accuracy of signal sources such as generators, oscillators and transmitters. Period mode provides the time duration of a single input cycle, which allows high resolution of low frequency measurements. In period average mode, the counter averages cycle time over 10, 100 or 1000 cycles for still finer resolution. Totalize mode is similar to frequency mode except that the signal gate is left open permanently, a feature useful for totalizing the cycles in a single RF burst or counting electromechanical relay contact bounce.

SPECIFICATIONS

INPUT CHARACTERISTICS

Sensitivity:
25 mV, typically 15 mV rms sine wave, 5 Hz to 80 MHz.

Impedance:
1 MΩ shunted by less than 30 pF.

OPERATING RANGES

Frequency:
5 Hz to 80 MHz. Four manually selected gate times provide resolution of 100 Hz to 0.1 Hz in decade steps.

Period:
5 Hz to 1 MHz single and multiple period averages provide resolution of 100 ns to 100 ps.

Totalize:
1 count to 999999 counts.

TIMEBASE CHARACTERISTICS

Aging Rate:
$<\pm 5 \times 10^{-7}$ per month.

Temperature:
$<\pm 5 \times 10^{-6}$, 0°C to 50°C.
$<\pm 2 \times 10^{-6}$ (typical), 20°C to 30°C.

GENERAL

Display:
6-digit LED, leading zero suppression, annunciation and overflow.

AUTORANGING: In both frequency and period modes, autoranging includes a unique 20% hysteresis in its switching thresholds, to eliminate redundant up range/down range commands. This allows measurements to be made on signals containing large amounts of FM and PM.

AUTORESET: A new measurement sequence is started every time a front panel button is activated.

OPTIONS

1900A-01—Rechargeable Battery.
1900A-02 Data Output.

ACCESSORIES

A53 Whip Antenna.
C80 Carrying Case, Soft Vinyl.
C86 Carrying Case, Molded Plastic.

l toll-free 800-426-0361, John Fluke Mfg. Co., Inc.,
). Box 43210, Mountlake Terrace, WA 98043.
Washington, call (206) 774-2481.

PRICE LIST

UNTER

0A	Multifunction Counter	$345
-01	Rechargeable Battery	50
-02	Digital Output	70
	Antenna, Telescopic	20

ERMOMETERS

0A	Digital Thermometer	$299
-02	Digital Output	110
-04	Analog Output	150
5A	Digital Thermometer	375
-01	Rechargeable Battery	50
-02	Digital Output	110
-04	Analog Output	150
6A	Digital Thermometer	475
-02	Digital Output	110
-04	Analog Output	150
8A	Digital Thermometer	550
02	Digital Output	110
04	Analog Output	150
0A	Digital Thermometer	375
02	Digital Output	110
04	Analog Output	150
5A	Digital Thermometer	475
01	Rechargeable Battery	50
02	Digital Output	110
04	Analog Output	150

2176A	Digital Thermometer	$575
-02	Digital Output	110
-04	Analog Output	150
2161A	Multipoint Selector	135
2162A	Digital Comparator	235

DIGITAL MULTIMETERS

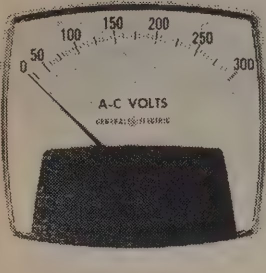
8000A	Digital Multimeter	$325
-01	Rechargeable Battery	50
-02	Digital Output	100
8000A-05	DMM w/10A Range	349
8000A-015	DMM w/10A Range and Rechargeable Battery	399
8000A-06	DMM w/Lo Ohms	375
8000A-016	DMM w/Lo Ohms and Rechargeable Battery	425
8000A-025	DMM w/Digital Output and 10A Range	449
8000A/MAS	DMM w/5 Ranges MAS	550
8000A/MTR	DMM w/Analog Meter	375
8000A/MTR-01	DMM w/Analog Meter and Rechargeable Battery	425
8000A/HV	DMM w/HV Transient Protection	349
8000A/HV-01	DMM w/HV Transient Protection and Rechargeable Battery	399
8020A	Digital Multimeter	$169
8030A	DMM w/Disposable Battery and Battery Eliminator	250
8030A-01	DMM w/Rechargeable Battery and Battery Charger/Eliminator	275
8030A-03	DMM w/Disposable Batteries	235
8040A	DMM w/Disposable Battery and Battery Eliminator	440
8040A-01	DMM w/Rechargeable Battery and Battery Charger/Eliminator	465
8040A-03	DMM w/Disposable Batteries	425

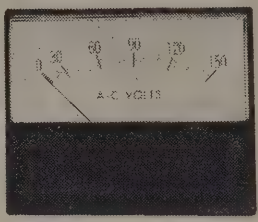
VOLTMETER ACCESSORIES

A81-115	Battery Charger/ Eliminator 115V	$15
80I-600	AC Clamp-on Transformer	70
80K-40	High Voltage Probe	50
80T-150C	Temperature Probe, °C	125
80T-150F	Temperature Probe, °F	125
81RF	RF Probe	40
82RF	RF Probe	75

GENERAL ELECTRIC Panel Meters

SERIES 250 AND 251 AC PANEL METERS


250 BIG LOOK®


251 HORIZON LINE®

Handsome, easy-to-read meters in two styles for all panel a control applications. All meters meet ANSI specifications C-39. **Accuracy:** AC iron vane type, ±2% FS; AC rectifier type, ±3 FS; expanded scale voltmeters, ±0.5% of mid-span. **Overloa** AC voltmeters, 20% momentary and sustained; AC ammete (momentary), 10 times the rated current for 10 consecuti intervals of ½ sec with one minute interval between successi applications; AC ammeters (sustained), 20% for 8 hours. **Sca Data:** 90° rotation. **Insulation Level:** 2600 V rms hi-pot. **Burd Data:** AC ammeters, 5 amps, 0.5 VA, 0.5 power factor laggin AC voltmeters, unity power factor. **Response Time:** 2.5 secon max. **Damping:** 40% max. overshoot with 2.5 minimum dam ing factor.

	250 BIG LOOK®	251 HORIZON LINE
Size	Scale Length	Scale Length
1½″	1.32″	1.50″
2½″	2.06″	2.06″
3½″	2.88″	2.88″
4½″	3.93″	3.93″

AC VOLTMETERS—SELF-CONTAINED, IRON VANE TYPE, PIVOT AND JEWEL

			250 BIG LOOK Net Each, Lots of 1-9			251 HORIZON LINE Net Each, Lots of 1-9		
Scale Volts	Term. Resis., Ohms	§ Add Suffix	2½-inch GE No. 50-250244§	3½-inch GE No. 50-250344§	4½-inch GE No. 50-250444§	2½-inch GE No. 50-251244§	3½-inch GE No. 50-251344§	4½-inch GE No. 50-251444§
3	11.1	LJLJ	$23.70	$24.70	$27.90	$23.70	$24.70	$27.90
5	29	LSLS	23.70	24.70	27.90	23.70	24.70	27.90
10	110	MTMT	23.70	24.70	27.90	23.70	24.70	27.90
15	251	NDND	23.70	24.70	27.90	23.70	24.70	27.90
30	779	NLNL	23.70	24.70	27.90	23.70	24.70	27.90
50	2500	NTNT	24.70	25.80	28.80	24.70	25.80	28.80
150	15000	PZPZ	25.80	28.00	30.90	25.80	28.00	30.90
300	70260	RXRX	30.10	30.10	32.90	28.90	30.10	32.90
500	117260	SFSF	....	37.60	40.10	....	37.60	40.10
600	140000	SJSJ	....	37.60	40.10	....	37.60	40.10

AC MICROAMMETERS AND MILLIAMMETERS—RECTIFIER TYPE, TAUT BAND, ±3% ACCURACY

			250 BIG LOOK Net Each, Lots of 1-9				251 HORIZON LINE Net Each, Lots of 1-9			
Scale	Term. Resis., Ohms	§ Add Suffix	1½-inch GE No. 50-250110§	2½-inch GE No. 50-250210§	3½-inch GE No. 50-250310§	4½-inch GE No. 50-250410§	1½-inch GE No. 50-251110§	2½-inch GE No. 50-251210§	3½-inch GE No. 50-251310§	4½-inch GE No. 5 251410
500 μA	850	EMEM	$33.80	$33.80	$35.10	$37.80	$33.80	$33.80	$35.10	$37.8
800 μA	620	EWEW	33.80	33.80	35.10	37.80	33.80	33.80	35.10	37.8
1 mA	555	FAFA	33.80	33.80	35.10	37.80	33.80	33.80	35.10	37.8
1.5 mA	344	FDFD	33.80	33.80	35.10	37.80	33.80	33.80	35.10	37.8
2 mA	294	FGFG	33.80	33.80	35.10	37.80	33.80	33.80	35.10	37.8
3 mA	212	FNFN	33.80	33.80	35.10	37.80	33.80	33.80	35.10	37.8
5 mA	148	FXFX	33.80	33.80	35.10	37.80	33.80	33.80	35.10	37.8
10 mA	91	GZGZ	33.80	33.80	35.10	37.80	33.80	33.80	35.10	37.8
20 mA	63	HFHF	33.80	33.80	35.10	37.80	33.80	33.80	35.10	37.8

AC MILLIAMMETERS—SELF-CONTAINED, PIVOT AND JEWEL, 25-400 Hz

			250 BIG LOOK Net Each, Lots of 1-9			251 HORIZON LINE Net Each, Lots of 1-9		
Scale mA	Term. Resis., Ohms	§ Add Suffix	2½-inch GE No. 50-250240§	3½-inch GE No. 50-250340§	4½-inch GE No. 50-250440§	2½-inch GE No. 50-251240§	3½-inch GE No. 50-251340§	4½-inch GE No. 50-251440§
10	2158	GZGZ	$24.70	$25.80	$28.80	$24.70	$25.80	$28.80
25	341	HJHJ	24.70	....	28.80	24.70	....	28.80
50	84	HYHY	24.70	....	28.80	24.70	....	28.80
100	21	JRJR	24.70	25.80	28.80	24.70	25.80	28.80
200	4.1	KAKA	24.70	25.80	28.80	24.70	25.80	28.80
500	0.7	KMKM	24.70	25.80	28.80	24.70	25.80	28.80

AC AMMETERS—SELF-CONTAINED, PIVOT AND JEWEL, 25-400 Hz

			250 BIG LOOK Net Each, Lots of 1-9			251 HORIZON LINE Net Each, Lots of 1-9		
Scale Amps	Term. Resis., Ohms	§ Add Suffix	2½-inch GE No. 50-250240§	3½-inch GE No. 50-250340§	4½-inch GE No. 50-250440§	2½-inch GE No. 50-251240§	3½-inch GE No. 50-251340§	4½-inch GE No. 50-251440§
1	0.16	LALA	$24.70	$25.80	$28.80	$24.70	$25.80	$28.80
3	0.015	LJLJ	24.70	25.80	28.80	24.70	25.80	28.80
5	0.007	LSLS	24.70	25.80	28.80	24.70	28.80	28.80
8	0.003	MJMJ	24.70	25.80	28.80	24.70	25.80	28.80
10	0.0024	MTMT	24.70	25.80	28.80	24.70	25.80	28.80
15	0.0016	NDND	24.70	25.80	28.80	24.70	25.80	28.80
20	0.001	NGNG†	25.80	28.00	30.90	25.80	28.00	30.90
30	0.0006	NLNL†	25.80	28.00	30.90	25.80	28.00	30.90
50♯	0.0004	NTNT†	....	30.10	32.90	....	30.10	32.90
80♯	0.0004	PDPD†	....	34.30	37.20	....	34.30	37.20

†With external magnetic shield on meter base. §**When ordering show complete number**; example: **50-250244 LJLJ** for 250 BIG LOO 2½″ AC voltmeter, pivot and jewel iron vane type. ♯Without sealed terminal studs.

Contact us for availability of additional ratings.

SERIES 250 AND 251 AC PANEL METERS (CONT'D)

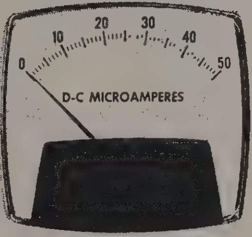
AC AMMETERS—TRANSFORMER-RATED, 0-5 AMPS, 25-400 Hz, PIVOT AND JEWEL

Scale Amps	Term. Resis., Ohms	§ Add Suffix	250 BIG LOOK® Net Each, Lots of 1-9			251 HORIZON LINE® Net Each, Lots of 1-9		
			2½-inch GE No. 50-250240§	3½-inch GE No. 50-250340§	4½-inch GE No. 50-250440§	2½-inch GE No. 50-251240§	3½-inch GE No. 50-251340§	4½-inch GE No. 50-251440§
10	0.007	LSMT	$24.70	$25.80	$28.80	$24.70	$25.80	$28.80
15	0.007	LSND	24.70	25.80	28.80	24.70	25.80	28.80
20	0.007	LSNG	24.70	25.80	28.80	24.70	25.80	28.80
30	0.007	LSNL	24.70	25.80	28.80	24.70	25.80	28.80
40	0.007	LSNP	24.70	25.80	28.80	24.70	25.80	28.80
50	0.007	LSNT	24.70	25.80	28.80	24.70	25.80	28.80
75	0.007	LSPB	24.70	25.80	28.80	24.70	25.80	28.80
80	0.007	LSPD	24.70	25.80	28.80	24.70	25.80	28.80
100	0.007	LSPK	24.70	25.80	28.80	24.70	25.80	28.80
150	0.007	LSPZ	24.70	25.80	28.80	24.70	25.80	28.80
200	0.007	LSRL	24.70	25.80	28.80	24.70	25.80	28.80
300	0.007	LSRX	24.70	25.80	28.80	24.70	25.80	28.80
400	0.007	LSSC	24.70	25.80	28.80	24.70	25.80	28.80
500	0.007	LSSF	24.70	25.80	28.80	24.70	25.80	28.80
600	0.007	LSSJ	24.70	25.80	28.80	24.70	25.80	28.80
800	0.007	LSSN	24.70	25.80	28.80	24.70	25.80	28.80
1.0 kA	0.007	LSVA	24.70	25.80	28.80	24.70	25.80	28.80
1.2 kA	0.007	LSVB	24.70	25.80	28.80	24.70	25.80	28.80
1.5 kA	0.007	LSVC	24.70	25.80	28.80	24.70	25.80	28.80
2.0 kA	0.007	LSVE	24.70	25.80	28.80	24.70	25.80	28.80
3.0 kA	0.007	LSVJ	24.70	25.80	28.80	24.70	25.80	28.80

SERIES 254 AND 255 DC PANEL METERS—PIVOT AND JEWEL

vot and jewel DC panel meters available in two different styles. l meters meet ANSI Specifications C-39.1. **Accuracy:** ±2% of l scale. **Overload:** DC voltmeters, 20% momentary and sus- ned; DC ammeters (momentary), 10 times the rated current 10 consecutive intervals of ½ second with one minute interval tween successive applications; DC ammeters (sustained), 20% 8 hours. **Scale Data:** 90° rotation. **Insulation Level:** 2600 V rms pot. **Response Time:** 3 seconds maximum for microammeters; seconds maximum for all other DC ratings. **Damping:** 40% ximum overshoot with minimum factor of 2.5.

Size	254 BIG LOOK Scale Length	255 HORIZON LINE Scale Length
2½″	2.06″	2.06″
3½″	2.88″	2.88″
4½″	3.93″	3.93″



254 BIG LOOK®

0
.2
.4
.6
.8
1
D-C MILLIAMPERES

255 HORIZON LINE®

DC VOLTMETERS—ZERO-LEFT

Scale Volts	Term. Resis., Ohms	§ Add Suffix	254 BIG LOOK Net Each, Lots of 1-9			255 HORIZON LINE Net Each, Lots of 1-9		
			2½-inch GE No. 50-254220§	3½-inch GE No. 50-254320§	4½-inch GE No. 50-254420§	2½-inch GE No. 50-255220§	3½-inch GE No. 50-255320§	4½-inch GE No. 50-255420§
1	1000 Ohms per Volt	LALA	$27.10	$29.40	$30.20	$27.10	$29.40	$30.20
3		LJLJ	27.10	29.40	30.20	27.10	29.40	30.20
10		MTMT	27.10	29.40	30.20	27.10	29.40	30.20
30		NLNL	27.10	29.40	30.20	27.10	29.40	30.20
50		NTNT	27.10	29.40	30.20	27.10	29.40	30.20
100		PKPK	27.10	29.40	32.40	27.10	29.40	32.40
150		PZPZ	27.10	29.40	32.40	27.10	29.40	32.40
300		RXRX	29.40	30.60	33.40	29.40	30.60	33.40

DC VOLTMETERS—ZERO-LEFT, RATED 0-1 mADC, USE WITH EXTERNAL RESISTORS

Scale Volts	Term. Resis., Ohms	§ Add Suffix	254 BIG LOOK Net Each, Lots of 1-9			255 HORIZON LINE Net Each, Lots of 1-9		
			2½-inch GE No. 50-254204§	3½-inch GE No. 50-254304§	4½-inch GE No. 50-254404§	2½-inch GE No. 50-255204§	3½-inch GE No. 50-255304§	4½-inch GE No. 50-255404§
500	125	FAFS	$26.00	....	....	$26.00	....	....
600	125	FASJ	26.00	....	....	26.00	....	....
750	125	FASM	26.00	$27.10	$29.10	26.00	$27.10	$29.10

DC MICROAMMETERS—ZERO-LEFT

Scale μA	Term. Resis., Ohms	§ Add Suffix	254 BIG LOOK Net Each, Lots of 1-9			255 HORIZON LINE Net Each, Lots of 1-9		
			2½-inch GE No. 50-254200§	3½-inch GE No. 50 254300§	4½-inch GE No. 50-254400§	2½-inch GE No. 50-255200§	3½-inch GE No. 50-255300§	4½-inch GE No. 50-255400§
20	3400	CFCF	$46.30	$47.40	....	$46.30	$47.40	....
50	1600	CYCY	36.10	38.30	$40.90	36.10	38.30	$40.90
100	1525	DRDR	30.60	31.60	34.70	30.60	31.60	34.70
200	690	EAEA	27.10	29.40	32.40	27.10	29.40	32.40
500	220	EMEM	26.00	27.10	29.10	26.00	27.10	29.10

hen ordering show complete number; example: **50-254200 CFCF** for 254 BIG LOOK 2½″ type, zero-left DC microammeter with 20 μA scale.

Contact us for availability of additional ratings.

SERIES 254 AND 255 DC PANEL METERS (CONT'D)

DC MICROAMMETERS—ZERO-CENTER

Scale μA	Term. Resis., Ohms	§ Add Suffix	254 BIG LOOK® Net Each, Lots of 1-9 2½-inch GE No. 50-254201§	254 BIG LOOK® 3½-inch GE No. 50-254301§	254 BIG LOOK® 4½-inch GE No. 50-254401§	255 HORIZON LINE® Net Each, Lots of 1-9 2½-inch GE No. 50-255201§	255 HORIZON LINE® 3½-inch GE No. 50-255301§	255 HORIZON LINE® 4½-inch GE No. 50-255401§
20–0–20	3300	CFCF	$40.60	$42.90	....	$40.60	$42.90	....
100–0–100	690	DRDR	27.10	29.40	$30.20	27.10	29.40	$32.40

DC MILLIAMMETERS—ZERO-LEFT

Scale mA	Term. Resis., Ohms	§ Add Suffix	254 BIG LOOK Net Each, Lots of 1-9 2½-inch GE No. 50-254200§	254 BIG LOOK 3½-inch GE No. 50-254300§	254 BIG LOOK 4½-inch GE No. 50-254400§	255 HORIZON LINE Net Each, Lots of 1-9 2½-inch GE No. 50-255200§	255 HORIZON LINE 3½-inch GE No. 50-255300§	255 HORIZON LINE 4½-inch GE No. 50-255400§
1	64	FAFA	$26.00	$27.10	$29.10	$26.00	$27.10	$29.10
3	2.5	FNFN	26.00	27.10	29.10	26.00	27.10	29.10
10	1.8	GZGZ	26.00	27.10	29.10	26.00	27.10	29.10
20	1.5	HFHF	26.00	27.10	29.10	26.00	27.10	29.10
50	1.9	HYHY	26.00	27.10	29.10	26.00	27.10	29.10
100	0.50	JRJR	26.00	27.10	29.10	26.00	27.10	29.10
150	0.33	JXJX	26.00	27.10	29.10	26.00	27.10	29.10
200	0.25	KAKA	26.00	27.10	29.10	26.00	27.10	29.10
300	0.167	KGKG	26.00	27.10	29.10	26.00	27.10	29.10
500	0.100	KMKM	26.00	27.10	29.10	26.00	27.10	29.10
800	0.062	KWKW	26.00	27.10	29.10	26.00	27.10	29.10

DC AMMETERS—ZERO-LEFT

Scale Amps	Term. Resis., Ohms	§ Add Suffix	254 BIG LOOK Net Each, Lots of 1-9 2½-inch GE No. 50-254200§	254 BIG LOOK 3½-inch GE No. 50-254300§	254 BIG LOOK 4½-inch GE No. 50-254400§	255 HORIZON LINE Net Each, Lots of 1-9 2½-inch GE No. 50-255200§	255 HORIZON LINE 3½-inch GE No. 50-255300§	255 HORIZON LINE 4½-inch GE No. 50-255400§
1	0.05	LALA	$26.50	$27.50	$29.70	$26.50	$27.50	$29.70
1.5	0.0333	LCLC	26.50	27.50	29.70	26.50	27.50	29.70
3	0.0167	LJLJ	26.50	27.50	29.70	26.50	27.50	29.70
5	0.01	LSLS	26.50	27.50	29.70	26.50	27.50	29.70
10	0.005	MTMT	26.50	27.50	29.70	26.50	27.50	29.70
20	0.0025	NGNG	26.50	27.50	29.70	26.50	27.50	29.70
50	0.001	NTNT	....	27.50	29.70	....	27.50	29.70

DC AMMETERS—ZERO-LEFT, 50 mV SHUNT-RATED

Scale Amps	Term. Resis., Ohms	§ Add Suffix	254 BIG LOOK Net Each, Lots of 1-9 2½-inch GE No. 50-254224§	254 BIG LOOK 3½-inch GE No. 50-254324§	254 BIG LOOK 4½-inch GE No. 50-254424§	255 HORIZON LINE Net Each, Lots of 1-9 2½-inch GE No. 50-255224§	255 HORIZON LINE 3½-inch GE No. 50-255324§	255 HORIZON LINE 4½-inch GE No. 50-255424§
20	12.5 Ohms Cali-brated*	ECNG	$26.50	$27.50	$29.70	$26.50	$27.50	....
50		ECNT	26.50	27.50	29.70	26.50	27.50	$29.70
75		ECPB	26.50	27.50	29.70	26.50	27.50	29.70
100		ECPK	26.50	27.50	29.70	26.50	27.50	29.70
150		ECPZ	26.50	27.50	29.70	26.50	27.50	29.70
300		ECRX	26.50	27.50	29.70	26.50	27.50	29.70
400		ECSC	26.50	27.50	29.70	26.50	27.50	29.70
500		ECSF	26.50	27.50	29.70	26.60	27.50	29.70
600		ECSJ	26.50	27.50	29.70	26.50	27.50	29.70
1.0 kA		ECVA	26.50	27.50	29.70	26.50	27.50	29.70
1.5 kA		ECVC	26.50	27.50	29.70	26.50	27.50	29.70
2.0 kA		ECVE	26.50	27.50	29.70	26.50	27.50	29.70

DC AMMETERS—ZERO-LEFT, 100 mV, SHUNT-RATED

Scale Amps	Term. Resis., Ohms	§ Add Suffix	254 BIG LOOK Net Each, Lots of 1-9 2½-inch GE No. 50-254224§	254 BIG LOOK 3½-inch GE No. 50-254324§	254 BIG LOOK 4½-inch GE No. 50-254424§	255 HORIZON LINE Net Each, Lots of 1-9 2½-inch GE No. 50-255224§	255 HORIZON LINE 3½-inch GE No. 50-255324§	255 HORIZON LINE 4½-inch GE No. 50-255424§
20	25 Ohms Cali-brated*	GBNG	$26.50	$27.50	....	$26.50	$27.50	....
50		GBNT	26.50	27.50	$29.70	26.50	27.50	$29.70
75		GBPB	26.50	27.50	29.70	26.50	27.50	29.70
100		GBPK	26.50	27.50	29.70	26.50	27.50	29.70
150		GBPZ	26.59	27.50	29.70	26.50	27.50	29.70
300		GBRX	26.50	27.50	29.70	26.50	27.50	29.70
400		GBSC	26.50	27.50	29.70	26.50	27.50	29.70
500		GBSF	26.50	27.50	29.70	26.50	27.50	29.70
600		GBSJ	26.50	27.50	29.70	26.50	27.50	29.70
1.0 kA		GBVA	26.50	27.50	29.70	26.50	27.50	29.70
2.0 kA		GBVE	26.50	27.50	29.70	26.50	27.50	29.70

DC AMMETERS—ZERO-CENTER

Scale Amps	Term. Resis., Ohms	§ Add Suffix	254 BIG LOOK Net Each, Lots of 1-9 2½-inch GE No. 50-254201§	254 BIG LOOK 3½-inch GE No. 50-254301§	254 BIG LOOK 4½-inch GE No. 50-254401§	255 HORIZON LINE Net Each, Lots of 1-9 2½-inch GE No. 50-255201§	255 HORIZON LINE 3½-inch GE No. 50-255301§	255 HORIZON LINE 4½-inch GE No. 50-255401§
1-0-1	0.05	LALA	$26.50	$27.50	$29.70	$26.50	$27.50	$29.70
5-0-5	0.01	LSLS	26.50	27.50	29.70	26.50	27.50	29.70
10-0-10	0.005	MTMT	26.50	27.50	29.70	26.50	27.50	29.70
15-0-15	0.0033	NDND	26.50	27.50	29.70	26.50	27.50	29.70

*For use with two-way shunt lead resistance of 0.065 ohms. §**When ordering show complete number; example: 50-254224 GBNG f** 254 BIG LOOK 2½" type, zero-left DC ammeter (100 mV shunt-rated) with 0–20 amps scale rating.

Contact us for availability of additional ratings.

PRICES LISTED ARE FOR GUIDANCE ONLY

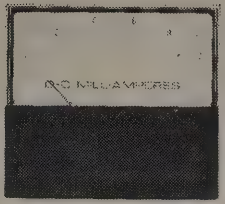
GENERAL ELECTRIC Panel Meters

SERIES 250 AND 251 DC PANEL METERS—TAUT BAND

Easy-to-read DC panel meters in two styles for all panel and control applications. All DC meters have self-shielded movement with taut-band suspension. All meters meet ANSI Specifications C-39.1. **Accuracy:** ±2% of full scale. **Overload:** DC Voltmeters, 20% momentary and sustained; AC ammeters (momentary), 10 times the rated current for 10 consecutive intervals of ½ second with one minute interval between successive applications; AC ammeters (sustained), 20% for 8 hours. **Scale Data:** 90° rotation. **Insulation Level:** 2600 V rms hi-pot. **Response Time:** 3 seconds maximum for microammeters; 2 seconds maximum for other DC ratings. **Damping:** 40% maximum overshoot with minimum damping factor of 2.5.

10
20
30
40
0
50
D-C MICROAMPERES

250 BIG LOOK®



251 HORIZON LINE®

Size	250 BIG LOOK® Scale Length	251 HORIZON LINE® Scale Length
1½″	1.32″	1.50″
2½″	2.06″	2.06″
3½″	2.88″	2.88″
4½″	3.93″	3.93″

DC VOLTMETERS—ZERO-LEFT, TAUT BAND

Scale Volts	Term. Resis., Ohms	§ Add Suffix	250 BIG LOOK Net Each, Lots of 1-9				251 HORIZON LINE Net Each, Lots of 1-9			
			1½-inch GE No. 50-250120§	2½-inch GE No. 50-250220§	3½-inch GE No. 50-250320§	4½-inch GE No. 50-250420§	1½-inch GE No. 50-251120§	2½-inch GE No. 50-251220§	3½-inch GE No. 50-251320§	4½-inch GE No. 50-251420§
1.0	1000 Ohms/ Volt	LALA	$27.10	$27.10	$29.40	$30.20	$27.10	$27.10	$29.40	$30.20
3		LJLJ	27.10	27.10	29.40	30.20	27.10	27.10	29.40	30.20
10		MTMT	27.10	27.10	29.40	30.20	27.10	27.10	29.40	30.20
30		NLNL	27.10	27.10	29.40	30.20	27.10	27.10	29.40	30.20
50		NTNT	27.10	27.10	29.40	30.20	27.10	27.10	29.40	30.20
100		PKPK	27.10	27.10	29.40	32.40	27.10	27.10	29.40	32.40
150		PZPZ	27.10	27.10	29.40	32.40	27.10	27.10	29.40	32.40
300		RXRX	29.40	29.40	30.60	33.40	29.40	29.40	30.60	33.40

DC VOLTMETERS—ZERO-LEFT, RATED 0-1 mADC, USE WITH EXTERNAL RESISTOR, TAUT BAND

Scale Volts	Term. Resis., Ohms	§ Add Suffix	250 BIG LOOK Net Each, Lots of 1-9				251 HORIZON LINE Net Each, Lots of 1-9			
			1½-inch GE No. 50-250104§	2½-inch GE No. 50-250204§	3½-inch GE No. 50-250304§	4½-inch GE No. 50-250404§	1½-inch GE No. 50-251104§	2½-inch GE No. 50-251204§	3½-inch GE No. 50-251304§	4½-inch GE No. 50-251404§
500	49	FAFS	$26.00	$26.00	....	....	$26.00	$26.00	....	....
600	49	FASJ	26.00	26.00	....	....	26.00	26.00	....	....
750	49	FASM	26.00	26.00	$27.10	$29.10	26.00	26.00	$27.10	$29.10

DC MICROAMMETERS—ZERO-LEFT, TAUT BAND

Scale μA	Term. Resis., Ohms	§ Add Suffix	250 BIG LOOK Net Each, Lots of 1-9				251 HORIZON LINE Net Each, Lots of 1-9			
			1½-inch GE No. 50-250100§	2½-inch GE No. 50-250200§	3½-inch GE No. 50-250300§	4½-inch GE No. 50-250400§	1½-inch GE No. 50-251100§	2½-inch GE No. 50-251200§	3½-inch GE No. 50-251300§	4½-inch GE No. 50-251400§
20	2650	CFCF	$46.30	$46.30	$47.40	....	$46.30	$46.30	$47.40	....
50	2385	CYCY	36.10	36.10	38.30	$40.90	36.10	36.10	38.30	$40.90
100	600	DRDR	30.60	30.60	31.60	34.70	30.60	30.60	31.60	34.70
200	188	EAEA	27.10	27.10	29.40	32.40	27.10	27.10	29.40	32.40
500	185	EMEM	26.00	26.00	27.10	29.10	26.00	26.00	27.10	29.10

DC MICROAMMETERS—ZERO-CENTER, TAUT BAND

Scale μA	Term. Resis., Ohms	§ Add Suffix	250 BIG LOOK Net Each, Lots of 1-9				251 HORIZON LINE Net Each, Lots of 1-9			
			1½-inch GE No. 50-250101§	2½-inch GE No. 50-250201§	3½-inch GE No. 50-250301§	4½-inch GE No. 50-250401§	1½-inch GE No. 50-251101§	2½-inch GE No. 50-251201§	3½-inch GE No. 50-251301§	4½-inch GE No. 50-251401§
20–0–20	1340	CFCF	$40.60	$40.60	$42.90	....	$40.60	$40.60	$42.90	....
00–0–100	188	DRDR	27.10	27.10	29.40	$30.20	27.10	27.10	29.40	$32.40

DC MILLIAMMETERS—ZERO-LEFT, TAUT BAND

Scale mA	Term. Resis., Ohms	§ Add Suffix	250 BIG LOOK Net Each, Lots of 1-9				251 HORIZON LINE Net Each, Lots of 1-9			
			1½-inch GE No. 50-250100§	2½-inch GE No. 50-250200§	3½-inch GE No. 50-250300§	4½-inch GE No. 50-250400§	1½-inch GE No. 50-251100§	2½-inch GE No. 50-251200§	3½-inch GE No. 50-251300§	4½-inch GE No. 50-251400§
1	49	FAFA	$26.00	$26.00	$27.10	$29.10	$26.00	$26.00	$27.10	$29.10
3	18	FNFN	26.00	26.00	27.10	29.10	26.00	26.00	27.10	29.10
10	3.2	GZGZ	26.00	26.00	27.10	29.10	26.00	26.00	27.10	29.10
20	2.8	HFHF	26.00	26.00	27.10	29.10	26.00	26.00	27.10	29.10
50	2.6	HYHY	26.00	26.00	27.10	29.10	26.00	26.00	27.10	29.10
100	0.5	JRJR	26.00	26.00	27.10	29.10	26.00	26.00	27.10	29.10
150	0.33	JXJX	26.00	26.00	27.10	29.10	26.00	26.00	27.10	29.10
200	0.25	KAKA	26.00	26.00	27.10	29.10	26.00	26.00	27.10	29.10
300	0.16	KGKG	26.00	26.00	27.10	29.10	26.00	26.00	27.10	29.10
500	0.10	KMKM	26.00	26.00	27.10	29.10	26.00	26.00	27.10	29.10
800	0.06	KWKW	26.00	26.00	27.10	29.10	26.00	26.00	27.10	29.10

DC AMMETERS—ZERO-LEFT, TAUT BAND

Scale Amps	Term. Resis., Ohms	§ Add Suffix	250 BIG LOOK Net Each, Lots of 1-9				251 HORIZON LINE Net Each, Lots of 1-9			
			1½-inch GE No. 50-250100§	2½-inch GE No.50-250200§	3½-inch GE No. 50-250300§	4½-inch GE No. 50-250400§	1½-inch GE No. 50-251100§	2½-inch GE No. 50-251200§	3½-inch GE No. 50-251300§	4½-inch GE No. 50-251400§
1	0.050	LALA	$26.50	$26.50	$27.50	$29.70	$26.50	$26.50	$27.50	$29.70
1.5	0.033	LCLC	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.70
3	0.0167	LJLJ	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.70
5	0.010	LSLS	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.70
10	0.0050	MTMT	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.70
20	0.0025	NGNG	....	26.50	27.50	29.70	....	26.50	27.50	29.70
50	0.00100	NTNT	....	....	27.50	29.70	....	....	27.50	29.70

§**When ordering show complete number;** example: **50-250120 LALA** for 250 BIG LOOK 1½″ type zero-left, DC voltmeter with 1.0 volt rating.

Contact us for availability of additional ratings.

GENERAL ELECTRIC Panel Meters

SERIES 250 AND 251 DC PANEL METERS (CONT'D)

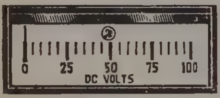
DC AMMETERS—ZERO-LEFT, 50 mV, SHUNT-RATED, TAUT BAND

Scale Volts	Term. Resis., Ohms	§ Add Suffix	250 BIG LOOK® Net Each, Lots of 1-9				251 HORIZON LINE® Net Each, Lots of 1-9			
			1½-inch GE No. 50-250124§	2½-inch GE No. 50-250224§	3½-inch GE No. 50-250324§	4½-inch GE No. 50-250424§	1½-inch GE No. 50-251124§	2½-inch GE No. 50-251224§	3½-inch GE No. 50-251324§	4½-inch GE No. 5 251424
20	50*	ECNG	$26.50	$26.50	$27.50	$29.70	$26.50	$26.50	$27.50	$29.7
50	50*	ECNT	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.7
75	50*	ECPB	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.7
100	50*	ECPK	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.7
150	50*	ECPZ	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.7
300	50*	ECRX	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.7
400	50*	ECSC	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.7
500	50*	ECSF	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.7
600	50*	ECSJ	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.7
1000	50*	ECVA	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.7
2000	50*	ECVE	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.7

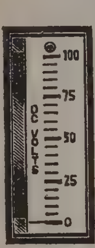
DC AMMETERS—ZERO-CENTER, TAUT BAND

Scale Amps	Term. Resis., Ohms	§ Add Suffix	250 BIG LOOK Net Each, Lots of 1-9				251 HORIZON LINE Net Each, Lots of 1-9			
			1½-inch GE No. 50-250101§	2½-inch GE No. 50-250201§	3½-inch GE No. 50-250301§	4½-inch GE No. 50-250401§	1½-inch GE No. 50-251101§	2½-inch GE No. 50-251201§	3½-inch GE No. 50-251301§	4½-inch GE No. 5 25140
1–0–1	0.050	LALA	$26.50	$26.50	$27.50	$29.70	$26.50	$26.50	$27.50	$29.7
5–0–5	0.010	LSLS	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.7
10–0–10	0.0050	MTMT	26.50	26.50	27.50	29.70	26.50	26.50	27.50	29.7
20–0–20	0.0025	NGNG	....	26.50	27.50	29.70	....	26.50	27.50	29.7
50–0–50	0.0010	NTNT	....	....	27.50	29.70	....	....	27.50	29.7

TYPE 185 SERIES EDGEWISE METERS



Horizontal



Vertical

Slim, miniature design can be mounted individually or in space-saving clusters. Choice of horizontal or vertical placement. Flush sides assure tight, case-to-case stacking without mechanism bulge. Magnetically shielded to prevent interaction between meters; no need for special calibration. Optional bezel and mounting brackets available for one, two or three-unit stacking. Meet applicable portions of ANSI C-39.1. **Accuracy:** ±2% of full scale, DC meters; ±3% with 60-Hz sine wave at 25° C, AC rectifier-type meters. **Overload:** 20% momentary and sustained, voltmeter; 1000% momentary and 20% sustained, ammeter. **Insulation:** 1800 V rms hi-pot. **Scale:** 1.785″ long, 53° rotation. **Response Time and Damping:** Meet or exceed ANSI requirements. Response time 3 sec. max., μA meters; 2 sec. max., all other DC ratings; 2.5 sec. max., AC ratings. Damping 40% max. overshoot; damping factor, 2.5 minimum. **Size:** 0.92″ w. x 2.258″ lg. x 3.44″ d., overall. Bezel 1.255″ w. x 3.005″ lg., single; 2.155″ w., double; 3.055″ w., triple-unit mounting.

DC VOLTMETERS (SELF-CONTAINED)

Scale Range	Term. Resis., Ohms	Horizontal Zero-Left No. 50-	Vertical Zero-Bottom No. 50-	Net Ea., 1-9
0-10	1000 ohms/ volt	185 011 MTMT	185 013 MTMT	$28.00
0-15		185 011 NDND	185 013 NDND	28.00
0-30		185 011 NLNL	185 013 NLNL	28.00
0-50		185 011 NTNT	185 013 NTNT	28.00
0-100		185 011 PKPK	185 013 PKPK	28.00
0-150		185 011 PZPZ	185 013 PZPZ	28.00
0-300		185 011 RXRX	185 013 RXRX	29.10

DC VOLTMETERS (SELF-CONTAINED)

Scale Range	Term. Resis., Ohms	Horizontal Zero-Center No. 50-	Vertical Zero-Center No. 50-	Net Ea., 1-9
15-0-15	2000 ohms/ volt	185 012 NDND	185 014 NDND	$28.00
50-0-50		185 012 NTNT	185 014 NTNT	28.00
150-0-150		185 012 PZPZ	185 014 PZPZ	29.10

DC VOLTMETERS (SELF-CONTAINED*)

Scale Range	Term. Resis., Ohms	Horizontal Zero-Left No. 50-	Vertical Zero-Bottom No. 50-	Net Ea., 1-9
0-500	40	185 171 FASF	185 173 FASF	$25.80
0-600	40	185 171 FASJ	185 173 FASJ	25.80
0-750	40	185 171 FASM	185 173 FASM	25.80

DC MICROAMMETERS (SELF-CONTAINED)

Scale Range	Term. Resis., Ohms	Horizontal Zero-Left No. 50-	Vertical Zero-Bottom No. 50-	Net Ea., 1-9
0-	2030	185 111 CFCF	185 113 CFCF	$45.10
0-50	1625	185 111 CYCY	185 113 CYCY	36.50
0-100	1350	185 111 DRDR	185 113 DRDR	30.10
0-500	200	185 111 EMEM	185 113 EMEM	25.80

DC MICROAMMETERS (SELF-CONTAINED)

Scale Range	Term. Resis., Ohms	Horizontal Zero-Left No. 50-	Vertical Zero-Bottom No. 50-	Net Ea., 1-9
50-0-50	1350	185 112 CYCY	185 114 CYCY	$30.10
500-0-500	40	185 112 EMEM	185 114 EMEM	25.80

DC MILLIAMMETERS (SELF-CONTAINED)

Scale Range	Term. Resis., Ohms	Horizontal Zero-Left No. 50-	Vertical Zero-Bottom No. 50-	Net Ea., 1-9
0-1	40	185 111 FAFA	185 113 FAFA	$25.8
0-5	2.0	185 111 FXFX	185 113 FXFX	25.8
0-10	1.0	185 111 GZGZ	185 113 GZGZ	25.8
0-20	0.5	185 111 HFHF	185 113 HFHF	25.8
0-50	1.0	185 111 HYHY	185 113 HYHY	25.8
0-100	0.5	185 111 JRJR	185 113 JRJR	25.8
0-300	0.17	185 111 KGKG	185 113 KGKG	25.8
0-500	0.1	185 111 KMKM	185 113 KMKM	25.8

DC MILLIAMMETERS (SELF-CONTAINED)

Scale Range	Term. Resis., Ohms	Horizontal Zero-Left No. 50-	Vertical Zero-Bottom No. 50-	Net Ea., 1-9
1-0-1	40	185 112 FAFA	185 114 FAFA	$25.8
5-0-5	1.0	185 112 FXFX	185 114 FXFX	25.8
10-0-10	0.5	185 112 GZGZ	185 114 GZGZ	25.8
50-0-50	0.5	185 112 HYHY	185 114 HYHY	25.8
500-0-500	0.05	185 112 KMKM	185 114 KMKM	25.8

DC AMMETERS (SELF-CONTAINED)

Scale Range	Term. Resis., Ohms	Horizontal Zero-Left No. 50-	Vertical Zero-Bottom No. 50-	Net Ea., 1-9
0-1	0.05	185 111 LALA	185 113 LALA	$25.8
0-5	0.01	185 111 LSLS	185 113 LSLS	25.8
0-10	0.005	185 111 MTMT	185 113 MTMT	25.8

DC AMMETERS (SELF-CONTAINED)

Scale Range	Term. Resis., Ohms	Horizontal Zero-Left No. 50-	Vertical Zero-Bottom No. 50-	Net Ea., 1-9
5-0-5	0.005	185 112 LSLS	185 114 LSLS	$25.8

DC AMMETERS (SELF-CONTAINED#)

Scale Range	Term. Resis., Ohms	Horizontal Zero-Left No. 50-	Vertical Zero-Bottom No. 50-	Net Ea., 1-9
0-20	12.5§	185 121 ECNG	185 123 ECNG	$25.8
0-50		185 121 ECNT	185 123 ECNT	25.8
0-300		185 121 ECRX	185 123 ECRX	25.8
0-500		185 121 ECSF	185 123 ECSF	25.8

AC VOLTMETERS (SELF-CONTAINED)
RECTIFIER TYPE

Scale Range	Term. Resis., Ohms	Horizontal Zero-Left No. 50-	Vertical Zero-Bottom No. 50-	Net Ea., 1-9
0-10	1000 ohms/ volt	185 051 MTMT	185 053 MTMT	$32.7
0-15		185 051 NDND	185 053 NDND	32.7
0-30		185 051 NLNL	185 053 NLNL	32.7
0-50		185 051 NTNT	185 053 NTNT	32.7
0-100		185 051 PKPK	185 053 PKPK	34.8
0-150		185 051 PZPZ	185 053 PZPZ	34.8

AC MICROAMMETERS (SELF-CONTAINED)

Scale Range	Term. Resis., Ohms	Horizontal Zero-Left No. 50-	Vertical Zero-Bottom No. 50-	Net Ea., 1-9
0-500	985	185 151 EMEM	185 153 EMEM	$31.6

AC MILLIAMMETERS (SELF-CONTAINED)

Scale Range	Term. Resis., Ohms	Horizontal Zero-Left No. 50-	Vertical Zero-Bottom No. 50-	Net Ea., 1-9
0-1	570	185 151 FAFA	185 153 FAFA	$31.6
0-5	139	185 151 FXFX	185 153 FXFX	31.6
0-10	90	185 151 GZGZ	185 153 GZGZ	31.6
0-12	62	185 151 HFHF	185 153 HFHF	31.6

*Does not include resistor. #Does not include shunt or lead §Calibrated for use with two-way shunt-lead resistance of 0.0 ohms.

GENERAL ELECTRIC Elapsed Time Meters

SERIES 240 ELAPSED TIME METERS

lapsed time meters are available with or without reset button. eatures include synchronous motor with gear connected to digital eadout counter. Meters display elapsed time in hours and minutes enths) by 6 digits. **Accuracy:** Matches frequency control of ower system. **Vibration-Shock:** Meets ANSI Specifications C39.1. **nput Range:** 120/240 VAC, 50/60 Hz; 208/480 VAC, 60 Hz. **nsulation Level:** 2000 volts rms hi-pot for one minute. **Burden ata:** 2.5 volt-amps maximum. UL Approved.

BACK-OF-PANEL

HOURS
000030

2½″ or 3½″ RESET

BACK-OF-PANEL—60 Hz

Motor VAC	Non-Reset Type				Reset Type			
	In Minutes		In Hours		In Minutes		In Hours	
	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9
120	50-240 003 AAAA	$23.60	50-240 001 AAAA	$23.60	50-240 004 AAAA	$32.60	50-240 002 AAAA	$32.60
240	50-240 003 ABAA	24.70	50-240 001 ABAA	24.70	50-240 004 ABAA	33.60	50-240 002 ABAA	33.60

2½-INCH BIG LOOK®—60 Hz

Motor VAC	Non-Reset Type				Reset Type			
	In Minutes		In Hours		In Minutes		In Hours	
	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9
120	50-240 213 AAAB	$30.50	50-240 211 AAAB	$30.50	50-240 214 AAAB	$41.00	50-240 212 AAAB	$41.00
240	50-240 213 ABAB	31.50	50-240 211 ABAB	31.50	50-240 214 ABAB	42.00	50-240 212 ABAB	42.00

3½-INCH BIG LOOK—60 Hz

Motor VAC	Non-Reset Type				Reset Type			
	In Minutes		In Hours		In Minutes		In Hours	
	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9
120	50-240 313 AAAB	$30.50	50-240 311 AAAB	$30.50	50-240 314 AAAB	$41.00	50-240 312 AAAB	$41.00
240	50-240 313 ABAB	31.50	50-240 311 ABAB	31.50	50-240 314 ABAB	42.00	50-240 312 ABAB	42.00

2½-INCH SQUARE CASE—60 Hz

Motor VAC	Non-Reset Type				Reset Type			
	In Minutes		In Hours		In Minutes		In Hours	
	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9
120	50-240 613 AAAD	$34.10	50-240 611 AAAD	$34.10	50-240 614 AAAD	$45.20	50-240 612 AAAD	$45.20
240	50-240 613 ABAD	35.20	50-240 611 ABAD	35.20	50-240 614 ABAD	45.70	50-240 612 ABAD	45.70

3½-INCH SQUARE CASE—60 Hz

Motor VAC	Non-Reset Type				Reset Type			
	In Minutes		In Hours		In Minutes		In Hours	
	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9
120	50-240 713 AAAD	$34.10	50-240 711 AAAD	$34.10	50-240 714 AAAD	$45.20	50-240 712 AAAD	$45.20
240	50-240 713 ABAD	35.20	50-240 711 ABAD	35.20	50-240 714 ABAD	45.70	50-240 712 ABAD	45.70

2½-INCH ROUND CASE—60 Hz

Motor VAC	Non-Reset Type				Reset Type			
	In Minutes		In Hours		In Minutes		In Hours	
	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9
120	50-240 633 AAAE	$34.10	50-240 631 AAAE	$34.10	50-240 634 AAAE	$45.20	50-240 632 AAAE	$45.20
240	50-240 633 ABAE	35.20	50-240 631 ABAE	35.20	50-240 634 ABAE	45.70	50-240 632 ABAE	45.70

3½-INCH ROUND CASE—60 Hz

Motor VAC	Non-Reset Type				Reset Type			
	In Minutes		In Hours		In Minutes		In Hours	
	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9
120	50-240 733 AAAE	$34.10	50-240 731 AAAE	$34.10	50-240 734 AAAE	$45.20	50-240 732 AAAE	$45.20
240	50-240 733 ABAE	35.20	50-240 733 ABAE	35.20	50-240 734 ABAE	45.70	50-240 732 ABAE	45.70

2½-INCH CONDUIT-MOUNTED CASE—60 Hz*

Motor VAC	Non-Reset Type				Reset Type			
	In Minutes		In Hours		In Minutes		In Hours	
	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9	GE Number	Net 1-9
120	50-240 253 AAAF	$41.00	50-240 251 AAAF	$41.00	....	....	....	....
240	50-240 253 ABAF	42.00	50-240 251 ABAF	42.00	....	....	....	....

Conduit-mounted case and type 240 meter are available as a unit; replacement meters for conduit-mounted case not available as a parate item. Motors can be supplied as a renewal part. For 50 Hz service specify model desired and add "except 50 Hz"; add $2.49 price shown.

GENERAL ELECTRIC Protectors/Controllers

SERIES 195 AND 196 PROTECTORS/CONTROLLERS

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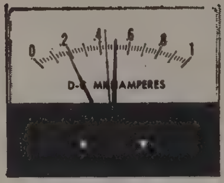
1
D-C MILLIAMPERES
GENERAL ELECTRIC

195 BIG LOOK®
2½", 3½", & 4½"



196 HORIZON LINE®
3½" & 4½"

Available in BIG LOOK or HORIZON LINE styles. Lead length compensation up to 10 ohms. Bimetal type cold-junction compensation. Thermocouple-break projection standard on pyrometer controllers, optional on over-temperature protectors. **Accuracy:** ±2% of full scale at 117 volts input power. **Repeatability:** 0.3% of full scale. **Setpoint Travel:** 100% of full scale travel; double setpointers can be positioned to within two mechanical degrees of each other—approx. 2.2% of full scale. **Minimum Span:** 0–150° F/70° C. Units thru 0–1000° F/500° C are calibrated for iron-constantan; from 0–1600° F/800° C thru 0–2500° F/1400° C for chromel-alumel; 0–3000° F/1650° C for platinum-platinum/13% rhodium.

4½-INCH TYPES—SINGLE HIGH AND DOUBLE SETPOINTS

Scale Range	Max. Lead Resis., Ohms	§ Add Suffix to GE No.	195 Big Look Net Each, Lots of 1-9				196 Horizon Look Net Each, Lots of 1-9			
			Protectors		Controllers		Protectors		Controllers	
			Single High Setpoint GE No. 195450§	Double Setpoint GE No. 195451§	Single High Setpoint GE No. 195453§	Double Setpoint GE No. 195454§	Single High Setpoint GE No. 196450§	Double Setpoint GE No. 196451§	Single High Setpoint GE No. 196453§	Double Setpoint GE No. 196454§
0–150° F/70° C	200	ABAB	$188.50	$223.10	$210.00	$244.10	$188.50	$223.10	$210.00	$244.10
0–250° F/125° C	200	ADAD	188.50	223.10	210.00	244.10	188.50	223.10	210.00	244.10
0–300° F/150° C	200	AEAE	188.50	223.10	210.00	244.10	188.50	223.10	210.00	244.10
0–650° F/350° C	10	AJAJ	169.10	202.70	189.50	223.70	169.10	202.70	189.50	223.70
0–800° F/400° C	10	ALAL	169.10	202.70	189.50	223.70	169.10	202.70	189.50	223.70
0–1000° F/500° C	10	ANAN	169.10	202.70	189.50	223.70	169.10	202.70	189.50	223.70
0–1600° F/800° C	10	ERAR	169.10	202.70	189.50	223.70	169.10	202.70	189.50	223.70
0–1800° F/1000° C	10	ESAS	169.10	202.70	189.50	223.70	169.10	202.70	189.50	223.70
0–2000° F/1100° C	10	EUAU	169.10	202.70	189.50	223.70	169.10	202.70	189.50	223.70
0–2200° F/1200° C	10	EWAW	169.10	202.70	189.50	223.70	169.10	202.70	189.50	223.70
0–2500° F/1400° C	10	EYAY	169.10	202.70	189.50	223.70	169.10	202.70	189.50	223.70
0–3000° F/1650° C	10	JKCC	169.10	202.70	189.50	223.70	169.10	202.70	189.50	223.70

SERIES 195 AND 196 METER RELAYS

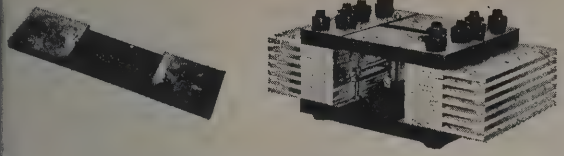
Models listed are zero-left. **Accuracy:** ±2% of full scale at 117 volts input power. **Repeatability:** 0.3% of full scale. **Setpoint Travel:** 100% of full scale travel; double setpointers can be positioned to within two mechanical degrees of each other— approx. 2.2% of full scale. **Minimum Span:** 0–5 μA. **Input Power:** 107–127 VAC, 50/60 Hz. **Lamp:** Derated to provide 5 year life. **Load Relay:** DPDT per set point. **Contact Rating:** 5 amps AC non-inductive at 120 volts; 5 amps DC non-inductive at 28 volts; 0.2 amps DC non-inductive at 125 volts.

SINGLE-HIGH SETPOINT DC METER RELAYS

Scale	Term. Resis., Ohms	§ Add Suffix	195 Big Look—Net Each, Lots of 1-9			196 Horizon Line—Net Each, Lots of 1-9		
			2½-inch	3½-inch	4½-inch	2½-inch	3½-inch	4½-inch
			GE No. 195210§	GE No. 195310§	GE No. 195410§	Not Available	GE No. 196310§	GE No. 196410§
DC MICROAMMETERS								
50 μA	1600	CYCY	$162.20	$156.50	$160.70	....	$156.50	$160.70
100 μA	1525	DRDR	156.50	151.70	155.40	....	151.70	155.40
DC MILLIAMMETERS								
1 mA	64	FAFA	$152.80	$147.50	$150.20	....	$147.50	$150.20
10 mA	1.8	GZGZ	152.80	147.50	150.20	....	147.50	150.20
100 mA	0.5	†	152.80	147.50	150.20	....	147.50	150.20
500 mA	0.1	KMKM	152.80	147.50	150.20	....	147.50	150.20
DC AMMETERS								
1 A	....	†	$152.80	$147.50	$150.20	....	$147.50	$150.20
			GE No. 195211§	GE No. 195311§	GE No. 195411§	Not Available	GE No. 196311§	GE No. 196411§
DC MILLIVOLTMETERS								
5 mV	....	JDJD	....	$181.70	$185.30	....	$181.70	$185.30
10 mV	....	JEJE	....	176.90	181.10	....	176.90	181.10
DC AMMETERS 50 MV SHUNT RATED								
50 mV	#	†	$152.80	$147.50	$150.20	....	$147.50	$150.20
			GE No. 195230§	GE No. 195330§	GE No. 195430§	Not Available	GE No. 196330§	GE No. 196430§
DC MICROAMMETERS								
50 μA	1600	CYCY	$196.40	$190.60	$194.80	....	$190.60	$194.80
100 μA	1525	DRDR	190.60	185.30	189.50	....	185.30	189.50
DC MILLIAMMETERS								
1 mA	64	FAFA	$186.90	$181.70	$184.30	....	$181.70	$184.30
10 mA	1.8	GZGZ	186.90	181.70	184.30	....	181.70	184.30
100 mA	0.5	†	186.90	181.70	184.30	....	181.70	184.30
500 mA	0.1	KMKM	186.90	181.70	184.30	....	181.70	184.30
DC AMMETERS								
1 A	*	†	$186.90	$181.70	$184.30	....	$181.70	$184.30
			GE No. 195231§	GE No. 195331§	GE No. 195431§	Not Available	GE No. 196331§	GE No. 196431§
DC MILLIVOLTMETERS								
5 mV	....	JDJD	....	$215.80	$220.00	....	$215.80	$220.00
10 mV	....	JEJE	....	211.10	215.30	....	211.10	215.30
DC AMMETERS 50 MV SHUNT RATED								
50 mV	#	†	$186.90	$181.70	$184.30	....	$181.70	$184.30

†Order by complete description; prices on request. #Standard scales available ranging from 1 amp to 10 KA in 34 steps. *Calibrated for two-way shunt lead resistance of 0.065 ohm.

TYPE 140 SHUNTS



Provides DC millivolt signal proportional to DC amps. **Accuracy:** ±¼% calibrated accuracy. **Minimum Rating:** 10 amps, 50 mV or 100 mV. **Maximum Rating:** 10 kA, 50 mV or 100 mV.

WITH BASE

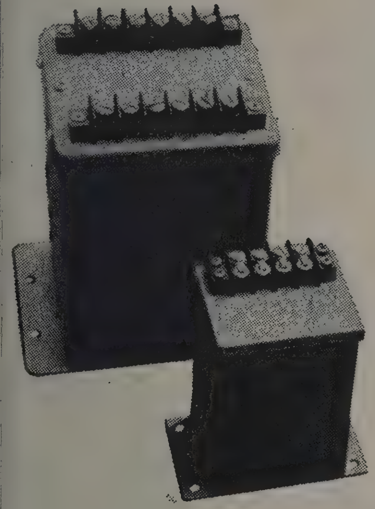
Rated Amps	Rated 50 mV		Rated 100 mV	
	GE No. 50-140-	Net 1-9	GE No. 50-140-	Net 1-9
10	031 MTAA	$14.30	034 MTAA	$18.40
15	031 NDAA	14.30	034 NDAA	18.40
20	031 NGAA	14.30	034 NGAA	18.40
30	031 NLAA	14.30	034 NLAA	18.40
40	031 NPAA	14.30	034 NPAA	18.40
50	031 NTAA	14.30	034 NTAA	18.40
60	031 NWAA	14.30	034 NWAA	18.40
75	031 PBAA	14.30	034 PBAA	18.40
80	031 PDAA	14.30	034 PDAA	18.40
100	031 PKAA	14.30	034 PKAA	18.40
150	031 PZAA	14.30	034 PZAA	18.40
200	031 RLAA	14.30	034 RLAA	18.40
250	031 RSAA	15.30	034 RSAA	19.40
300	031 RXAA	16.30	034 RXAA	20.40
400	031 SCAA	20.40	034 SCAA	25.50
500	031 SFAA	23.50	034 SFAA	30.70
600	031 SJAA	27.50	034 SJAA	34.80
800	031 SNAA	31.60	034 SNAA	41.90
1000	031 SSAA	36.70	034 SSAA	52.10

WITHOUT BASE

Rated Amps	Rated 50 mV		Rated 100 mV	
	GE No. 50-140-	Net 1-9	GE No. 50-140-	Net 1-9
75	011 PBAA	$ 12.20	014 PBAA	$ 16.30
80	011 PDAA	12.20	014 PDAA	16.30
100	011 PKAA	12.20	014 PKAA	16.30
150	011 PZAA	12.20	014 PZAA	16.30
200	011 RLAA	12.20	014 RLAA	16.30
250	011 RSAA	14.30	014 RSAA	18.40
300	011 RXAA	15.30	014 RXAA	19.40
400	011 SCAA	19.40	014 SCAA	24.50
500	011 SFAA	22.50	014 SFAA	28.60
600	011 SJAA	24.50	014 SJAA	31.60
800	011 SNAA	28.60	014 SNAA	38.80
1000	011 SSAA	34.80	014 SSAA	50.00
1200	011 SUAA	39.90	014 SUAA	58.20
1500	011 TCAA	44.00	014 TCAA	64.40
2000	011 TMAA	58.20	014 TMAA	86.70
2500	011 TUAA	73.60	014 TUAA	109.40
3000	021 UAAA*	102.10	024 UAAA*	144.90
4000	021 UEAA*	144.90	024 UEAA*	188.90
5000	021 UJAA*	180.70	024 UJAA*	253.20
6000	021 UPAA*	209.20	024 UPAA*	296.00
8000	021 UWAA*	267.40	024 UWAA*	382.80
10kA	021 UZAA*	325.60	024 UZAA*	469.50

*Silver-plated terminals are supplied as standard.

ELECTRICAL TRANSDUCERS



Volts Transducer: Converts 0–150 volts AC, 50/60 Hz output from secondary of AC potential transformer, or equal, into a proportional 0–1 mA DC output signal. **Amperes Transducer:** Converts 0–5 amps AC, 50/60 Hz output from secondary of current transformer, or equal, into a proportional 0–1 mA DC output signal. **Watts/Vars Transducer:** Converts watts/vars into a proportional 0– ±1 mA DC output signal. **Frequency Transducer:** Converts frequency of 50, 60 or 400 Hz at 120 volts into a proportional 0- ±1 mA DC output signal. The load may be 0–10 K ohms. **Phase Angle/Power Factor Transducer:** Measures the angle generated between voltage and current in a load and converts single and polyphase angles into a proportional ±1 mA DC output signal. **Phase Shifting Transducer:** Provides 90° phase shift to allow measurement of vars using standard watt transducers.

GE Model No.	Type	Input Rating	Output	Net Each
50-472101DFDC	Volts	0 to 150 VAC, 50/60 Hz	0–1 mA	$ 87.00
50-472201TFDC	Amps	0 to 5 amps, 50/60 Hz	0–1 mA	87.00
50-472315MNDD	Watts	85–150 VAC, 6.25 A, 500/1000 Cal Watts 1- or 3-phase/3-wire, 1½ element	0– ±1 mA	255.00
5-472320MNDD	Watts	85–150 VAC, 6.25 A, 1000 Cal Watts 3-phase/3-wire, 2 element	0– ±1 mA	335.00
50-472415MNDD	Vars	85–150 VAC, 6.25 A, 500/1000 Cal Watts 1- or 3-phase/3-wire, 1½ element	0– ±1 mA	262.00
50-472420MNDD	Vars	85–150 VAC, 6.25 A, 1000 Cal Watts 3-phase/3-wire, 2 element	0– ±1 mA	350.00
50-472636JHDD	Phase angle/ Power factor	3-phase, 0 to 60°	−1 to +1 mA	301.00
50-472500JBHB		45–50–55 Hz	−.5 to +.5 mA	273.00
50-472500JKHB	Freq.	55–60–65 Hz	−.5 to +.5 mA	273.00
50-472500JVHB		380–400–420 Hz	−.5 to +.5 mA	273.00
8600K92001	Phase	3-wire/3-phase	90° shift	75.00
8600K92006	shift	4-wire/3-phase	90° shift	75.00

TYPES JAI-O AND JAU-O INSTRUMENT TRANSFORMERS

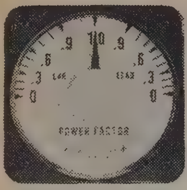
Current transformers with polyvinyl-chloride insulation are intended for interior use. Continuous thermal current rating factor at 30° C ambient is 1.5; at 55° C, 1.33.

General Electric Nos.		Current Ratio Amps	Burden*		Dimens., Ins.			Net Each
24″ Wire Leads	Screw Terms.		V.A.	P.F.	I.D.	O.D.	Th.	
750X91G1	750X93G1	50:5	2	1.0	2 9/16	1	1¼	$11.75
750X91G2	750X93G2	60:5	2	1.0	2 9/16	1	1¼	11.75
750X91G3	750X93G3	75:5	2	1.0	2 9/16	1	1	11.75
750X91G4	750X93G4	80:5	2	1.0	2 5/16	1	1	11.75
750X91G5	750X93G5	100:5	2	1.0	2 5/16	1	¾	11.75
750X91G11	750X93G11	100:5	2.5	0.9	3 5/16	1¾	1	13.25
750X91G6	750X93G6	120:5	2	1.0	2 5/16	1	¾	11.75
750X91G7	750X93G7	125:5	2	1.0	2 5/16	1	¾	11.75
750X91G8	750X93G8	150:5	2	1.0	2 5/16	1	¾	11.75
750X91G12	750X93G12	150:5	2.5	0.9	3 1/16	1¾	1	13.25
750X91G9	750X93G9	175:5	2	1.0	2 5/16	1	¾	11.75
750X91G10	750X93G10	200:5	2	1.0	2 5/16	1	¾	11.75
750X91G13	750X93G13	200:5	2.5	0.9	3 1/16	1¾	¾	13.25

General Electric Nos.		Current Ratio Amps	Burden*		Dimens., Ins.			Net Each
24″ Wire Leads	Screw Terms.		V.A.	P.F.	I.D.	O.D.	Th.	
750X91G18	750X93G18	200:5	5	0.9	4	2¾	1	14.00
750X91G14	750X93G14	250:5	2.5	0.9	3 1/16	1¾	¾	13.25
750X91G19	750X93G19	250:5	5	0.9	4	2¾	1	14.00
750X91G15	750X93G15	300:5	2.5	0.9	3 1/16	1¾	¾	13.25
750X91G20	750X93G20	300:5	5	0.9	4	2¾	¾	14.00
750X91G16	750X93G16	400:5	2.5	0.9	3 1/16	1¾	¾	13.25
750X91G21	750X93G21	400:5	5	0.9	4	2¾	¾	14.00
750X91G17	750X93G17	500:5	2.5	0.9	3 1/16	1¾	¾	13.25
750X91G22	750X93G22	500:5	5	0.9	4	2¾	¾	14.00
750X91G23	750X93G23	600:5	5	0.9	4	2¾	¾	14.00
750X91G24	750X93G24	750:5	5	0.9	4	2¾	¾	14.00
750X91G25	750X93G25	800:5	5	0.9	4	2¾	¾	14.00

*For ratio error less than 1.5% at 100% rated current, 50/60 Hz.

GENERAL ELECTRIC SWITCHBOARD INSTRUMENTS

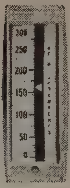


Type AB-30

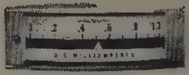
Type AB-40

D-C MILLIAMP

Type AB-16



Type 180 Vertical



Type 180 Horizontal

AC types AB-40, AB-30 and AB-16 ±1% accuracy switchboard instruments intended for general switchboard service on both large and small equipment. Excellent for control stations, test equipment and other installations where space is limited. Cases are dustproof and designed for semiflush mounting. White scales with black markings standard. Black scales with white markings available. AB-30 scales have a maximum of 3 digits as standard; AB-16 and AB-40 have a maximum of 4 digits as standard. High-shock and illuminated instruments; optional features and accessories available on request.

AC VOLTMETERS

Self-contained; 50/60 Hz; iron-vane type. Taut band except AB-30 (pivot and jewel, 60 Hz).

		AB-30		AB-40		AB-16	
Rating	Scale	GE Number	Net Each	GE Number	Net Each	GE Number	Net Each
150 V	0–150	50-105 031 PZPZ	$128.00	50-103 021 PZPZ	$162.00	50-121 021 PZPZ	$254.00
250 V	0–250	50-105 021 RSRS	134.00	50-103 021 RSRS	167.00	50-121 021 RSRS	259.00
300 V	0–300	50-105 021 RXRX	140.00	50-103 021 RXRX	175.00	50-121 021 RXRX	267.00
500 V	0–500	50-105 021 SFSF	154.00	50-103 021 SFSF	191.00	50-121 021 SFSF	284.00
600 V	0–600	50-105 021 SJSJ	161.00	50-103 021 SJSJ	199.00	50-121 021 SJSJ	292.00

Transformer-rated, 50/60 Hz; iron-vane type. Taut band except AB-30 (pivot and jewel, 60 Hz).

150 V	0–150 kV	50-105 031 PZYR	$128.00	50-103 021 PZYR	$162.00	50-121 021 PZYR	$254.00
250 V	0–600 V	50-105 031 RSSJ	134.00	50-103 021 RSSJ	167.00	50-121 021 RSSJ	259.00

Rectifier type, 1.5% accuracy, 20–3000 Hz. Taut band.

15 V	0–15	†	$191.00	†	$210.00	†	$302.00
30 V	0–30	†	191.00	†	210.00	†	302.00
150 V	0–150	†	191.00	†	210.00	†	302.00
150 V	†	†	191.00	†	210.00	†	302.00
300 V	0–300	†	201.00	†	218.00	†	311.00
600 V	0–600	†	224.00	†	244.00	†	336.00
750 V	0–750	†	237.00	†	257.00	†	350.00

Ground-detector type, single-phase, 50/60 Hz. Taut band except AB-30 (pivot and jewel).

150 V	0–150	50-105 031 PZPZ	$128.00	50-103 021 PZPZ	$162.00	50-121 021 PZPZ	$254.00
150 V	†	50-105 031 PZ..†	128.00	50-103 021 PZ..†	162.00	50-121 021 PZ..†	254.00
300 V	0–300	50-105 021 RXRX	140.00	50-103 021 RXRX	174.00	50-121 021 RXRX	267.00
600 V	0–600	50-105 021 SJSJ	161.00	50-103 021 SJSJ	199.00	50-121 021 SJSJ	292.00

DC VOLTMETERS

		DB-30		DB-40		DB-16	
0–30 V	0–30	50-112 011 NLNL	$154.00	50-103 011 NLNL	$171.00	50-121 011 NLNL	$265.00
0–75 V	0–75	50-112 011 PBPB	154.00	50-103 011 PBPB	171.00	50-121 011 PBPB	265.00
0–150 V	0–150	50-112 011 PZPZ	154.00	50-103 011 PZPZ	171.00	50-121 011 PZPZ	265.00
0–300 V	0–300	50-112 011 RXRX	162.00	50-103 011 RXRX	180.00	50-121 011 RXRX	272.00
0–600 V	0–600	50-112 011 SJSJ	188.00	50-103 011 SJSJ	208.00	50-121 011 SJSJ	300.00

Narrow range—zener-diode.

110–130 V	110–130	†	$267.00	†	$294.00	†	$374.00

AC AMMETERS

Self-contained, 40/70 Hz; iron-vane type. Taut band except AB-30 (pivot and jewel).

		AB-30		AB-40		AB-16	
8 A	0–8	50-105 131 MJMJ	$119.00	50-103 131 MJMJ	$150.00	50-121 131 MJMJ	$243.00
10 A	0–10	50-105 131 MTMT	119.00	50-103 131 MTMT	150.00	50-121 131 MTMT	243.00

Transformer-rated, 40/70 Hz; iron-vane type. Taut band except AB-30 (pivot and jewel).

5	‡	†	$119.00	†	$150.00	†	$243.00

DC AMMETERS—SELF-CONTAINED, TAUT BAND

Self-contained milliammeters, zero-left.

		DB-30		DB-40		DB-16	
0–1 mA	0–1	50-112 111 FAFA	$153.00	50-103 111 FAFA	$167.00	50-121 111 FAFA	$259.00

Shunt-rated—zero-left for use with 50 mV shunts and 0.063-ohm shunt leads (standard 6-foot leads). Shunts and leads are not included in the price and must be ordered separately.

50	#	†	$146.00	†	$162.00	†	$254.00

AC FREQUENCY METERS

Taut band, 120 V rating.

			AB-30		AB-40		AB-16	
Scale Hz	Ctr. Freq. Hz	Accuracy Hz	GE Number	Net Each	GE Number	Net Each	GE Number	Net Each
55–65	60	±0.1	50-112 372 ANAN	$447.00	50-103 372 ANAN	$464.00	50-121 372 ANAN	$554.00

*Standard scales available ranging from 0–300 volts to 0–150 kV in 11 steps. †Order by description: Specify CT (Current Transformer) and/or PT (Potential Transformer) ratios if used and scale desired (where applicable). ‡Standard scales available ranging from 10 amps to 8000 amps in 30 steps. #Standard ranges available from 15–3000 amps in 19 steps.

GENERAL ELECTRIC SWITCHBOARD INSTRUMENTS

AC SYNCHROSCOPES

Pivot and jewel; self-contained, 120 V rating.

Scale	Normal Freq. Hz	AB-30		AB-40		AB-16	
		GE Number	Net Each	GE Number	Net Each	GE Number	Net Each
Slow-fast	50	50-105 452 ABAA	$411.00	50-106 452 ABAA	$457.00	50-120 452 ABAA	$550.00
Slow-fast	60	50-105 452 AAAA	411.00	50-106 452 AAAA	457.00	50-120 452 AAAA	550.00

TAUT BAND AC WATTMETERS

One element self-contained, single-phase/2-wire, 50/60 Hz, integral transducer.

Rating		Scale Watts	AB-30		AB-40		AB-16	
A	V		GE Number 50-112	Net Each	GE Number 50-103	Net Each	GE Number 50-121	Net Each
5	120	0–500	211 ARBU 1CRB	$284.00	211 ARBU 1CRB	$314.00	211 ARBU 1CRB	$405.00

Transformer-rated, 1-element, single-phase/2-wire, 50/60 Hz, integral transducer.

5	120	*	211 A*	$284.00	211 A*	$314.00	211 A*	$405.00

Transformer-rated, 2-element, 3-phase/3-wire, 50/60 Hz, integral transducer.

5	120	*	221 A*	$377.00	221 A*	$419.00	221 A*	$511.00
5	240	*	221 C*	407.00	221 C*	444.00	221 C*	537.00

Transformer-rated, 2½-element, 3-phase/4-wire, 50/60 Hz, integral transducer.

5	120	*	251 A*	$407.00	251 A*	$444.00	251 A*	$537.00
5	240	*	251 C*	433.00	251 C*	472.00	251 C*	565.00

PHASE-SHIFTING TRANSFORMERS

For measurement of Vars using standard watt meter.

GE No.	Type	Circuit	Net Each
8600K92001	MC63	3-wire/3-phase	$75.00

GE No.	Type	Circuit	Net Each
8600K92006	MC65	4-wire/3-phase	$75.00

AC VARMETERS

Transformer-rated, 1-element, single-phase/2-wire, 50/60 Hz, integral transducer and phase-shift impedor, taut band. Transformers ated 2-element, 3-phase/3-wire and 2½-element, 3-phase/4-wire, with integral transducers, also available.

5	120	*	312 A*	$370.00	312 A*	$409.00	312 A*	$502.00

*Order by description: Specify CT (Current Transformer) and/or PT (Potential Transformer) ratios if used, and scale desired.

TAUT BAND AC POWER-FACTOR METERS

Accuracy ±1% of scale length. Single-phase/2-wire, 50/60 Hz self-contained.

Rating		Scale	AB-30		AB-40		AB-16	
A	V		GE Number	Net Each	GE Number	Net Each	GE Number	Net Each
5	120	.5–1–.5	50-112 412 FCAD	$424.00	50-103 412 FCAD	$471.00	50-121 412 FCAD	$564.00

Accuracy ±1% of scale length. Three-phase/3-wire, 50/60 Hz.

5	240	.5–1–.5	50-112 402 FEAD	$370.00	50-103 402 FEAD	$404.00	50-121 402 FEAD	$497.00

Accuracy ±1% of scale length. Three-phase/4-wire, 50/60 Hz.

5	240	.5–1–.5	50-112 402 FEAD	$370.00	50-103 402 FEAD	$404.00	50-121 402 FEAD	$497.00

TYPE 180 INDICATING INSTRUMENTS

AC VOLTMETERS, 60 Hz, IRON VANE TYPE

Scale Range	Trans-former Rating	Vertical Scale No. 50-	Horizontal Scale No. 50-	Net Each 1-9
0-150 V	Self-Contained	180 033 PZPZ	180 031 PZPZ	$76.00
0-300 V		180-033 RXRX	180 031 RXRX	84.00
0-500 V		180 033 SFSF	180 031 SFSF	98.00
0-600 V		180 033 SJSJ	180 031 SJSJ	107.00

AC VOLTMETERS, TRANSFORMER RATED ELEMENTS, 150 VOLTS

Scale Range	Trans-former Rating	Vertical Scale No. 50-	Horizontal Scale No. 50-	Net Each 1-9
0-300 V	240/120	180 033 PZRX	180 031 PZRX	$76.00
0-600 V	480/120	180 033 PZSJ	180 031 PZSJ	76.00
0-750 V	600/120	180 033 PZSM	180 031 PZSM	76.00
0-3000 V	2400/120	180 033 PZVJ	180 031 PZVJ	76.00
0-5250 V	4000/120	180 033 PZVV	180 031 PZVV	76.00
0-6000 V	4800/120	180 033 PZVX	180 031 PZVX	76.00
0-9000 V	7200/120	180 033 PZWJ	180 031 PZWJ	76.00
0-15000 V	12000/120	180 033 PZWZ	180 031 PZWZ	76.00
0-18000 V	14400/120	180 033 PZXE	180 031 PZXE	76.00

AC AMMETERS, 60 Hz, IRON VANE TYPE

Scale Range	Trans-former Rating	Vertical Scale No. 50-	Horizontal Scale No, 50-	Net Each 1-9
0-1 A	Self-Contained	180 143 LALA	180 141 LALA	$76.00
0-3 A		180 143 LJLJ	180 141 LJLJ	76.00
0-5 A		180 143 LSLS	180 141 LSLS	76.00
0-10 A		180 143 MTMT	180 141 MTMT	76.00
0-15 A		180 143 NDND	180 141 NDND	76.00
0-20 A		180 143 NGNG	180 141 NGNG	76.00
0-30 A		180 143 NLNL	180 141 NLNL	76.00
0-50 A		180 143 NTNT	180 141 NTNT	76.00

DC VOLTMETERS, D'ARSONVAL TYPE

Scale Range Amps	Term. Resis. Ohms	Vertical Scale No. 50-	Horizontal Scale No. 50-	Net Each 1-9
0-1 V	1000 ohms/volt	180 013 LALA	180 011 LALA	$68.00
0-5 V		180 013 LSLS	180 011 LSLS	68.00
0-15 V		180 013 NDND	180 011 NDND	68.00
0-30 V		180 013 NLNL	180 011 NLNL	68.00
0-50 V		180 013 NTNT	180 011 NTNT	68.00
0-80 V		180 013 PDPD	180 011 PDPD	68.00
0-150 V		180 103 PZPZ	180 011 PZPZ	76.00
0-300 V		180 013 RXRX	180 011 RXRX	84.00
0-600 V		180 013 SJSJ	180 011 SJSJ	84.00
150-0-150 V		180 014 PZPZ	180 012 PZPZ	76.00
300-0-300 V		180 014 RXRX	180 012 RXRX	84.00

DC AMMETERS, D'ARSONVAL TYPE

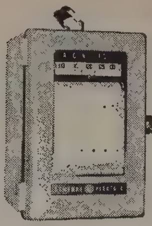
Scale Range Amps	Term. Resis. Ohms	Vertical Scale No. 50-	Horizontal Scale No. 50-	Net Each 1-9
0-50 μA	2760	180 113 CYCY	180 111 CYCY	$91.00
0-100 μA	1525	180 113 DRDR	180 111 DRDR	84.00
0-200 μA	690	180 113 EAEA	180 111 EAEA	76.00
0-500 μA	125	180 113 EMEM	180 111 EMEM	68.00
0-800 μA	63	180 113 EWEW	180 111 EWEW	68.00
0-1 mA	62.7	180 113 FAFA	180 111 FAFA	68.00
0-2 mA	3.2	180 113 FGFG	180 111 FGFG	68.00
0-5 mA	2.4	180 113 FXFX	180 111 FXFX	68.00
0-10 mA	2.4	180 113 GZGZ	180 111 GZGZ	68.00
0-50 mA	1.0	180 113 HYHY	180 111 HYHY	68.00
0-100 mA	0.5	180 113 JRJR	180 111 JRJR	68.00
0-200 mA	0.25	180 113 KAKA	180 111 KAKA	68.00
0-500 mA	0.1	180 113 KMKM	180 111 KMKM	68.00
0-800 mA	0.06	180 113 KWKW	180 111 KWKW	68.00
0-1 A	0.05	180 113 LALA	180 111 LALA	68.00
0-2 A	0.03	180 113 LELE	180 111 LELE	68.00
0-5 A	0.01	180 113 LSLS	180 111 LSLS	68.00
0-10 A	0.005	180 113 MTMT	180 111 MTMT	68.00
0-15 A	0.003	180 113 NDND	180 111 NDND	68.00
0-20 A	0.25	180 113 NGNG	180 111 NGNG	68.00
0-30 A	0.001	180 113 NLNL	180 111 NPNP	68.00
0-40 A	0.001	180 113 NPNP	180 111 NTNT	68.00
0-50 A	0.001	180 113 NTNT	180 111 NTNT	68.00

DC AMMETERS, SHUNT RATED*

0-10 A	12.5	180 123 ECMT	180 121 ECMT	$68.00
0-20 A	12.5	180 123 ECNG	180 121 ECNG	68.00
0-30 A	12.5	180 123 ECNL	180 121 ECNL	68.00
0-40 A	12.5	180 123 ECNP	180 121 ECNP	68.00
0-50 A	12.5	180 123 ECNW	180 121 ECNW	68.00
0-80 A	12.5	180 123 ECPD	180 121 ECPD	68.00
0-100 A	12.5	180 123 ECPK	180 121 ECPK	68.00
0-200 A	12.5	180 123 ECRL	180 121 ECRL	68.00
0-300 A	12.5	180 123 ECRX	180 121 ECRX	68.00
0-400 A	12.5	180 123 ECSC	180 121 ECSC	68.00
0-500 A	12.5	180 123 ECSJ	180 121 ECSJ	68.00
0-800 A	12.5	180 123 ECSN	180 121 ECSN	68.00
0-1000 A	12.5	180 123 ECVA	180 121 ECVA	68.00
0-50 mV	12.5	180 123 EC†	180 121 EC†	68.00
50-0-50 mV	25	180 124 EC†	180 122 EC†	68.00
0-100 mV	25	180 123 GB†	180 121 GB†	68.00
100-0-100 mV	50	180 124 GB†	180 122 GB†	68.00

†Scale and legend to be specified by customer. *Order shunt and leads separately.

TYPE CH RECORDERS



These direct-acting electrical recorders provide 1% accuracy and chart drive speeds from ¼ to 120 inches per hour. Available chart drives include dual-speed, selectable or hand-wound spring motor. These recorders have the ability to simultaneously record any two inputs. The continuous inking mechanism records on a 4½" calibrated chart. Inkless models are available.

Parameter	Minimum Rating Full Scale	Maximum Rating Full Scale
AC Current	500 mA	20 A
AC Voltage	7.5 V	750 V
DC Current	500 μA	20 A
DC Voltage	5 V	1000 V
DC for shunt	50 mV	600 mV

CH-1 AND CH-3 SINGLE-RANGE AC RECORDERS

AMMETERS

Rating	Scale	Catalog Numbers Semi-flush CH-1	Catalog Numbers Portable CH-3	Net Price
0-5 A	Optional	632X25	635X78	$741.00
VOLTMETERS				
0-150	Optional	632X64	636X18	$755.00
EXPANDED SCALE VOLTMETERS				
0-90 to 130 V	0-90 to 130 V	(Order by description)		$859.00
WATTMETERS, SINGLE PHASE				
5 A, 120 V	Optional	633X3	636X52	$805.00
5 A, 240 V	0-1 KW	633X10	636X59	816.00
WATTMETERS, 3-WIRE/3-PHASE				
5 A, 120 V	Optional	633X39	636X88	$875.00
5 A, 240 V	0-2 KW	633X46	636X95	886.00
WATTMETERS, 4-WIRE/3-PHASE				
5 A, 120 V	Optional	633X73	637X23	$893.00
5 A, 240 V	0-4 KW	633X80	637X30	905.00
WATTMETERS, UNIVERSAL				
5 A, 120 V	0-1 KW	....	637X50	$944.00
VARMETERS, 3-WIRE/3-PHASE*				
2.5-0-2.5 A, 120 V	Optional	632X96	638X44	$939.00
VARMETERS, 4-WIRE/3-PHASE*				
2.5-0-2.5 A, 120 V	Optional	632X97	638X45	$965.00
VARMETERS, 4-WIRE/3-PHASE†				
2.5-0-2.5 A, 208 V	Optional	632X98	638X46	$909.00

*Includes phase-shifting transformer.
†Phase-shifting transformer not required.

CH-4 MULTIRANGE AC RECORDERS

AMMETERS

Rating	Scale	Catalog Number Portable CH-4	Net Price
0-5/10 A	0-5 A	8CH4AAB17	$818.00
VOLTMETERS, RECTIFIER TYPE			
0-75/150/300/600/750 V	0-150 V	8CH4VAB200	$859.00
WATTMETERS, 3-WIRE/3-PHASE			
120/240/480 V, 5 A	0-1 KW	8CH4KBL17	$992.00
WATTMETERS, UNIVERSAL			
120/240/480 V, 5 A	0-1 KW	8CH4KBA203	$1038.00

TYPE CH-7 PORTABLE RECORDER

Scale calibrated 0-15 AC amps and volts. System accuracy is 2% of any range. Switch-selectable ranges include: 0-15/30/75/150/300/750 amps and 0-150/300/750 volts. Complete with 8.7 KV (L-L) current transformer.

Frequency Hertz	Chart Drive	Catalog Number	Net Price
60	Double-speed, 120/240 V synchronous motor	827X50*	$1068.00
60	Double-speed, 120/240 V synchronous motor	827X53#	1084.00
50/60	Spring motor	827X51*	1389.00
50/60	Spring motor	827X54#	1405.00

*With 10 ft. transformer leads. #With 50 ft. transformer leads.

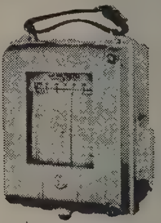
TYPE CF-7 HOOK-ON PORTABLE VOLT-AMMETER

System accuracy is 3% on all ranges. Chart drive motor is 120/240 volts, 60 Hertz. Ranges are: 0-15/30/75/150/300/750 amps; 0-150/300/750 volts.

WITH 8.7KV CURRENT TRANSFORMER

Chart Speed In./hr.	With 10-ft. Lead Catalog Number	With 10-ft. Lead Net Price	With 50-ft. Lead Catalog Number	With 50-ft. Lead Net Price
3	684X94	$802.00	684X98	$818.00
1	684X96	802.00	685X60	818.00
	WITH 15 KV CURRENT TRANSFORMER			
3	837X85	$900.00	837X89	$917.00
1	837X87	900.00	837X91	917.00

TYPE CF INKLESS RECORDERS



The inkless recording mechanism is less sensitive to environmental conditions, and the lightweight case allows outside use with no additional protection. Styles are available for "pole" mounting. System accuracy is 2%. The chart width is 3½". Chart speeds vary from 1 inch per day to 3 inches per hour.

Parameter	Minimum Rating Full Scale	Maximum Rating Full Scale
AC Current	1.5 A	20 A
AC Voltage	70 V	560 V
DC Current	125 μA	30 A
DC Voltage	3 V	....
DC for shunt	50 mV	120 mV
AC Watts:		
Current coil	0.5 A	20 A
Voltage coil	120 V	480 V

VOLTMETERS

Rating	Scale	Chart Speed In./hr.	CF-1 Portable Catalog No.	CF-1 Portable Net Price	CF-4 Panel Mounted Catalog No.	CF-4 Panel Mounted Net Price
0-140/280	0-140 V	1	461X89	$368.00	....	....
0-140/280	0-140 V	3	99X950	368.00	....	....
0-140/280	0-140 V	1	625X68	395.00	....	....
0-140/280	0-140 V	3	625X69	395.00	....	....
0-140	0-140 V	3	....	....	416X38	$446.00
AMMETERS						
0-2.5/10	0-2.5 A	1 or 3	#	$379.00	....	....
0-5/10	0-5 A	1	625X72	368.00	....	....
0-5/10	0-5 A	3	88X731	368.00	....	....
0-10/20	0-10A	1	625X73	395.00	....	....
0-10/20	0-10 A	3	88X732	395.00	....	....
0-5	0-5 A	3	....	....	416X42	$446.00

#Order by description. *Has common connection for element and chart drive; all others separate.

WATTS AND VARS RECORDER

The most suitable equipment for recording watts and vars is the General Electric Type CH/CF-11 universal watt/var recorder. Within one minute after removing the chart from the recorder, the following system data can be tabulated: system kw, kvars, power factor, kva, and the kva rating of capacitors required for any desired power factor. The unit consists of a recorder, transducer, hook-on current transformer (8.7 KV L-L) and 10 ft. current transformer extension leads. It records watts and vars for 3-wire/3-phase or 4-wire/3-phase circuits. For single-phase/2-wire or single-phase/3-wire circuits, it records watts only.

General Electric CF-11—3-phase/4-wire recorder.
Net Each **$2260.00**

General Electric CH-11—3-phase/4-wire recorder.
Net Each **$2545.00**

GENERAL ELECTRIC Industrial Test Equipment

"SNAPPER" SERIES AC VOLT/AMP/OHM HOOK-ON METERS

Hook-on type meters measure AC volts, amps, and resistance (with optional resistance probe). All have selectable ranges with rotary drum type or flat scales. Slim jaws are double-insulated. Built-in pointer lock. All come complete with voltage leads and carrying case. **Accuracy:** ±3% of full scale. **Maximum Dia. of Conductor:** Snapper 150 and 350, 1¹⁄₁₆"; Snapper 1000, 2".

General Electric Snapper 150 Catalog No. 50-190611AAAA1—Measures 0-150/600 volts; 0-30/150 amps; 0-1000 ohms (with optional probe). Net Each.......................... **$51.50**

General Electric Snapper 350 Catalog No. 50-190511AAAA1—Measures 0-150/300/750 volts; 0-5/20/80/350 amps; 0-1000 ohms (with optional probe). Net Each.................... **$70.00**

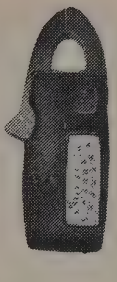
General Electric Snapper 1000 Catalog No. 50-190411AAAA1—Measures 0-150/300/750 volts; 0-10/30/100/300/1000 amps; 0-1000 ohms (with optional probe). Net Each......... **$107.00**

General Electric Catalog No. 50-190911AAAA1 Resistance Probe—Measures 0-1000 ohms DC resistance when used with any of the Snapper meters above. Two "AA" alkaline cells not included. Net Each... **$7.00**

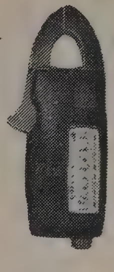
General Electric No. 2626K17G2 Voltage Lead Assembly—Net Each... **$8.00**

General Electric No. 2164K28P1 Carrying Case—Net Ea.. **$10.00**

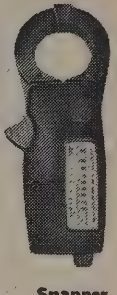
General Electric No. 50-177001AAAA1 Anti-Static Solution—Net Each... **$4.00**



Snapper 150



Snapper 350

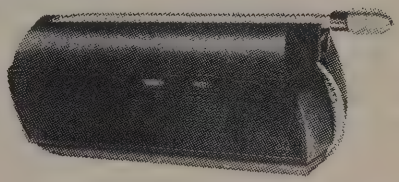


Snapper 1000

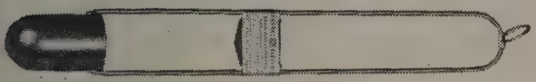
TRACKER™ REFRIGERANT LEAK DETECTOR

Two alkaline "D" cells provide battery power for complete portability. Unit tracks halogen gases and R-12, R-22, etc., refrigerant leaks down to 0.5 oz. per year. Rugged, dependable, easy to use with 18" semi-rigid extensible probe to reach difficult places.

General Electric No. 50-420811AAAE—Tracker Leak Detector. Net Each.. **$123.30**



VISCOSIMETER



The General Electric Zahn viscosimeter is used to measure the viscosity of varnish, lacquer, japan, syrups, oils and other liquids. Paint manufacturers use it to standardize their products. Users of paint products use it to control the viscosity of finishing materials in order to obtain uniform results and to reduce rejects caused by imperfect finishes. Made of corrosion-resistant stainless steel with a precision orifice. Gives exact viscosity comparison.

ORIFICE SELECTION TABLE

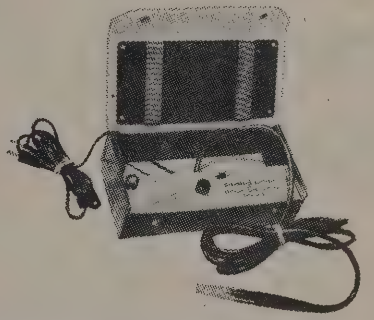
Cup Number	Approx. Orifice Size, Ins.	Rcmnd.* Centipoise Range	Range in Zahn-seconds	Use
1	0.078	20- 85	40-85	Very thin oil or mixtures
2	0.108	30- 170	20-70	Thin oil, mixed paints
3	0.148	170- 550	25-60	Med. oil, mixed paints
4	0.168	200- 900	20-65	Heavy mixtures
5	0.208	250-1200	15-60	Extremely heavy mixtures

*These figures are given only as a basis for determining the proper cup size. They are not intended for use in converting centipoises to Zahn-seconds.

PRICING

Catalog Number	Cup Number	Net Each
9109697G1	1	$40.00
9109697G2	2	40.00
9109697G3	3	40.00
9109697G4	4	40.00
9109697G5	5	40.00
8488K10P1	Thermometer	25.00
8918K90P1	Stop watch	56.00

TYPE H-10 REFRIGERANT LEAK DETECTOR



AC voltage powered for 120- or 240-volt use. Finds halogen gases and R-12, R-22, etc., refrigerant leaks down to 0.5 oz. per year. Actually inhales a sample of the gas for fast, dependable leak detection.

General Electric No. 50-420805AAAA—Type H-10 for 120 VAC operation. Net Each.................................. **$130.00**

General Electric No. 50-420806AAAA—Type H-10 for 240 VAC operation. Net Each.................................. **$155.00**

PIONEER INSTRUMENT LABS ARE AUTHORIZED REPAIR AND MODIFICATION CENTERS FOR GENERAL ELECTRIC

GENERAL TIME
A TALLEY INDUSTRIES COMPANY

Timers

SERIES DA TIME-DELAY TIMERS

REAR MOUNTING

Type DA11: Manually adjustable by knob. Apply wherever delay, interval or repeat cycle timing functions are required (repeat cycle requires two units). Internal clutch engages and disengages when motor is energized and de-energized. Resets to start position when power is removed. SPDT switch rated 20 amps at 125 or 250 VAC resistive; solder lug terminals. Min. setting, 0 sec. Repeat accuracy, ± ¾ of 1% of total time range. Timing motor rated 5 watts max. at 120 VAC, 60 Hz. UL Recognized. Size, 3⅜" w. x $2\frac{13}{16}$" d. x 3⅛" h. Weight, 1 lb.

Type DA21: Same as DA11 but with locknut adjustment to eliminate tampering. UL Recognized.

When ordering, specify model number, voltage, and frequency.

Model Number		Max.	Max.
Manual Adj.	Locknut Adj.	Time Setting	Reset Time
DA11-036	....	5.7 sec	.25 sec
DA11-031	DA21-001	14 sec	1.0 sec
DA11-032	DA21-002	57 sec	1.5 sec
DA11-033	DA21-003	4.5 min	15 sec
DA11-034	DA21-004	9.5 min	120 sec

Net Each, Lots of						
1-4	5-9	10-24	25-49	50-99	100-249	250 Up
DA11 & DA21—120 V, 60 Hz						
$24.60	$23.45	$22.30	$20.85	$19.70	$18.55	$17.35
DA11—240 V, 60 Hz						
$27.30	$26.00	$24.70	$23.10	$21.85	$20.55	$19.25

SERIES DP11 RESET TIMERS

PANEL MOUNTING

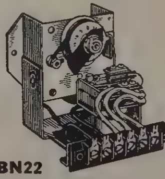
Adjustable time range by simple pointer knob. Apply wherever delay, interval or repeat cycle timing are needed (repeat cycle requires two timers). Readout of elapsed time by pointer in center of knob. Unit resets to start position when power is removed. SPDT switch rated 10 amps at 125 or 250 VAC resistive. Timing motor rated 5 watts max. at 120 VAC, 60 Hz. Repeat accuracy, ±1% of total time range. Screw terminals. Size, $3\frac{5}{16}$" sq. x $3\frac{9}{32}$" deep, behind panel. Requires $3\frac{3}{16}$" dia. mounting hole cut. **When ordering, specify model number, voltage, and frequency.**

Model Number	Time Setting		Max. Reset Time	Dial Grads.	
	Max.	Min.		Major	Minor
DP11-007	6 sec	.3 sec	.5 sec	1 sec	1.0 sec
DP11-001	15 sec	.8 sec	1.0 sec	1 sec	.2 sec
DP11-006	30 sec	1.5 sec	1.5 sec	5 sec	.5 sec
DP11-002	60 sec	3.0 sec	1.5 sec	10 sec	1.0 sec
DP11-003	5 min	.2 min	15 sec	1 min	.1 min
DP11-004	10 min	.4 min	120 sec	1 min	.2 min

Net Each, Lots of						
1-4	5-9	10-24	25-49	50-99	100-249	250 Up
$30.25	$28.85	$27.40	$25.65	$24.20	$22.80	$21.35

SERIES BN ADJUSTABLE RESET TIMERS

Rear mounting delay timer has built-in relay and adjustable time range. Dial and setting knob with readout of elapsed time by pointer in center of knob. SPDT relay rated 10 amps at 125/250 VAC. Motor rating, 5 W max. at 120 VAC. Repeat accuracy, ¾ of 1% of total time range. Locknut setting adjustment, where only occasional time period changes are required. UL Recognized. Size, 3.375" w. x 4.202" h. x 3.750" d.



BN22

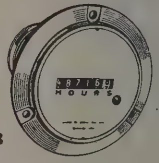
Model Number	Time Setting		Max. Reset Time	Dial Grads.	
	Max.	Min.		Major	Minor
BN22-001	13.5 sec	.7 sec	.5 sec	1 sec	.5 sec
BN22-004	9.5 min	30 sec	120 sec	1 min	5 sec

Net Each, Lots of						
1-4	5-9	10-24	25-49	50-99	100-249	250 Up
$35.15	$33.50	$31.85	$29.75	$28.10	$26.45	$24.80

ELAPSED TIME INDICATORS

EF27

ED



EF13

Wide variety of meters available for any application where accurate time readings are required. All are synchronous motor driven. Round, square bezel, panel mount and rear mount available. Readout is digital with a range of five figures plus tenths; in hours and tenths or minutes and tenths. All units operate at 120 VAC, 60 Hz. Operating temperature, −12° C to +55° C Registers hours and tenths unless otherwise noted. UL Recognized.

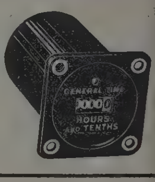
Model No.*	Bezel	Depth	Dia. of Unit	Max. Motor Rating, W	Leads or Terminals
EF13 NR	2⅞" rd.	$1\frac{51}{64}$"	$2\frac{17}{64}$"	2.5	6" leads
EF27 NR	2⅜" sq.	$1\frac{23}{32}$"	2.077"	5.0	6" leads
ED71 NR	1¾" sq.	$2\frac{37}{64}$"	$1\frac{17}{32}$"	2.5	11¼" leads
ED72 NR	1¾" sq.	$2\frac{37}{64}$"	$1\frac{17}{32}$"	2.5	Solder

*NR indicates non-reset.

Type	Net Each, Lots of					
	1-4	5-9	10-24	25-49	50-99	100-249
EF13, 120 V	$13.85	$13.20	$12.55	$11.75	$11.10	$10.45
EF13, 240 V	16.55	15.75	15.00	14.00	13.25	12.45
EF27, 120 V	16.30	15.50	14.75	13.80	13.00	12.25
ED71, 120 V	30.60	29.15	27.70	25.90	24.50	21.95
ED72, 120 V	33.15	31.60	30.05	28.10	26.50	24.95

†Registers minutes and tenths.

HERMETICALLY SEALED MILITARY TYPE INDICATOR



Meets MIL-M-7793C and MIL-E-5272C requirements. Readout, four digits (hours) plus tenths. Temperature range, −55° C to +85° C. Size, 1¾" sq. x $2\frac{37}{64}$" deep with 1½" dia. barrel. Four mounting holes on $1\frac{5}{16}$" centers. For 115 volts, 400 Hz. MIL-STD-MS-28053-5 solder terminals. Shipping Weight, ¾ lb.

Model No.	Net Each, Lots of						
	1-4	5-9	10-24	25-49	50-99	100-249	250 Up
7010-004	$54.00	$51.50	$48.95	$45.75	$43.20	$40.65	$38.15
7010-010*	54.00	51.50	48.95	45.75	43.20	40.65	38.15

*Non-military, 60 Hz.

DC HOUR METER/ELAPSED TIME INDICATORS

H500

H400

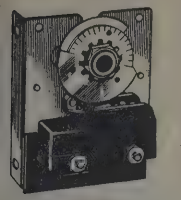
Low cost, 4 to 50 VDC meters feature permanently sealed, high impact, heavy duty cases with standard SAE mounting and plug-in blade terminals without polarity. Jeweled bearings provide long life and accuracy within ±1% from −20° F to +165° F. Automatically recycles after 9999.9 hours. Each unit tested for 60 hours before shipment. Each meter includes operating indicator. QPL listed per MIL-3971-C. **To order:** Specify **H400** flange mount or **H500** bracket mount and operating voltage (voltages higher than 50 VDC are available on special order).

Net Each, Lots of: 1-4 . . . **$13.50**; 5-9 . . . . **$11.50**
10-24 . . . . **9.80**; 25 Up **8.00**

GENERAL TIME
A TALLEY INDUSTRIES COMPANY

Timers

SERIES RG21 REPEAT-CYCLE TIMERS

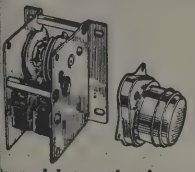


Cam-actuated, single switch timers for rear mounting. Run continuously, repeating a set cycle of make-break switching operations as long as motor is energized. Also operates a single time cycle. Cam adjustable from 7° min. to 169° max. (±3%). SPDT switch rated 20 amps resistive. Timing motor rated 3.7 watts max. at 120 VAC, 60 Hz. Solder lug terminals. 6″ leads. UL Recognized. Size, 2⁵⁄₁₆″ w. x 2½″ d. x 3⅛″ h. Weight, 1 lb.

Model	Time*	Model	Time*	Model	Time*
RG21-090	7½ sec	**RG21-093**	1 min	**RG21-096**	15 min
RG21-091	15 sec	**RG21-094**	5 min	**RG21-097**	30 min
RG21-092	50 sec	**RG21-095**	10 min	**RG21-098**	60 min

Net Each, Lots of						
1-4	5-9	10-24	25-49	50-99	100-249	250 Up
$18.95	$18.05	$17.15	$16.05	$15.15	$14.25	$13.40

SERIES RE62 REPEAT CYCLE MULTI-CAM TIMERS



Same specifications as RG21, except 2 to 6 switches may be actuated during cycle. Run continuously, repeating set cycles of multiple switching operations as long as motor is energized. Complete unit requires one motor and one or more switch stacks. Spanner wrench included to adjust cams. Two-switch unit size, 2⁵⁄₁₆″ h. x 3⁵⁄₃₂″ w. x 3⁹⁄₁₆″ d.; add ¹¹⁄₁₆″ to depth for each additional switch. UL Recognized. **When ordering, specify switch stack model number, drive motor type number, voltage, and frequency.**

SWITCH STACKS

Model No. RE-	*	Net Each, Lots of						
		1-4	5-9	10-24	25-49	50-99	100-249	250 Up
62-091	2	$17.80	$16.80	$15.95	$14.95	$14.10	$13.30	$12.45
63-092	3	23.50	22.40	21.30	19.90	18.80	17.70	16.60
64-093	4	28.25	26.95	25.60	23.95	22.60	21.30	19.95
65-094	5	35.95	34.25	32.55	30.45	28.75	27.05	25.40
66-095	6	41.85	39.90	37.90	35.45	33.50	31.50	29.55

*Number of switches.

DRIVE MOTOR SPECIFICATION

Order one with switch stacks for complete unit.

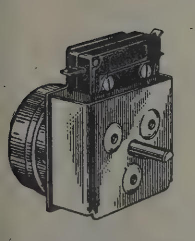
Model	Time*	Model	Time*	Model	Time*
MP10-390	7½ sec	**MP10-393**	1 min	**MP10-397**	30 min
MP10-400	10 sec	**MP10-394**	5 min	**MP10-398**	60 min
MP10-391	15 sec	**MP10-395**	10 min		
MP10-392	30 sec	**MP10-396**	15 min		

*Cam shaft speed for one revolution.

DRIVE MOTOR INDUSTRIAL PRICING

Net Each, Lots of						
1-4	5-9	10-24	25-49	50-99	100-249	250 Up
$9.15	$8.70	$8.30	$7.75	$7.30	$6.90	$6.45

SERIES AB HAND-SET INTERVAL TIMERS

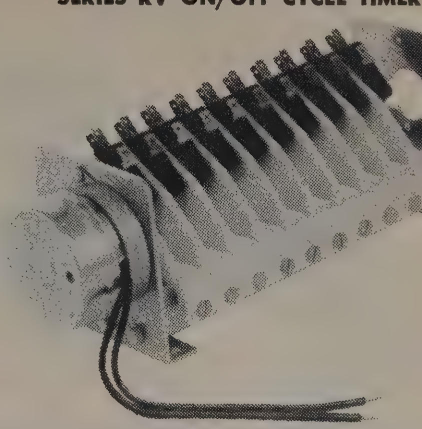


Rotation energizes the load and timing motor, which are de-energized on release; when motor drives timer to zero. Setting can be changed during cycle without damage. Mount behind panel, using three equally spaced .180″ dia. tapped holes on .562″ radius. Setting shaft, ¼″ dia. flatted to .156″ for ½″. Flat is located 180° from "0" time. SPDT switch rated 25 amps at 125 or 250 VAC resistive. Timing motor rated 3.5 watts at 120 VAC, 60 Hz. Spade terminals, ¼″. Size, 2½″ w. x 3³⁄₁₆″ d. x 3″ h. UL Recognized. Weight, 1 lb. **When ordering, specify model number, voltage and frequency.**

Model No.	Time Range	Model No.	Time Range
AB51-001	1 min	**AB51-006**	2 hrs
AB51-002	6 min	**AB51-007**	6 hrs
AB51-003	15 min	**AB51-008**	8 hrs
AB51-004	30 min	**AB51-010**	12 hrs
AB51-005	60 min	**AB51-016**	24 hrs

Net Each, Lots of						
1-4	5-9	10-24	25-49	50-99	100-249	250 Up
120V, 60 Hz						
$11.75	$11.20	$10.65	$9.95	$9.40	$8.85	$8.30
240V, 60 Hz						
$14.55	$13.85	$13.15	$12.30	$11.60	$10.95	$10.25

SERIES RV ON/OFF CYCLE TIMERS



Multiple switch, cam-activated type timers provide very precise control of programmed multiple switching functions. Each switch can be adjusted for setting accuracy. Each may be removed without affecting other switches or their cam settings. Cams are molded Delrin of one or two-piece construction. Switches are SPDT rated at 15 A or ⅛ H.P. at 125-250 VAC or ¼ H.P. at 250 VDC. Terminals are ³⁄₁₆″ quick-disconnect/solder type. Motors have 6″ leads and are available for 24 VAC, 120 VAC, 240 VAC (50/60 Hz), 6 VDC, 12 VDC and 24 VDC. **To order:** Specify number of switches, full cycle time, motor voltage and frequency. Available time ranges are listed in dial table, below. Dials and the knob are ordered separately.

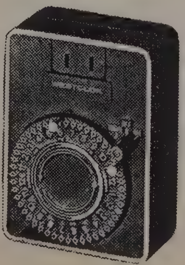
SWITCH PRICES

No. of Switches	Dimens., Ins.		Net Each, Lots of					
	A	B	1-4	5-9	10-24	25-49	50-99	100-249
1	1.728	.978	$21.05	$20.05	$18.10	$17.90	$16.90	$15.95
2	2.320	1.570	23.30	22.25	21.15	19.80	18.70	17.65
3	2.912	2.162	25.55	24.35	23.20	21.70	20.50	19.35
4	3.504	2.754	27.80	26.50	25.25	23.60	22.30	21.00
5	4.096	3.346	30.05	28.65	27.25	25.50	24.10	22.70
6	4.688	3.938	32.30	30.80	29.30	27.40	25.90	24.40
7	5.280	4.530	34.55	32.95	31.35	29.35	27.70	26.10
8	5.872	5.122	36.85	35.15	33.40	31.25	29.55	27.85
9	6.464	5.714	39.05	37.25	35.40	33.15	31.30	29.50
10	7.056	6.306	41.35	39.45	37.50	35.10	33.15	31.25
11	7.648	6.898	43.55	41.55	39.50	36.95	34.95	32.90
12	8.240	7.490	45.85	43.75	41.60	38.90	36.75	34.60
13	8.832	8.082	48.15	45.90	43.65	40.85	38.60	36.35
14	9.424	8.674	50.35	48.00	45.65	42.70	40.35	38.00
15	10.016	9.266	52.65	50.20	47.75	44.65	42.20	39.75
16	10.608	9.858	54.90	52.30	49.75	46.55	43.95	41.40
17	11.200	10.450	57.15	54.50	51.80	48.50	45.80	43.15
18	11.792	11.042	59.40	56.65	53.85	50.40	47.60	44.85
19	12.384	11.634	61.65	58.80	55.90	52.30	49.40	46.55
20	12.976	12.226	63.95	60.95	57.95	54.20	51.20	48.20

DIALS AND KNOB

Model	Scale	Net Each	Model	Scale	Net Each
RV8-1000-902	5 sec.	$1.45	**RV8-1000-910**	15 min.	$1.45
RV8-1000-903	10 sec.	1.45	**RV8-1000-911**	30 min.	1.45
RV8-1000-904	15 sec.	1.45	**RV8-1000-912**	1 hr.	1.45
RV8-1000-905	30 sec.	1.45	**RV8-1000-913**	3 hrs.	1.45
RV8-1000-906	60 sec.	1.45	**RV8-1000-914**	4 hrs.	1.45
RV8-1000-907	5 min.	1.45	**RV8-1000-915**	6 hrs.	1.45
RV8-1000-908	6 min.	1.45	**RV8-1000-916**	12 hrs.	1.45
RV8-1000-909	10 min.	1.45	**RV8-1000-917**	24 hrs.	1.45
VH5-2121-901	Three dial screws				
55-121	Black knob				.55

24 HOUR MULTIPLE PROGRAM TIMER



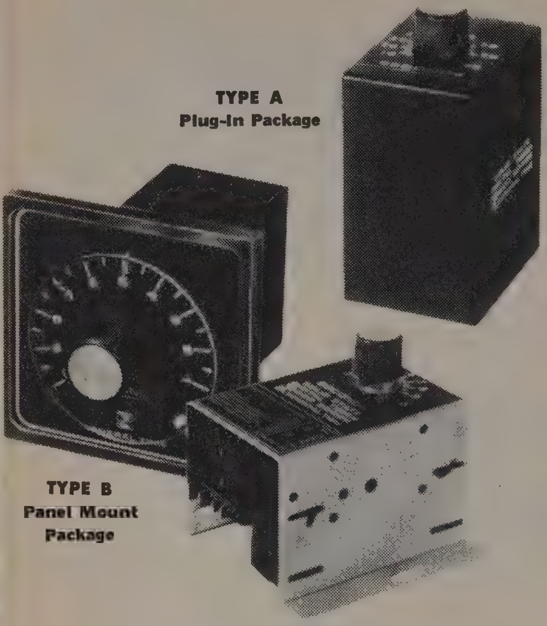
Can be programmed to turn loads on and off automatically once, twice, or more times daily. Six resettable pins for programming on/off cycles. 125 volts AC. 15 amps. Size: 4″ h. x 3″ w. x 1½″ d. Shipping weight: ½ lb.

Model No. 52017 Timer—Woodtone finish. Net Each **$9.39**

GENERAL TIME
A TALLEY INDUSTRIES COMPANY

Digital Electronic Timers

SERIES Q-20 DIGITAL ELECTRONIC TIMERS



TYPE A
Plug-In Package

TYPE B
Panel Mount Package

TYPE C
Chassis Mount Package

Low cost digital timers are priced to replace both electromechanical and other electronic timers. Three package styles are available: Type A plug-in package for easy removal and replacement, Type B for convenient control panel mounting, and Type C for permanent mounting in panel box enclosures. Three operating modes are available in each of the three package styles: ON-DELAY, OFF-DELAY, and INTERVAL. Integrated circuit digital electronic circuitry provides exceptional reliability and repeat accuracy; typically ±0.5% of set point.

HOW TO ORDER

Specify Series Q-20 Digital Timer, plus other information listed below.

Q-20 - A - 02 - A - 2 - A 000

TYPE OF PACKAGE:
- **A**—Plug-in timer
- **B**—Panel mount timer with indicator light. See type E for timer without indicator light.
- **C**—Chassis mount timer

TIME RANGE (full scale):
- **01**—1 second
- **03**—3 seconds
- **05**—5 seconds
- **10**—10 seconds
- **15**—15 seconds
- **30**—30 seconds
- **60**—60 seconds
- **61**—90 seconds
- **63**—3 minutes
- **65**—5 minutes
- **70**—10 minutes
- **75**—15 minutes
- **76**—30 minutes
- **77**—60 minutes

OPERATING MODE:
- **A**—On-Delay
- **B**—Interval
- **C**—Off-Delay

INPUT VOLTAGE:
- **1**—24 VAC, 50/60 Hz
- **2**—117 VAC, 50/60 Hz
- **3**—12 VDC
- **4**—24 VDC
- **5**—28 VDC

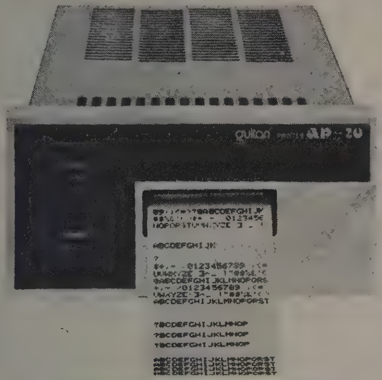
NOTE: The Q-20 Series is designed to plug into standard spade-type relay sockets. Order P & B relay socket No. 20312-82.

NET PRICE PER UNIT

F.S. Timerange 1 sec. to 10 min.				F.S. Timerange 15 to 60 min.			
	Package Style				Package Style		
Quantity	A	B	C	Quantity	A	B	C
1–4	$25.10	$31.35	$23.20	1–4	$25.80	$32.05	$23.90
5–9	23.80	29.80	22.05	5–9	24.50	30.50	22.75
10–24	22.55	28.25	20.90	10–24	23.25	28.95	21.60
25–49	21.30	26.65	19.70	25–49	22.00	27.35	20.40
50–99	20.05	25.10	18.55	50–99	20.75	25.80	19.25
100–249	18.80	23.50	17.40	100–249	19.50	24.20	18.10

Gulton's Non-Impact Thermal Printers

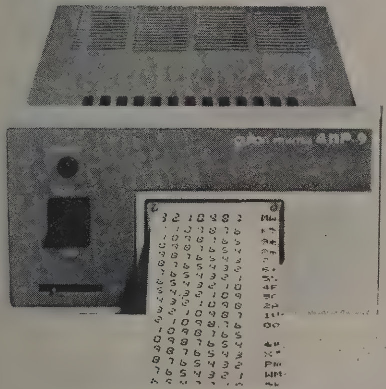
Printers don't have to use complex clicking and banging mechanical devices as their print mechanisms. Gulton proves it with a line of printers that provides totally quiet operation. With the Gulton non-impact thermal technique, only one moving part is required, the tape drive motor. The tape glides silently beneath the thermal print head at up to 4 line/sec. print rate to produce clear, readable characters. Three basic printer models are yours to choose from — each with distinctive characteristics that sets it apart from any other printer.



20 Column Full Alphanumeric Printer AP-20

Twenty columns. Full upper case 64 character ASCII subset. Panel mounting. Quiet reliable thermal printing. Complete with all electronics including power supply. Simple parallel interface. Print rate is 2.5 lines/second. **The most significant advance in printers yet!**

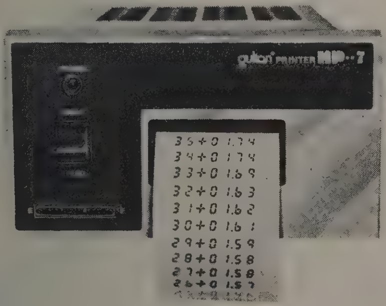
$675.00



Seven Column Numeric Printer With Data Identification ANP-9

Seven columns of numbers with left hand decimal point in each column, or six with a plus/minus sign . . . and two columns of data identification numbers, letters and symbols. Eliminates transcription errors and unidentified numbers. Data identification characters can be specified to the left or right of the number columns. A standard 32 character set of data identification characters is provided. However, any special characters that can be formed by a 5 x 7 dot matrix are available.

$540.00



Seven Column Numeric Printer NP-7

Seven columns of printing. Four print head styles to choose from: either seven columns of numbers, or six columns of numbers with plus/minus sign in first, second or third column. Character type is standard seven segment with left hand decimal point in each column. Panel mounting configuration. Fast, simple tape loading. Complete with electronics for easy interface to all popular digital panel meters.

$459.00

gulton®

Measurement & Control Systems Division

J-B-T® VIBRATING REED FREQUENCY METERS

J-B-T Vibrating Reed Frequency Meters are used extensively in radio, telephone and television service, on engine generator sets, in laboratories, in many types of electronic equipment—wherever constant or known frequency is important to efficient operation of equipment.

MODERN FB SERIES VIBRATING REED FREQUENCY METERS

Modern style; made for easy reading to full limit of accuracy. Permanently calibrated; no temperature compensation needed. Screw term. Typical models listed; others available on order.

J-B-T Model	Range, Hz	No. of Reeds	Standard Voltage	Imped., Ohms	Accuracy ±%	Case Size	Net Each
30-FB	48–52 & 58–62	10	100–130	16,500	0.3	3½"	**$44.00**
31-FB	58–62	5	100–130	16,500	0.3	3½"	**36.00**
33-FB	380–420	9	100–130	15,400	0.3	3½"	**53.00**
34-FB	56–64	9	100–130	16,500	0.3	3½"	**43.50**
34-FB-Z-11	57.5–62.5	11	100–130	16,500	0.3	3½"	**47.75**
34-FB-21	45–64	21	100–130	21,800	0.3	3½"	**58.25**
36-FB-21-115	380–420	21	100–130	15,400	0.3	3½"	**64.75**

ROUND MOLDED AND METAL CASE REED METERS

FHXX models, sealed meters, glass-to-metal construction with solder terminals and detachable flange; **F** models unsealed metal case; **FX** models molded case.

J-B-T Model	Range, Hz	No. of Reeds	Standard Voltage	Ohms per Volt	Accuracy ±%	Case Size	Net Each
30-FX	48–52 & 58–62	10	100–130	140	0.3	3½"	**$41.00**
31-F	58–62	5	100–130	115*	0.3	3¼"	**37.00**
31-FX	58–62	5	100–130	120	0.3	3½"	**34.75**
31-FHXX	58–62	5	100–130	120	0.3	3½"	**42.50**
33-F	380–420	9	100–130	130*	0.3	3¼"	**51.50**
33-FX	380–420	9	100–130	130	0.3	3½"	**50.00**
33-FHXX	380–420	9	100–130	130	0.3	3½"	**58.00**
34-FX	56–64	9	100–130	140	0.3	3½"	**40.00**
36-FHXX-21-115	380–420	21	100–130	130	0.3	3½"	**72.50**

*At 120 VAC. †±0.1% accuracy available, quotation on request.

MODERN DESIGN FG SERIES FREQUENCY METERS

Modern appearance with bright textured metal insert below the dial, as illustrated for model 31-EGW-5 elapsed time meter. Has same accuracy and electrical characteristics as corresponding FX frequency meters. Design easily installs in 3½" wide, 3" high hole. Three typical FG models listed below, others available on order.

30-FG	48–52 & 58–62	10	100–130	140	0.3	3½"	**$43.25**
33-FG	380–420	9	100–130	130	0.3	3½"	**52.25**
34-FG	56–64	9	100–130	140	0.3	3½"	**43.00**

NEW HIGH VISIBILITY EG SERIES ELAPSED TIME METERS

New modern style, matches the look of the new FG series frequency meters. Dimensions are same as those for FG series meters, while mechanical specifications match 31-EXW series meters, (see below). Models listed are examples; other voltages, frequencies and numerals on request.

J-B-T Model 31-EGW-5—Five wide digits, 0–9,999.9 hours, 60 Hz, 110–125 V. Net Each. **$29.00**

J-B-T Model 31-EGW—Six digits, 0–99,999.9 hours, 60 Hz, 110–125 V. Net Each.. **29.50**

J-B-T Model 13A-234—Half bezel adapter, separate black molded frame and hardware for picture window appearance on any FG or EG meter. Net Each........................ **$4.00**

J-B-T Model 13A-239—Same as above, but metal construction for FG and EG meters. Net Each.. **$4.00**

ELAPSED TIME AND 5-REED FREQUENCY METERS 31-FE AND 31-FEX-1

This unique panel instrument combines the elapsed time or running time meter with frequency reeds. It is widely used on motor generator sets and on electrical equipment where maintenance routine calls for periodic servicing. Reads 0–9,999.9 hours; 58–62 hertz at 100–130 volts. Self-starting. Tenths shown in red numerals, all others white numerals on black background. Meter panel 2 9/16" (2⅝" panel mounting hole recommended); depth behind flange, 4 19/32". Front mounting same as Model 31-F. Variations with 7, 9 or 11 reeds on special order only. 3¼" metal case.

J-B-T Model 31-FE—Net Each.. **$53.00**

J-B-T Model 31-FEX-1—Same, but with 3½" metal flange permanently attached for MIL-M-6B mounting. Net Each.. **$57.50**

60-Hz ELAPSED TIME METERS 31-EX, 31-EX-200, 31-ES, AND 31-EHXX

To record operating time of AC electrical and electronic equipment, instrument registers in 1/10th hour steps to 9,999.9 hours, then automatically resets. Shows tenths in red numerals, all others white on black background. Molded case fully encloses all parts. Popular for tube life, TV equipment, punch presses, conveyors, oil burners, maintenance schedules, etc. Meter panel 2 11/16" (2¾" hole recommended); depth behind flange, 3 7/32".

J-B-T Model 31-EX—110–125 volt. Net Each.................................. **$26.50**

J-B-T Model 31-EX-200—200–240 volt. Net Each.............................. **$37.00**

J-B-T Model 31-ES—(Square case 3" x 3") 110–125 volts. Net Each.............. **$27.75**

J-B-T Model 31-EHXX—Same as Model 31-EX, but ruggedized and sealed case. Has glass-to-metal sealed construction with flat front and 3½" dia. separable flange. Heavy-duty solder terminals. Vacuum chamber checked. Max. 1000 V rms between terminals and case. Barrel dia. 2 11/16" to fit 2¾" panel hole with 2⅞" depth behind panel. Three flange holes take 6-32 screws on 1.58" radius. Net Each.. **$33.00**

WIDE NUMERAL, ELAPSED TIME METER MODELS 31-EXW AND 31-EXW-5

Combines basic Model 31-EX (see above) with easily-read, wide 6-digit face design. Distinctive, contemporary dial shows tenths in red on white; units in white on black. Six digits read 0–99,999.9 hours, then automatically resets; 110–125 volts, 60-Hz operation. Black, molded 3½" case interchangeable with FX Series meters.

J-B-T Model 31-EXW—Net Each.. **$24.75**

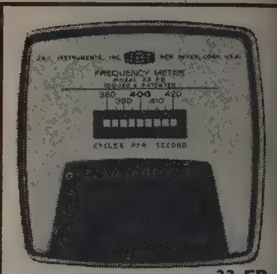
J-B-T Model 31-EXW-5—New model interchangeable electrically and mechanically with 31-EX and 31-EXW. Five wide digits, registers 0–9,999.9 and automatically resets. For 60 Hz, 110–125 volts. Net Each.. **$23.75**

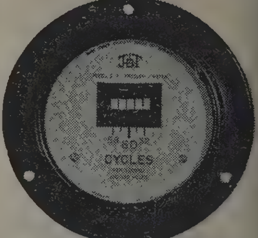
400-Hz BROAD AND VERNIER INDICATOR 41-FX-42 (NOT ILLUS.)

Widely used in commercial and military testing, this combination unit provides two windows: Broad 300–500 Hz, 21 reeds in 10-Hz steps; and, for a vernier effect, 380–420 Hz with 21 reeds in 2-Hz steps. Back molded case has flush front; 4 3/64" w. x 4 3/64" h. x 2 17/32" depth behind panel, over studs.

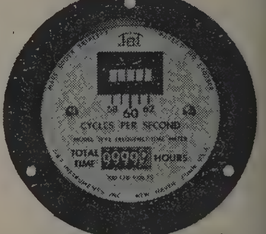
J-B-T Model 41-FX-42—Standard model for 100–130 volts. Net Each.............. **$173.25**

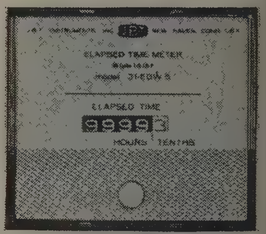
J-B-T Model 41-FX-42—Special with 4 studs for 200–240 (7.7 watts), 115 (4.5 watts) and 30 volts (2 watts). Net Each.. **$194.75**


33-FB


31-FX

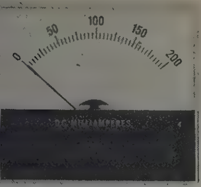
34-FX
Series A


31-FE


31-EGW-5

31-EXW

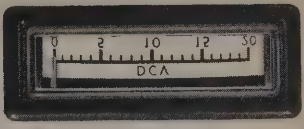
Jewell Panel Meters



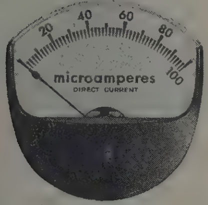
Series MS

0
2
4
6
8
10
DC MILLIAMPERES

Series 80



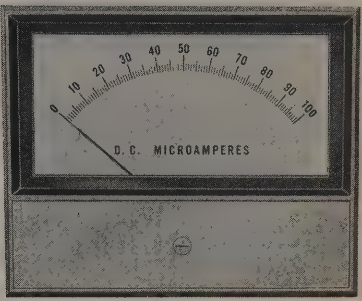
MCE1



Series MM

NULL
INDICATOR

Series HS,
Series 50



45

The JEWELL line offers fine quality meters in every shape and size. Suffix **T** indicates Auto-Torque taut band meters, frictionless and machine made for greater reliability; no suffix **T** indicates pivot and jewel types. Neat, contemporary styling enhances any equipment. Convenient, off-the-shelf delivery on most items. **Accuracy:** ±2% of full scale resistance tolerance; ±10% on current meters; ±5% on voltmeters. Meet or exceed requirements of ASA C39T.

SERIES MS METERS

Perfect for use on contemporary equipment. Clean-cut, easy-to-read, and precisely marked dials. Crystal-clear Plexiglass cover. Comes in three sizes, longer scale length and lance type pointer aid readability. Model MS1, 1½"; Model MS2, 2½"; Model MS3, 3½". **Panel Drilling:** Standard 3-hole.

SERIES 80 METERS

Maximum display in minimum of space. Mounts from behind panel without extra bezel; dial and flange attached directly to mechanism reducing space required behind panel. Plexiglass cover, 100° arc scale and tubular or knife edge pointer. Core-magnet type taut band mechanism is self-shielded. Meter can be mounted horizontally or vertically thru rectangular openings in panel. Model 81T, 1½"; Model 82T, 2½"; Model 83T, 3½".

SERIES MM METERS

Brings appealing medallion shape to the instrument or panel. Special wedge-shaped scale markings and lance pointer add to the "different look" of meter. Plexiglass cover is unpainted along top edge to admit added light to dial. Available in three sizes; Model MM1, 1½"; Model MM2, 2½"; Model MM3, 3½". **Panel Drilling:** Standard 3-hole.

SERIES HS METERS

Rugged meters for heavy duty use. Mechanisms are mounted on rubber at three points. Special pivots, hair-springs and fastening techniques reduce effects of hard usage. One-piece sturdy steel case provides magnetic and electrostatic shielding; glass window is hermetically sealed to case. Model HS2Z, 2½" and Model HS3Z, 3½" round shaped meters conform to MIL-M-10304.

DC MICROAMMETERS

	Net Each											
	1½"				2½"				3½"			
Range	MS1T or MM1T	MS1 or MM1	81T	HS1	MS2T or MM2T	MS2 or MM2	82T	HS2Z	MS3T or MM3T	MS3 or MM3	HS3Z	83T
0–20	....	....	....	....	....	$25.05	....	$60.00	....	$27.15	....	$62.20
0–50	$16.60	$26.50	$18.15	$35.15	$18.15	21.05	$19.25	36.50	$19.25	22.10	$19.25	37.85
0–100	16.15	23.25	17.65	31.80	17.65	19.15	18.75	33.10	18.85	20.20	18.75	34.45
0–200	15.40	18.40	16.95	28.40	16.95	17.40	18.05	31.80	18.05	18.35	18.05	33.20
0–500	14.45	18.15	15.95	27.35	15.95	16.95	17.05	29.75	17.05	17.95	17.05	31.15
50–0–50	16.40	23.85	17.95	32.75	17.95	19.55	19.00	34.10	18.95	20.20	19.00	35.50
100–0–100	15.65	18.65	17.15	29.20	17.15	17.50	18.25	32.75	18.25	18.50	18.25	34.15
500–0–500	14.10	17.20	15.60	26.40	15.60	16.65	16.70	29.95	16.70	17.10	16.70	31.30

DC MILLIAMMETERS

0–1	$13.85	$16.60	$15.35	$25.25	$15.35	$15.90	$16.45	$28.45	$16.45	$16.95	$16.45	$29.70
0–5	13.85	16.60	15.35	25.25	15.35	15.90	16.45	28.45	16.45	16.95	16.45	29.70
0–10	13.85	16.60	15.35	25.25	15.35	15.90	16.45	28.45	16.45	16.95	16.45	29.70
0–25	14.80	17.20	15.95	25.80	16.35	15.90	17.05	31.20	17.45	16.95	17.05	31.70
0–50	14.80	17.20	15.95	25.80	16.35	15.90	17.05	31.20	17.45	16.95	17.05	31.70
0–100	14.80	17.20	15.95	25.80	16.35	15.90	17.05	31.20	17.45	16.95	17.05	31.70
0–200	14.80	17.20	15.95	25.80	16.35	15.90	17.05	31.20	17.45	16.95	17.05	31.70
0–500	14.80	17.20	15.95	25.80	16.35	15.90	17.05	31.20	17.45	16.95	17.05	31.70

DC AMMETERS

0–1	$14.80	$17.20	$15.95	$25.70	$16.35	$16.40	$17.05	$33.30	$17.45	$17.40	$17.05	$34.75
0–5	14.50	17.00	15.95	25.70	16.35	16.40	17.05	33.30	17.45	17.40	17.05	34.75
0–10	14.50	17.00	15.95	25.70	16.35	16.40	17.05	33.30	17.45	17.40	17.05	34.75
0–15	14.50	....	15.95	....	16.35	....	17.05	....	17.45	....	17.05	....
0–25	14.50	17.00	15.95	25.70	16.35	16.40	17.05	30.40	17.45	17.40	17.05	31.80
0–50	14.50	17.00	15.95	25.70	16.35	16.40	17.05	30.40	17.45	17.40	17.05	31.80

DC VOLTMETERS

0–1	$14.55	....	$15.95	....	$15.95	....	$17.05	....	$17.05	....	$17.05	....
0–5	14.55	$18.55	15.95	$25.25	15.95	$17.40	17.05	$31.80	17.05	$18.45	17.05	$33.20
0–10	14.55	18.55	15.95	25.25	15.95	17.40	17.05	31.80	17.05	18.45	17.05	33.20
0–15	14.55	18.55	15.95	25.25	15.95	17.40	17.05	31.80	17.05	18.45	17.05	33.20
0–25	14.55	20.00	15.95	25.25	15.95	17.40	17.05	31.80	17.05	18.45	17.05	33.20
0–30	14.55	20.00	15.95	25.25	15.95	17.40	17.05	31.80	17.05	18.45	17.05	33.20
0–50	14.55	20.00	15.95	25.25	15.95	17.40	17.05	31.80	17.05	18.45	17.05	33.20
0–100	14.55	20.00	15.95	25.25	15.95	17.40	17.05	31.80	17.05	18.45	17.05	33.20
0–150	14.55	20.00	15.95	25.25	15.95	17.40	17.05	31.80	17.05	18.45	17.05	33.20
0–200	14.55	20.00	15.95	25.25	15.95	17.40	17.05	31.80	17.05	18.45	17.05	33.20
0–500	14.55	21.40	15.95	25.25	15.95	17.40	17.05	28.45	17.05	18.45	17.05	33.20

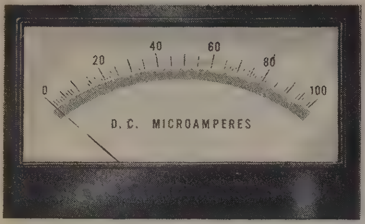
DC MILLIVOLTMETERS

0–50	$14.50	$17.00	$15.95	$25.70	$15.95	$16.40	$17.05	$30.40	$17.05	$17.40	$17.05	$31.80

AC VOLTMETERS (RECTIFIED)

0–150	$19.40	$22.65	$20.80	....	$20.80	$21.30	$21.90	$35.15	$21.90	$23.70	$21.90	$36.50
0–300	19.40	....	20.80	....	20.80	21.30	21.90	36.50	21.90	23.70	21.90	37.85

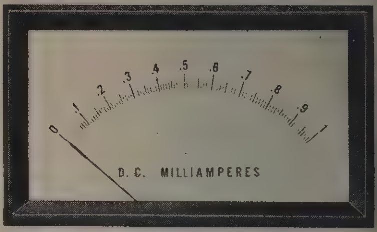
Jewell Panel Meters



65

0
.2
.4
.6
.8
1
D. C. MILLIAMPERES

Series 70



Series 70 (Bezel)

MODEL MCE1 METERS

Space saving, 1½″ edgewise meter fits into panel cutout. Metal mounting bezel is adjustable for panel thickness up to ¼″. Curved Plexiglass cover in black thermosetting plastic case. Vertical or horizontal mounting.

MODEL 45 METERS

Large, easy-to-read dial is framed like a picture. 5″ rectangular meter mounts easily on front of panel with four studs. Knife-edge pointer and fine-line scale add to readability. Dull black thermosetting plastic case and cover, glass window.

SERIES 50 METERS

Black-cased meters used for many years on all kinds of high quality equipment. Round or square design. Come in three sizes: Model 52, 2½″; Model 53, 3½″; Model 55, 5″.

MODEL 65 METERS

Beautifully-styled rectangular meter is mounted from behind the panel. Zero adjustment screw is in front of panel. Almost flush dial avoids any tunneling effect. Knife-edge pointer, mirrored scale and fine division lines add to readability and appearance. Dull black thermosetting plastic cover has glass window.

SERIES 70 METERS

Meters with the "just plain" look, do not draw attention away from other elements on the panel. Clear Plexiglass cover has slightly rounded corners. Serrated area covers only unusable parts of dial. Meters can be mounted on front of panel in all sizes. Bezel mounted meters can be illuminated. Comes in five sizes: Model 71, 1½″; Model 72, 2½″; Model 73, 3½″; Model 75, 4½″; Model 76, 6″.

DC MICROAMMETERS

	Net Each										
	1½″		2½″		3½″		4½″	5″			6″
Range	**MCE1**	**71T**	**52T or 52**	**72T or 72**	**53T or 53**	**73T or 73**	**75T or 75**	**45T or 45**	**55T or 55**	**65**	**76**
0–20	....	....	$27.15	$23.60	$32.05	$25.75	....	$34.50	$34.50	$34.35	$33.15
0–50	$29.30	$15.85	23.55	16.70	26.00	17.65	$18.90	28.10	28.10	28.45	27.10
0–100	25.55	15.50	22.10	16.20	23.30	17.15	18.40	25.40	25.40	24.60	25.10
0–200	19.85	14.75	18.75	15.50	19.95	16.45	17.70	23.60	23.60	23.85	22.95
0–500	19.35	13.80	18.75	14.50	19.95	15.50	16.90	23.60	23.60	23.85	21.10
50–0–50	26.45	15.75	22.20	16.45	23.30	17.45	18.70	25.40	25.40	25.70	25.80
100–0–100	20.40	15.00	28.75	15.75	19.95	16.70	18.10	23.60	23.60	23.85	23.10
500–0–500	18.80	13.30	17.85	14.15	19.35	15.10	16.40	23.00	23.00	23.25	21.05
DC MILLIAMMETERS											
0–1	$18.20	$13.20	$17.85	$13.90	$19.35	$14.90	$16.15	$21.15	$21.15	$21.45	$20.45
0–5	18.20	13.20	17.85	13.90	19.35	14.90	16.15	21.15	21.15	21.45	20.45
0–10	18.20	13.20	17.85	13.90	19.35	14.90	16.15	21.15	21.15	21.45	20.45
0–25	18.80	14.15	17.85	14.90	19.35	15.85	17.10	21.15	21.15	21.45	20.45
0–50	18.80	14.15	17.85	14.90	19.35	15.85	17.10	21.15	21.15	21.45	20.45
0–100	18.80	14.15	17.85	14.90	19.35	15.85	17.10	21.15	21.15	21.45	20.45
0–200	18.80	14.15	17.85	14.90	19.35	15.85	17.10	21.15	21.15	21.45	20.45
0–500	18.80	14.15	17.85	14.90	19.35	15.85	17.10	21.15	21.15	21.45	20.45
DC AMMETERS											
0–1	$18.80	$14.15	$17.85	$14.90	$19.35	$15.85	$17.10	$21.80	$21.80	$20.25	$21.80
0–5	18.60	13.80	17.85	14.90	19.35	15.85	17.10	21.80	21.80	20.25	21.80
0–10	18.60	13.80	17.85	14.90	19.35	15.85	17.10	21.80	21.80	20.25	21.80
0–15	....	13.80	....	14.90	....	15.85	17.45	....	....	20.25	21.80
0–25	18.60	13.80	20.10	14.90	20.85	15.85	17.45	21.80	21.80	23.25	21.80
0–50	18.60	13.80	20.10	14.90	20.85	15.85	17.45	21.80	21.80	23.25	21.80
DC VOLTMETERS											
0–1	....	$13.80	....	$14.50	....	$15.50	$16.75	....	....	$23.25	$23.00
0–5	$20.40	13.80	$18.75	14.50	$19.95	15.50	16.75	$23.00	$23.00	23.25	23.00
0–10	20.40	13.80	18.75	14.50	19.95	15.50	16.75	23.00	23.00	23.25	23.00
0–15	20.40	13.80	18.75	14.50	19.95	15.50	16.75	23.00	23.00	23.25	23.00
0–25	20.40	13.80	18.75	14.50	19.95	15.50	16.75	23.00	23.00	23.25	23.00
0–30	21.85	13.80	18.75	14.50	19.95	15.50	16.75	23.00	23.00	23.25	23.00
0–50	21.85	13.80	18.75	14.50	19.95	15.50	16.75	23.00	23.00	23.25	23.00
0–100	21.85	13.80	18.75	14.50	19.95	15.50	16.75	23.00	23.00	23.25	23.00
0–150	21.85	13.80	18.75	14.50	19.95	15.50	16.75	23.00	23.00	23.25	23.00
0–200	21.85	13.80	19.35	14.50	20.55	15.50	16.75	23.00	23.00	23.25	23.00
0–500	23.70	13.80	19.95	14.50	21.20	15.50	16.75	24.20	24.20	24.45	23.00
DC MILLIVOLTMETERS											
0–50	$18.60	$13.80	$17.85	$14.50	$19.35	$15.50	$16.75	$21.80	$21.80	$22.05	$21.80
AC VOLTMETERS (RECTIFIED)											
0–150	$24.60	$18.65	$26.30	$19.35	$28.15	$20.35	$21.60	$30.25	$30.25	$30.50	$29.00
0–300	....	18.65	26.30	19.35	28.15	20.35	21.60	30.25	30.25	30.50	29.00

*Not normally available; consult factory.

VU METERS

For monitoring volume levels in broadcast, recording and communication applications. Meter is essentially a rectifier-type AC voltmeter of high sensitivity.

Model	Size	Net Each
MM1 or MS1	1½″	$36.10
MM2 or MS2	2½″	31.20
MM3 or MS3	3½″	32.30
55 or 55T	5″	32.90
45 or 45T	5″	32.90
HS2Z	2½″	44.55
HS3Z	3½″	45.70

NULL INDICATORS

Specifically designed to give null determination over a wide range of unbalance than a standard center zero meter used in a nulling circuit. Large amount of unbalance in a bridge or other detection circuit can be observed. No danger of overloading the meter.

Model	Size	Net Each
MCE1	1½″	$36.10
MM1 or MS1	1½″	36.10
MM2 or MS2	2½″	36.10
HS2Z	2½″	46.75
HS3Z	3½″	56.80

MODEL HM2ET
ELAPSED TIME INDICATOR

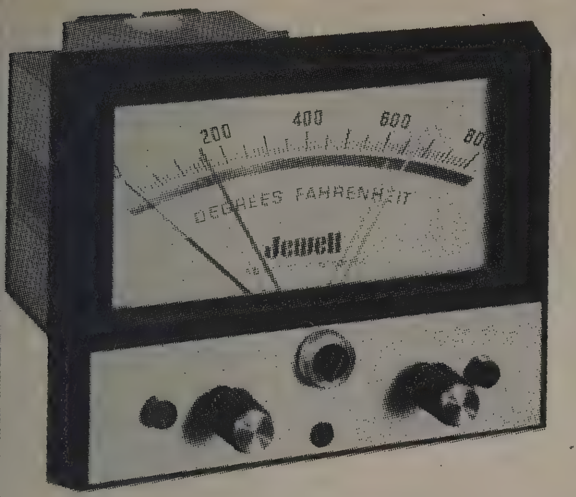
Provide continuous indication of time in 1/10 and/or 1 hour increments. Often used to show operating time for machine tools, business machines and production equipment. Built in some of the conventional meter case designs. **Specify voltage when ordering.**

Voltage	Size	Net Each
110 volts	2½″	$35.05
220 volts	2½″	36.40

FOR FULL DETAILS ASK FOR CATALOG 35

Jewell Meter Relays

VERSATILE SOLID-STATE METER RELAYS FOR PROCESS APPLICATIONS



SPECIFICATIONS

Calibration: ±1% of span for central 80% (at 25°C); AC ranges.
Accuracy: ±3% of span for central 80% (at 25°C and 50 or 60 Hz).
Dead Band: 0.5% of span at 25°C.
Coincidence: ±0.75% of span at 25°C.
Control Function: Single or double setpoints (on-off or proportional band.
Setpoint Adjustability: Single or double setpoints are adjustable over full scale.
Standard Relay Action: The low relay energizes above the setpoint; the high relay energizes below the setpoint; others optional.
Output: DPDT relay for each setpoint.
Relay Rating: 5 Amps, 120 VAC for resistive load.
Operating Temperature Range: 32°F to 140°F (0°C to 60°C).
Meter Response Time: 1 second maximum.
Supply Voltage: 105/130, 180/225 or 210/260 VAC, 50/60 Hz.
Power Consumption: 5 Watts nominal.
Termination: Barrier strips on real panel.
Panel Cutout: 3⅝″ (92 mm) square.
Depth Behind Panel: 5⅜″.

OPTIONS

Control Disable Switch: Switch disables the output relays. Switch and function light are mounted on front panel.

Latching With Manual Reset Switch (one or both relays): Upon relay activation, the relay(s) remain(s) activated regardless of pointer position until reset switch is pushed. Switch is mounted on front panel.

Time Proportioning Output (single or double setpoints): When the process approaches the setpoint, the output switches on and off automatically, providing the right proportion of "on" time vs. "off" time to keep the process at the control point. Proportional band is adjustable 3% to 10% (shipped set at 6% unless otherwise specified) and cycle time adjustable 2 to 20 seconds (shipped set at 6 seconds unless otherwise specified).

Fixed Setpoint (single or double setpoint units): Control function is on-off or time proportioning. Setpoint is preset at the desired level before shipment. This internal adjustment can be changed in the field when necessary. Setpoint function light is mounted on the front panel.

Slave Setpoint: This second setpoint is adjustable from 0 to ±50% of span. It is internally set at a specified differential before shipment and will track the adjustable setpoint by this amount. (The control function is On-off. Slave will not operate beyond scale extremes.) The function light for this second setpoint is mounted on the front panel.

Recorder Output: The 0 to 1 VDC output is available at the rear terminals for connection to an auxiliary recorder which must have a minimum input impedance of 50,000 ohms. When supplied on a double setpoint controller, the high relay output is SPDT.

Solid-State Switch; Triac (single or double setpoint units): Replaces conventional DPDT relay with a zero starting single pole, normally open switch. Rated 5 amps continuous up to 240 volts. Inrush capacity, 50 amps. Leakage current, 5 mA. Load and controller need not operate from same power source.

Suppressed Ranges: Available up to 2X span. For example, if span is 75 with max. suppression, dial would read 150 to 225.

Offset Ranges: Zero can be positioned anywhere on the dial.

Blank Dial: Available with 30, 40, 50, 60, 75 or 80 divisions or completely blank.

Special Dial: Available on special order. Information on request.

Non-Standard Relay Action (single or double setpoint): Any combination of relay action above or below setpoint is available. Information on request.

24 VAC Power Supply: Replaces conventional plug-in power supply. Operating range, 22 to 26 VAC, 50/60 Hz.

Screwdriver Setpoint Adjust (single or double setpoint): Replaces push-to-set knob on front panel. Slotted potentiometer shaft is covered with protective screw-on cap. Push-to-set action is retained.

- **On-Off or Time Proportioning.**
- **Horizontal or Vertical Mounting.**
- **Reorder Output.**
- **4″ Mirror-Backed Scale.**
- **Push-to-Set Knob.**
- **Plug-in DPDT Relay.**
- **Plug-in Power Supply.**
- **¼ DIN Housing.**
- **Thermocouple Break Protection.**
- **Latching With Manual Reset.**
- **Fixed Setpoints.**
- **Slave Setpoint.**
- **Triac Output.**
- **Screwdriver Setpoint Adjust.**
- **Single or Double Setpoints.**

UNITIZED DESIGN

Unitized design offers Mod Center customizing to your needs for fast response to a wide range of control applications. One ¼ DIN panel cutout; no screw holes. Front-of-panel mounting in rugged aluminum case. Only 5⅜″ behind panel.

OPERATION

The meter indicates actual process condition. The clutch-operated setpointer(s) trim(s) the solid-state sensing and control circuit to high, low or proportional band limits. Should meter be damaged, control still functions.

SERVICE CONVENIENCE

Virtually all components at your fingertips without touching a wire. Control modules unlock and unplug after releasing the front screw and sliding meter and control out of case.

PRICING INFORMATION

MODEL 368 DC RANGES

Range	Net Ea., 1-24	Range	Net Ea., 1-24
MICROAMPERES		**MILLIAMPERES**	
0–5	$135.00	0–1	$135.00
0–10	135.00	0–5	135.00
0–20	135.00	0–10	135.00
0–50	135.00	4–20	135.00
0–100	135.00	0–25	135.00
0–200	135.00	0–50	135.00
0–500	135.00	0–100	135.00
AMPERES		**AMPERES**	
0–1	$135.00	0–50	$135.00
VOLTS		**VOLTS**	
0–1	$135.00	0–50	$135.00
0–5	135.00	0–150	135.00
0–10	135.00	0–300	135.00
0–30	135.00		
MILLIVOLTS		**MILLIVOLTS**	
0–5	$135.00	0–50	$130.00
0–10	135.00	0–100	135.00

MODEL 369 AC RANGES

Range	Net Ea., 1-24	Range	Net Ea., 1-24
AMPERES		**VOLTS**	
0–5	$150.00	0–150	$145.00

MODEL 370 TEMPERATURE RANGES

Range, °F	Type	Net Ea., 1-24	Range, °C	Type	Net Ea., 1-24
0–300	J	$160.00	0–150	J	$160.00
0–600	J	160.00	0–300	J	160.00
0–800	J	160.00	0–500	J	160.00
0–1000	J	160.00	0–800	K	160.00
0–1600	K	160.00	0–1000	K	160.00
0–2000	K	160.00	0–1500	K	160.00
0–2500	K	160.00			

OPTIONS AND ACCESSORIES

Description	Net Ea.
Double Setpoint	$30.00*
Control Disable Switch	5.00*
Latching With Manual Reset Switch	3.00*§
Time Proportioning Output	24.00*§
Fixed Setpoint (Lower)	5.00*
Fixed Setpoint (Upper)	30.00*
Slave Setpoint	30.00*
Extender Board Kit	15.00
Recorder Output	5.00*
Solid-State Switch (Triac)	18.00*§
Screwdriver Setpoint Adjust	6.00*§
24 VAC Power Supply	15.00*
AC Current Time Delay	3.00*
Special Dial.....Consult Modification Center or Factory	

*Add to price of selected controller. §Net per Setpoint.

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api SERIES 7000 PANEL METERS
api SERIES 7000 PYROMETERS

PANEL METER RANGES		MODEL 7025 2½″		MODEL 7035 3½″		MODEL 7045 4½″		MODEL 7055 5½″	
		Part Number	Price*	Part Number	Price*	Part Number	Price*	Part Number	Price*
DC microamperes									
0-5	TB	R5-0002-0000	$58.50	M5-0002-0000	$58.50	N5-0002-0000	$60.50	P5-0002-0000	$62.50
0-10	TB	R5-0402-0000	49.00	M5-0402-0000	49.00	N5-0402-0000	51.00	P5-0402-0000	53.00
0-20	TB	R5-0802-0000	39.25	M5-0802-0000	39.25	N5-0802-0000	41.25	P5-0802-0000	43.25
25-0-25	TB	R5-1802-0100	33.50	M5-1802-0100	33.50	N5-1802-0100	35.50	P5-1802-0100	37.50
0-50	TB	R5-1802-0000	33.50	M5-1802-0000	33.50	N5-1802-0000	35.50	P5-1802-0000	37.50
50-0-50	TB	R5-3602-0100	29.50	M5-3602-0100	29.50	N5-3602-0100	31.50	P5-3602-0100	33.50
0-100	TB	R5-3602-0000	29.50	M5-3602-0000	29.50	N5-3602-0000	31.50	P5-3602-0000	33.50
100-0-100	TB	R5-4702-0100	27.50	M5-4702-0100	27.50	N5-4702-0100	29.50	P5-4702-0100	31.50
0-200	TB	R5-4702-0000	27.50	M5-4702-0000	27.50	N5-4702-0000	29.50	P5-4702-0000	31.50
0-500	PJ	R5-5902-0000	25.50	M5-5902-0000	25.50	N5-5902-0000	27.50	P5-5902-0000	29.50
500-0-500	PJ	R5-0003-0100	25.50	M5-0003-0100	25.50	N5-0003-0100	27.50	P5-0003-0100	29.50
DC milliamperes									
0-1	PJ	R5-0003-0000	$25.50	M5-0003-0000	$25.50	N5-0003-0000	$27.50	P5-0003-0000	$29.50
0-5	PJ	R5-1803-0000	25.50	M5-1803-0000	25.50	N5-1803-0000	27.50	P5-1803-0000	29.50
0-10	PJ	R5-3303-0000	25.50	M5-3303-0000	25.50	N5-3303-0000	27.50	P5-3303-0000	29.50
0-25	PJ	R5-4703-0000	25.50	M5-4703-0000	25.50	N5-4703-0000	27.50	P5-4703-0000	29.50
0-50	PJ	R5-5603-0000	25.50	M5-5603-0000	25.50	N5-5603-0000	27.50	P5-5603-0000	29.50
0-100	PJ	R5-6903-0000	27.00	M5-6903-0000	27.00	N5-6903-0000	29.00	P5-6903-0000	31.00
0-500	PJ	R5-8803-0000	27.00	M5-8803-0000	27.00	N5-8803-0000	29.00	P5-8803-0000	31.00
DC amperes									
0-1	PJ	R5-0004-0000	$29.50	M5-0004-0000	$29.50	N5-0004-0000	$31.50	P5-0004-0000	$33.50
0-3	PJ	R5-0804-0000	29.50	M5-0804-0000	29.50	N5-0804-0000	31.50	P5-0804-0000	33.50
0-5	PJ	R5-1104-0000	29.50	M5-1104-0000	29.50	N5-1104-0000	31.50	P5-1104-0000	33.50
0-10	PJ	R5-1704-0000	29.50	M5-1704-0000	29.50	N5-1704-0000	31.50	P5-1704-0000	33.50
0-15	PJ	R5-1904-0000	29.50	M5-1904-0000	29.50	N5-1904-0000	31.50	P5-1904-0000	33.50
0-25	PJ	R5-2204-0000	29.50	M5-2204-0000	29.50	N5-2204-0000	31.50	P5-2204-0000	33.50
0-30	PJ	R5-2404-0000	29.50	M5-2404-0000	29.50	N5-2404-0000	31.50	P5-2404-0000	33.50
DC millivolts									
0-5	TB	R5-0000-0000	$46.50	M5-0000-0000	$46.50	N5-0000-0000	$48.50	P5-0000-0000	$50.50
0-10	TB	R5-0400-0000	39.25	M5-0400-0000	39.25	N5-0400-0000	41.50	P5-0400-0000	43.50
0-25	TB	R5-1200-0000	33.00	M5-1200-0000	33.00	N5-1200-0000	35.00	P5-1200-0000	37.00
0-50	PJ	R5-1800-0000	27.00	M5-1800-0000	27.00	N5-1800-0000	29.00	P5-1800-0000	31.00
0-100	PJ	R5-3600-0000	27.00	M5-3600-0000	27.00	N5-3600-0000	29.00	P5-3600-0000	31.00
50-0-50	PJ	R5-3600-0100	27.00	M5-3600-0100	27.00	N5-3600-0100	29.00	P5-3600-0100	31.00
100-0-100	PJ	R5-4700-0100	27.00	M5-4700-0100	27.00	N5-4700-0100	29.00	P5-4700-0100	31.00
DC volts									
0-5	PJ	R5-1601-0000	$27.00	M5-1601-0000	$27.00	N5-1601-0000	$29.00	P5-1601-0000	$31.00
0-10	PJ	R5-3001-0000	27.00	M5-3001-0000	27.00	N5-3001-0000	29.00	P5-3001-0000	31.00
0-15	PJ	R5-3601-0000	27.00	M5-3601-0000	27.00	N5-3601-0000	29.00	P5-3601-0000	31.00
0-30	PJ	R5-5101-0000	27.00	M5-5101-0000	27.00	N5-5101-0000	29.00	P5-5101-0000	31.00
0-50	PJ	R5-5601-0000	27.00	M5-5601-0000	27.00	N5-5601-0000	29.00	P5-5601-0000	31.00
0-150	PJ	R5-7401-0000	27.00	M5-7401-0000	27.00	N5-7401-0000	29.00	P5-7401-0000	31.00
0-300	PJ	R5-8401-0000	27.00	M5-8401-0000	27.00	N5-8401-0000	29.00	P5-8401-0000	31.00
0-500	PJ	R5-8801-0000	27.00	M5-8801-0000	27.00	N5-8801-0000	29.00	P5-8801-0000	31.00
AC volts (rectifier type)									
0-10	PJ	R5-3006-0000	$32.00	M5-3006-0000	$32.00	N5-3006-0000	$34.00	P5-3006-0000	$36.00
0-15	PJ	R5-3606-0000	32.00	M5-3606-0000	32.00	N5-3606-0000	34.00	P5-3606-0000	36.00
0-150	PJ	R5-7406-0000	32.00	M5-7406-0000	32.00	N5-7406-0000	34.00	P5-7406-0000	36.00
0-300	PJ	R5-8406-0000	32.00	M5-8406-0000	32.00	N5-8406-0000	34.00	P5-8406-0000	36.00
0-500	PJ	R5-8806-0000	32.00	M5-8806-0000	32.00	N5-8806-0000	34.00	P5-8806-0000	36.00
AC milliamperes (rectifier type)									
0-1	PJ	R5-0008-0000	$30.50	M5-0008-0000	$30.50	N5-0008-0000	$32.50	P5-0008-0000	$34.50
0-47**	PJ	R5-5428-0000	30.50	M5-5428-0000	30.50	N5-5428-0000	32.50	P5-5428-0000	34.50

PYROMETER RANGES				MODEL 7025		MODEL 7035		MODEL 7045		MODEL 7055	
°F	°C	T/C		Part Number	Price*	Part Number	Price*	Part Number	Price*	Part Number	Price*
−200 to +100	−130 to +40	T	TB	R5-5004-0000	$50.00	M5-5004-0000	$50.00	N5-5004-0000	$52.00	P5-5024-0000	$66.00
−150 to +250	−100 to +120	J	TB	R5-6424-0000	50.00	M5-6424-0000	50.00	N5-6424-0000	52.00	P5-6434-0000	66.00
−100 to +600	−70 to +310	J	TB	R5-7224-0000	50.00	M5-7224-0000	50.00	N5-7224-0000	52.00	P5-7224-0000	66.00
−75 to +225	−60 to +110	J	TB	R5-5304-0000	50.00	M5-5304-0000	50.00	N5-5304-0000	52.00	P5-5324-0000	66.00
0 to 300	0 to 150	J	TB	R5-6004-0000	$47.00	M5-6004-0000	$47.00	N5-6004-0000	$49.00	P5-6024-0000	$63.00
0 to 500	0 to 260	J	TB	R5-6604-0000	47.00	M5-6604-0000	47.00	N5-6604-0000	49.00	P5-6624-0000	63.00
0 to 800	0 to 430	J	TB	R5-7804-0000	47.00	M5-7804-0000	47.00	N5-7804-0000	49.00	P5-7824-0000	63.00
0 to 1000	0 to 500	J	TB	R5-8204-0000	47.00	M5-8204-0000	47.00	N5-8204-0000	49.00	P5-8224-0000	63.00
0 to 1500	0 to 800	K	TB	R5-8504-0000	$47.00	M5-8504-0000	$47.00	N5-8504-0000	$49.00	P5-8524-0000	$63.00
0 to 2000	0 to 1100	K	TB	R5-8904-0000	47.00	M5-8904-0000	47.00	N5-8904-0000	49.00	P5-8924-0000	63.00
0 to 2500	0 to 1370	K	TB	R5-9304-0000	47.00	M5-9304-0000	47.00	N5-9304-0000	49.00	P5-9324-0000	63.00
0 to 3000	0 to 1650	R	TB	–	–	–	–	N5-9704-0000	49.00	P5-9724-0000	63.00

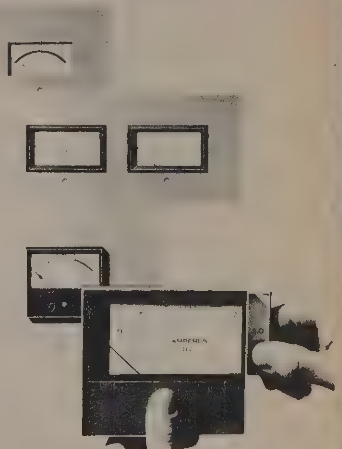
TB Taut-band movement is standard
PJ Pivot-and-jewel movement is standard
** Scale 0-150% load

*The prices listed above are net each for lots of 1-9. Deduct 10% for lots of 10-24.

LFE
CORPORATION

api SERIES 7000 PANEL METERS
api VU METERS

SERIES 7000 PANEL METERS



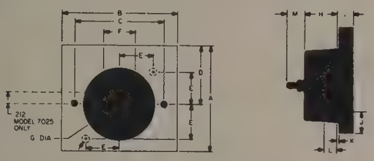
Series 7000 brings you all that's new in analog panel meters—distinctive style and functional flexibility that offer this exclusive combination of advantages:

- **Three-way choice of mounting—front mount, bezel mount, lens mount.**
- **Phenolic fronts and cases—rugged and reliable.**
- **Glass windows—scratch-proof, free of static electricity.**
- **Front decorator plates—flat black, two shades of grey, tan, and olive.**
- **Insertable scales—field changeable, reduce inventory, eliminate damage.**
- **Taut band mechanism and 1% tracking—standard in the most popular DC ranges.**
- **Self shielding—for mounting on either magnetic or non-magnetic panels.**

Series 7000 panel meters are available in four sizes:
Model 7025 (2½"), Model 7035 (3½"), Model 7045 (4½"), and Model 7055 (5½").

SERIES 7000 ACCESSORIES	MODEL 7025		MODEL 7035		MODEL 7045		MODEL 7055	
	Part Number	Price*	Part Number	Price*	Part Number	Price*	Part Number	Price*
BEZEL KIT	1125-242	$3.00	1125-226	$3.00	1125-223	$3.00	1125-229	$3.00
PANEL LENS KIT	1125-241	1.50	1125-225	1.50	1125-222	1.50	1125-228	1.50
COLOR PLATES								
tan	1646-361	.65	1646-311	.65	1646-295	.65	1646-306	.65
olive	1646-362	.65	1646-312	.65	1646-296	.65	1646-307	.65
dark grey	1646-363	.65	1646-313	.65	1646-297	.65	1646-308	.65
light grey	1646-364	.65	1646-314	.65	1646-298	.65	1646-309	.65
flat black	1646-365	.65	1646-315	.65	1646-299	.65	1646-310	.65
BENCH STAND for pyrometers	not available	–	1974-11	$7.50	1974-12	$7.50	1974-13	$7.50

Series 7000 Dimensions



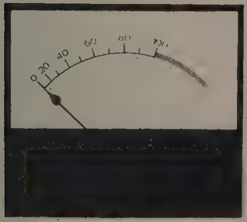
MODEL	A	B	C	D	E	F	G
7025	2.41	2.81	–	1.18	0.94	1.25	2.20
7035	3.01	3.51	–	1.53	1.125	1.25	2.79
7045	4.05	4.61	3.50	2.29	–	1.25	2.79
7055	4.53	5.66	4.50	2.695	–	1.25	2.79
MODEL	**H**	**I**	**J**	**K**	**L**	**M**	
7025	1.39	.56	.43	.02	.56	.675	
7035	1.37	.58	.53	.02	.56	.675	
7045	1.37	.58	.77	.02	.56	.675	
7055	1.37	.58	.845	.02	.56	.675	

Series 7000 Specifications		DC RANGES		AC RANGES (rectifier type)	
		Current	Voltage	Current	Voltage
Accuracy		± 2%	± 2%	±3%	±3%
Tracking	Pivot-and-jewel mechanism	2%	2%	3%	3%
	taut-band mechanism ⩾20 μa ⩾10mv	1%	1%	3%	3%
Overload Capacity	1 second	1000%	⩽100v 1000% >100v 200%	150%	150%
	continuous	150%	120%	150%	120%
Overshoot (maximum)		20%	20%	20%	20%
Response Time (maximum)	sensitivity ⩾50 μa	1.5 sec	1.5 sec	1.5 sec	1.5 sec
	sensitivity <50 μa	3 sec	3 sec	3 sec	3 sec

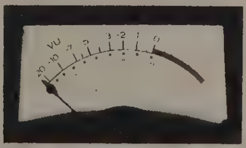
Effects of shock, vibration, humidity, and temperature are equal to or better than ANSI C39.1-1972

Safety (dielectric test, leakage, and other hazards): instruments are equal to or better than ANSI C39.5-1974

VU METERS



Series 7000 Meter
Shown with Type B scale;
A scale also available.



Model 561(5") Model 361(3½")
Shown with Type A scale;
B scale also available.

API VU meters offer the industry's most advanced styling while conforming to all specifications of ANSI Standard C16.5-1954 entitled "American Recommended Practice for Volume Measurements of Electrical Speech and Program Waves."

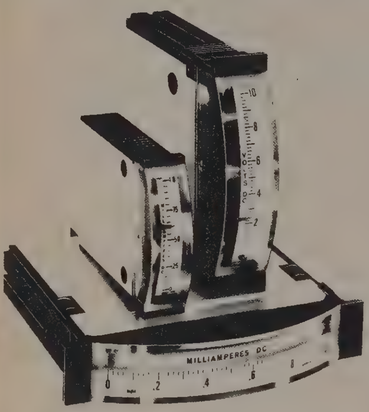
All models are available with either Type A scale for recording applications, or Type B which emphasizes per cent modulation for broadcast use. The meter reading is zero VU, or 100%, with application of 1.228 volts across a 3600 ohm resistor in series with the VU meter. This reading represents 4 db above 1 milliwatt into 600 ohms.

MODEL NUMBER	Part Number		Price*
	A Scale	B Scale	
7025	R5-0226-0050	R5-0236-0050	$48.00
7035	M5-0226-0050	M5-0236-0050	48.00
7045	N5-0226-0050	N5-0236-0050	48.00
561	56-0266-0050	56-0236-0050	53.00
361	36-0236-0050	36-0246-0050	53.00
426	43-0226-0050	43-0236-0050	53.00

***The prices listed above are net each for lots of 1-9. Deduct 10% for lots of 10-24.**

CORPORATION

api SERIES 1000
EDGEWISE PANEL METERS



API Series 1000 edgewise panel meters have been designed to satisfy the increasing demand for attractive and accurate analog display in a minimum of panel space. These edgewise meters provide a number of user benefits available nowhere else.

A novel case design permits snap-together access to the dial and mechanism for convenient dial changing. The case itself—clear front window and black base—is molded from high-impact polycarbonate for immunity from shock, chemicals and flame.

The unique flat d'Arsonval mechanism with pivot-and-jewel suspension provides 2% accuracy for either vertical or horizontal scale orientations. Unsurpassed stability makes a front zero adjust unnecessary, freeing the dial area for maximum visibility.

Panel mounting has been simplified to the ultimate in the Series 1000. Two mounting clips are attached without screws to the meter case after it has been inserted through its cutout; then the clips are tightened against the panel. Total time: less than half a minute!

- Stackable
- 1½", 2½", and 3½" sizes
- Easy dial changing
- 18 stock ranges
- Tough, high temperature polycarbonate case
- Resists shock and vibration

RANGE	Resistance ±20%	Model 1015 1½"		Model 1025 2½"		Model 1035 3½"	
		Part Number	Price*	Part Number	Price*	Part Number	Price*
microamperes DC							
0-50	1000 Ω	T5-1802-0000	$27.00	U5-1802-0000	$30.00	Y5-1802-0000	$33.00
50-0-50	1000 Ω	T5-3602-0100	23.75	U5-3602-0100	26.75	Y5-3602-0100	29.75
0-100	1000 Ω	T5-3602-0000	23.75	U5-3602-0000	26.75	Y5-3602-0000	29.75
100-0-100	680 Ω	T5-4702-0100	23.00	U5-4702-0100	26.00	Y5-4702-0100	29.00
0-200	680 Ω	T5-4702-0000	23.00	U5-4702-0000	26.00	Y5-4702-0000	29.00
250-0-250	127 Ω	T5-5902-0100	23.00	U5-5902-0100	26.00	Y5-5902-0100	29.00
0-500	127 Ω	T5-5902-0000	23.00	U5-5902-0000	26.00	Y5-5902-0000	29.00
500-0-500	32 Ω	T5-0003-0100	23.00	U5-0003-0100	26.00	Y5-0003-0100	29.00
milliamperes DC							
0-1	32 Ω	T5-0003-0000	23.00	U5-0003-0000	26.00	Y5-0003-0000	29.00
1-0-1	10 Ω	T5-1003-0100	23.00	U5-1003-0100	26.00	Y5-1003-0100	29.00
0-2	10 Ω	T5-1003-0000	23.00	U5-1003-0000	26.00	Y5-1003-0000	29.00
process control**							
4-20 mA	2.4 Ω	T5-4033-0400	28.75	U5-4033-0400	32.50	Y5-4033-0400	36.25
1-5 v	1000 Ω/v	T5-1231-0400	31.25	U5-1231-0400	35.00	Y5-1231-0400	38.75
millivolts DC							
0-50	12.5 Ω	T5-1800-0000	25.00	U5-1800-0000	28.00	Y5-1800-0000	31.00
volts DC							
0-10	1000 Ω/v	T5-3001-0000	25.00	U5-3001-0000	28.00	Y5-3001-0000	31.00
0-50	1000 Ω/v	T5-5601-0000	25.00	U5-5601-0000	28.00	Y5-5601-0000	31.00
0-100	1000 Ω/v	T5-6901-0000	25.00	U5-6901-0000	28.00	Y5-6901-0000	31.00
0-150	1000 Ω/v	T5-7401-0000	25.00	U5-7401-0000	28.00	Y5-7401-0000	31.00
amperes AC†							
0-1	–	T5-0009-0000	43.00	U5-0009-0000	46.00	Y5-0009-0000	49.00
0-3	–	T5-0809-0000	43.00	U5-0809-0000	46.00	Y5-0809-0000	49.00
0-5	–	T5-1109-0000	43.00	U5-1109-0000	46.00	Y5-1109-0000	49.00
0-25	–	T5-2209-0000	43.00	U5-2209-0000	46.00	Y5-2209-0000	49.00
0-50	–	T5-2609-0000	43.00	U5-2609-0000	46.00	Y5-2609-0000	49.00
volts AC							
0-150	1000 Ω/V	T5-7406-0000	30.00	U5-7406-0000	33.00	Y5-7406-0000	36.00
VU METERS:	VU dials and ranges also available. Consult LFE distributor for specifications and prices.						

† Includes current transformer with 47mA secondary.

**Scale 0-100%

The above part numbers are for horizontally mounted scales. For vertical scales change the last two digits of the part number from 00 to 50. The price does not change.

MODEL 1015

MODEL 1015 features one-piece dial, rear zero adjust, red dragon-tooth pointer, solder terminals and clip-on mounting. Comes complete with mounting hardware and bezel. Panel cutout .500" x 1.650". Meter depth 2.115 inches from front of panel.

MODEL 1025

MODEL 1025 has identical features to 1015 but in a larger size for added visibility and resolution. Bright, uniform one-lamp illumination available; specify 6V or 12V, add $5.00 to the above prices. Comes complete with mounting hardware and bezel. Panel cutout .680" x 2.56". Meter depth 3.170 inches from front of panel.

MODEL 1035

MODEL 1035 features stepped (anti-parallax) dial, front zero adjust, red pointer and clip-on mounting. Comes complete with mounting hardware and bezel. Rear zero adjust available. Bright uniform one-lamp illumination available; specify 6V or 12V, add $5.00 to the above prices. Panel cutout .680" x 3.30". Meter depth 3.225 inches from front of panel.

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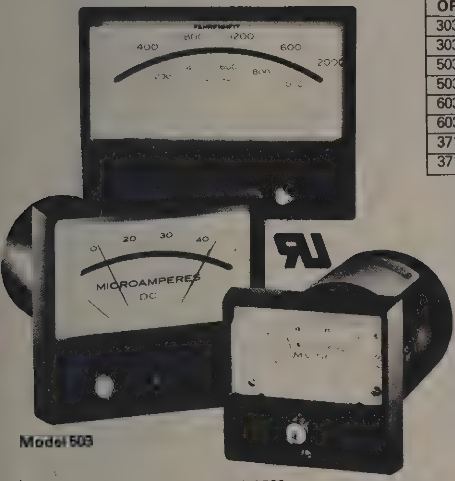
*The prices listed above are net each for lots of 1-9. Deduct 10% for lots of 10-24.

LFE CORPORATION

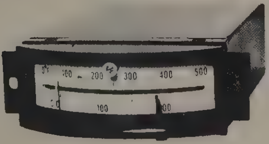
api COMPACK METER-RELAY CONTROLLERS

Model 603



Model 503

Model 303



Model 371

COMPACK CONTROLLER MODEL NUMBERS

OPTICAL	SOLID STATE	STYLE	WIDTH	RANGE
303-KU	303-XU	black phenolic panelist	3¼"	current (DC,AC)voltage (DC,AC)
303-KU	303-XU	black phenolic panelist	3¼"	temperature (T/C,RTD)
503-KU	503-XU	black phenolic panelist	4½"	current (DC,AC) voltage (DC,AC)
503-KU	503-XU	black phenolic panelist	4½"	temperature (T/C,RTD)
603-KU	603-XU	black phenolic panelist	5½"	current (DC,AC) voltage (DC,AC)
603-KU	603-XU	black phenolic panelist	5½"	temperature (T/C,RTD)
371-K	371-X	edgewise	3½"	current (DC,AC) voltage (DC,AC)
371-K	371-X	edgewise	3½"	temperature (T/C,RTD)

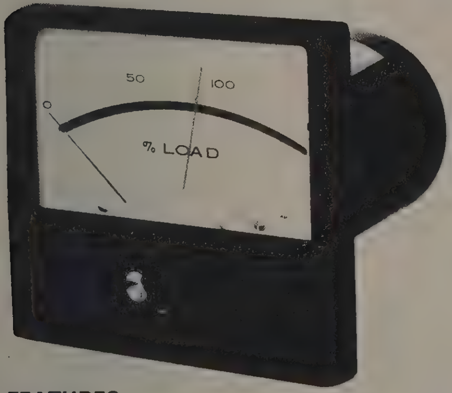
*Controllers with model numbers ending with "U" are recognized by Underwriter Laboratories. LFE has received UL recognition of the API line of meter-relays/compack controllers, both optical and solid state. Recognition is under UL1092 for measurement and control of process variables.

OPTIONS FOR OPTICAL COMPACK CONTROLLERS

Built-in Alarm Lights and Reset Switches: Combinations of one or two lights and reset switches are available per controller, making it possible to have an alarm light and a reset switch for each setpoint.

PRICE ADDER:	
1 light or 1 switch	$15.00
2 lights or 2 switches or 1 of each	25.00
2 lights and 2 switches	50.00

SOLID-STATE COMPACK MOTOR LOAD ALARM



The Compack IV Motor Alarm is designed specifically for industrial machine operations such as shredders, mixers, conveyors and cutting tools. A unique programmed response virtually eliminates nuisance tripping caused by starting surges or transients, allowing the motor to meet peak power demands within the process cycle. An advanced solid state design provides high reliability and long life. Indication is independent of alarm output, allowing the operator to observe transient motor current peaks; the alarm circuit responds only to a sustained overload, de-energizing the motor contactor before damage results. In addition, because the indicating circuit is independent of the control circuit, erratic operation in a vibrating panel is eliminated; meter malfunction will not affect control circuit operation; and there are no lamp or photocell failures to worry about.

FEATURES

- **Contactless Control**
- **Continuous Load Indication**
- **Solid State Design**
- **Ignore Shock and Vibration**
- **Programmed Output Response**
- **Integral Startup Timer**

HOW TO ORDER

Specify the model number of the Compack Controller (single setpoint only).Specify the rated full load current (refer to manufacturer's nameplate on motor housing) and the required options.

MODEL 303-X - $203.00
MODEL 503-X - $206.00
MODEL 603-X - $209.00

OPTIONS FOR MOTOR LOAD ALARM		PRICE ADDER
Rated full load current	up to 35 amperes	no adder
	over 35 amperes	$30.00
Non-standard start-up latch time plus one-time engineering charge		$10.00 25.00*
Non-standard trip delay characteristics plus one-time engineering charge		$10.00 25.00*
Non-standard start-up latch time and trip delay characteristics plus one-time engineering charge		$15.00 25.00*
DPDT (2 Form C) output		$ 4.00
Special Scale	one-time charge for one color	$60.00*
	adder for each additional color	20.00*

*Show one-time charges separately on your order. Do not add to list price.

LFE
CORPORATION

api COMPACK METER-RELAY CONTROLLERS

CURRENT AND VOLTAGE RANGES		OPTICAL COMPACKS				SOLID STATE COMPACKS			
		Model 303-KU	Model 503-KU	Model 603-KU	Model 371-K	Model 303-XU	Model 503-XU	Model 603-XU	Model 371-X
microamperes DC	microamperes AC								
0 to 5	–	$207.00	$210.00	$213.00	$216.00	$194.00	$197.00	$200.00	$203.00
0 to 10	–	185.00	188.00	191.00	194.00	173.00	176.00	179.00	182.00
0 to 20	–	169.00	172.00	175.00	178.00	173.00	176.00	179.00	182.00
0 to 50	–	161.00	164.00	167.00	170.00	173.00	176.00	179.00	182.00
0 to 100	0 to 100	154.00	157.00	160.00	163.00	173.00	176.00	179.00	182.00
0 to 200	–	149.00	152.00	155.00	158.00	173.00	176.00	179.00	182.00
0 to 500	–	145.00	148.00	151.00	154.00	173.00	176.00	179.00	182.00
5-0-5	–	218.00	221.00	224.00	227.00	221.00	224.00	227.00	230.00
50-0-50	–	187.00	190.00	193.00	196.00	221.00	224.00	227.00	230.00
	add $5.00 for AC ranges								
milliamperes DC	milliamperes AC								
0 to 1	0 to 1	145.00	148.00	151.00	154.00	173.00	176.00	179.00	182.00
0 to 5	–	145.00	148.00	151.00	154.00	173.00	176.00	179.00	182.00
0 to 10	–	145.00	148.00	151.00	154.00	173.00	176.00	179.00	182.00
0 to 25	–	145.00	148.00	151.00	154.00	173.00	176.00	179.00	182.00
0 to 50	0 to 47	145.00	148.00	151.00	154.00	173.00	176.00	179.00	182.00
0 to 100	–	152.00	155.00	158.00	161.00	173.00	176.00	179.00	182.00
	add $5.00 for AC ranges								
amperes DC	amperes AC								
0 to 1	0 to 1	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
–	0 to 2	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
–	0 to 5	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
–	0 to 10	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
–	0 to 20	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
–	0 to 30	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
–	0 to 40	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
–	0 to 50	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
add $20.00 to price for 0 to 1 mA DC range									
millivolts DC	millivolts AC								
0 to 5	–	180.00	183.00	186.00	189.00	186.00	189.00	192.00	195.00
0 to 10	–	159.00	162.00	165.00	168.00	166.00	169.00	172.00	175.00
0 to 50	– –	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
0 to 100	0 to 100[1]	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
0 to 250	0 to 250[1,2]	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
	[1] add $5.00 for AC ranges (X series) [2] add $25.00 for AC ranges (K series) (0-250 mV min. K series)								
volts DC	volts AC								
0 to 1	–	–	–	–	–	166.00	169.00	172.00	175.00
0 to 5	–	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
0 to 10	0 to 10	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
0 to 30	–	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
0 to 50	0 to 50	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
0 to 150	0 to 150	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
0 to 300	–	147.00	150.00	153.00	156.00	166.00	169.00	172.00	175.00
	add $5.00 for AC ranges								

TEMPERATURE RANGES (THERMOCOUPLE)			OPTICAL COMPACK CONTROLLERS ON-OFF CONTROL				SOLID STATE COMPACK CONTROL ON-OFF CONTROL			
°F	°C	T/C	Model 303-KU	Model 503-KU	Model 603-KU	Model 371-K	Model 303-XU	Model 503-XU	Model 603-XU	Model 371-X
0 to 150	−16 to 66	J	–	–	–	–	$211.00	$214.00	$217.00	$220.00
0 to 300	0 to 150	J	$184.00	$187.00	$190.00	$193.00	211.00	214.00	217.00	220.00
0 to 500	0 to 260	J	174.00	177.00	180.00	183.00	200.00	203.00	206.00	209.00
0 to 800	0 to 400	J	174.00	177.00	180.00	183.00	200.00	203.00	206.00	209.00
0 to 1000	0 to 500	J	174.00	177.00	180.00	183.00	200.00	203.00	206.00	209.00
0 to 1500	0 to 800	K	174.00	177.00	180.00	183.00	200.00	203.00	206.00	209.00
0 to 2000	0 to 1100	K	174.00	177.00	180.00	183.00	200.00	203.00	206.00	209.00
0 to 2500	0 to 1370	K	174.00	177.00	180.00	183.00	200.00	203.00	206.00	209.00
0 to 3000	0 to 1650	R	174.00	177.00	180.00	183.00	200.00	203.00	206.00	209.00

TEMPERATURE RANGES (THERMOCOUPLE)			OPTICAL COMPACK CONTROLLERS TIME PROPORTIONING CONTROL				OPTICAL COMPACK CONTROLLERS SCR DRIVER CONTROL			
°F	°C	T/C	Model 303-KU	Model 503-KU	Model 603-KU	Model 371-K	Model 303-KU	Model 503-KU	Model 603-KU	Model 371-K
0 to 300	0 to 150	J	$234.00	$237.00	$240.00	$243.00	$259.00	$262.00	$265.00	$268.00
0 to 500	0 to 260	J	224.00	227.00	230.00	233.00	249.00	252.00	255.00	258.00
0 to 800	0 to 400	J	224.00	227.00	230.00	233.00	249.00	252.00	255.00	258.00
0 to 1000	0 to 500	J	224.00	227.00	230.00	233.00	249.00	252.00	255.00	258.00
0 to 1500	0 to 800	K	224.00	227.00	230.00	233.00	249.00	252.00	255.00	258.00
0 to 2000	0 to 1100	K	224.00	227.00	230.00	233.00	249.00	252.00	255.00	258.00
0 to 2500	0 to 1370	K	224.00	227.00	230.00	233.00	249.00	252.00	255.00	258.00
0 to 3000	0 to 1650	R	224.00	227.00	230.00	233.00	249.00	252.00	255.00	258.00

RTD RANGES	OPTICAL COMPACK CONTROLLERS				SOLID STATE COMPACK CONTROLLERS			
	Model 303-KU	Model 503-KU	Model 603-KU	Model 371-K	Model 303-XU	Model 503-XU	Model 603-XU	Model 371-X
ON/OFF CONTROL, HIGH SETPOINT	$188.00	$191.00	$194.00	$197.00	$213.00	$216.00	$219.00	$222.00
ON/OFF CONTROL, LOW SETPOINT	188.00	191.00	194.00	197.00	213.00	216.00	219.00	222.00
ON/OFF CONTROL, DOUBLE SETPOINT	221.00	224.00	227.00	230.00	246.00	249.00	252.00	255.00
TIME PROPORTIONING, HIGH SETPOINT	238.00	241.00	244.00	247.00	263.00	266.00	269.00	–

Consult LFE distributor for ranges, accessories, and options not listed. **The prices listed above are net each for lots of 1-9. Deduct 5% for lots of 10-24.**
The above prices are for single setpoint. Add $33.00 for double setpoint.
Time proportioning control is available for single setpoint solid state Compack controllers. Add $50.00

PRICES LISTED ARE FOR GUIDANCE ONLY

LFE CORPORATION

api PORTABLE PYROMETERS AND PROBES
api SUPER-TOUGH PANEL METER

PORTABLE PYROMETERS AND PROBES

Portable pyrometer Models 3030 and 6020 feature standard API taut-band, 1% accurate meters in rugged, attractively styled cases. These self-contained, thermocouple actuated units allow quick spot checking of temperature. No power supply is needed.

Both models have bimetal and thermistor compensation for ambient temperature changes. Meters are mirrored and protected by glass windows. Cases are aluminum trimmed ABS plastic, gray, with a hair finish.

Model 3030 weighs approximately 1 pound. Dimensions are 5.5" wide by 2.3" high by 5.8" long. The instrument is calibrated for 3.85 ohms external thermocouple resistance.

Model 6020 is 7.5" wide by 3.4" high by 8.2" long, weighing approximately 3 pounds. Calibration is for 3.85 ohms in type E thermocouple ranges, 10 ohms in types K and R with adjustable resistor strip.

Model 3030

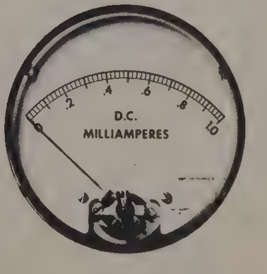
Model 6050

Temperature Range			Model 6020		Model 3030	
°F	°C	T/C	Part Number	Price*	Part Number	Price*
−200 to + 100	−130 to + 40	E	L0-5004-0000	$109.00	J0-5004-0000	$98.00
− 75 to + 225	− 60 to +110	E	L0-5404-0000	109.00	J0-5404-0000	98.00
0 to 300	0 to 150	E	L0-6104-0000	109.00	J0-6104-0000	98.00
0 to 500	0 to 260	E	L0-6704-0000	109.00	J0-6704-0000	98.00
−100 to + 600	− 70 to +310	E	L0-7224-0000	109.00	J0-7224-0000	98.00
0 to 800	0 to 430	E	L0-8004-0000	109.00	J0-8004-0000	98.00
−100 to +1100	− 70 to +550	E	L0-8334-0000	109.00	J0-8334-0000	98.00
0 to 1500	0 to 800	E	L0-8604-0000	109.00	J0-8604-0000	98.00

THERMOCOUPLE PROBES (type E)	BEADED WIRE	ROLLER SURFACE (bow type)	STRAIGHT SURFACE	RIGHT ANGLE	NEEDLE	GENERAL PURPOSE	EXTENSION HANDLE
Part Number	2057-11	2057-10	2057-7	2057-8	2057-9	2057-6	1260-20
Price	$14.00	$49.00	$49.00	$55.00	$49.00	$49.00	$15.00

*The prices listed above are net each for lots of 1-9. Deduct 5% for lots of 10-24.

MODEL 454 SUPER-TOUGH PANEL METER

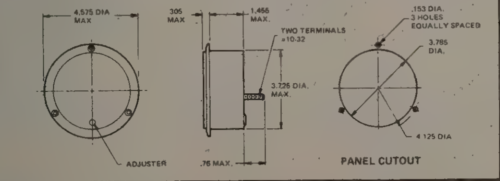


- Large 4-1/2" diameter rugged polycarbonate case is virtually indestructible
- Pivot and jewel or taut-band suspension
- Ideal for portable or exposed applications
- Used for pollution measurement, AC power control, tachometers, and automotive readouts

The API Model 454 SUPER TOUGH panel meter combines the best of modern mechanical design, materials technology, and d'Arsonval practice to provide an extremely rugged and accurate analog indicator.

The crystal-clear polycarbonate case has only two parts, which are joined tightly to exclude dust and moisture. A unique window design permits either conventional front mounting or rear mounting. When rear mounted, the window is slightly recessed from the panel surface and thus protected from side damage.

Dimensions



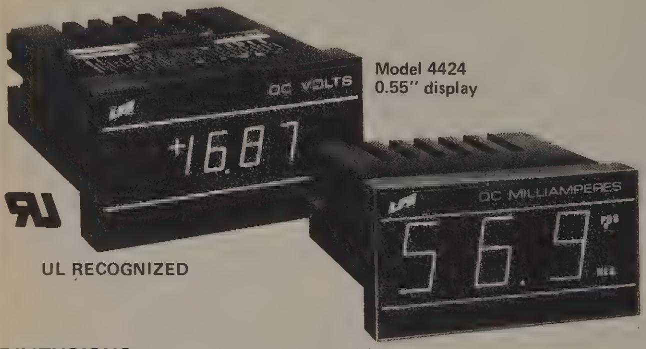
Temperature Ranges (dual scale)**		
°F	°C	T/C
−200 to +100	−130 to + 40	T
−150 to +250	−100 to +120	J
−100 to +600	− 70 to +310	J
− 75 to +225	− 60 to +110	J
0 to 300	0 to 150	J
0 to 500	0 to 260	J
0 to 800	0 to 430	J
0 to 1000	0 to 500	J
0 to 1500	0 to 800	K
0 to 2000	0 to 1100	K
0 to 2500	0 to 1370	K
0 to 3000	0 to 1650	R

Current/Voltage Ranges**
0-5 μADC to 0-500 μADC
0-1 mADC to 0-500 mADC
0-1 ADC to 0-30 ADC
0-5 mVDC to 0-100 mVDC
0-5 VDC to 0-500 VDC
0-100 μAAC to 0-500 μAAC
0-1 mAAC to 0-47 mAAC
0-1 AAC to 0-50 AAC
0-250 mVAC to 0-500 mVAC
0-10 VAC to 0-500 VAC

** For complete information on specific ranges, part numbers, and prices, contact LFE distributor.

CORPORATION

SERIES 4400
DIGITAL PANEL INSTRUMENTS



Model 4424
0.55" display

The Easy Reader
Model 4443
1" display

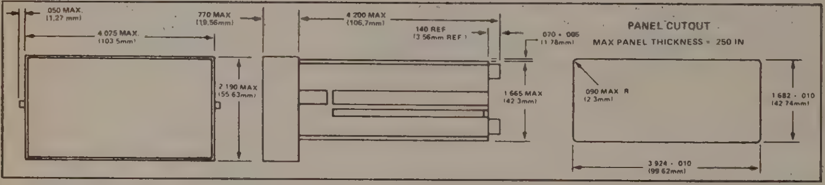
UL RECOGNIZED

LFE products offer many competitive advantages in the digital panel instrumentation marketplace.

- Complete line of competitively priced instruments.
- Easy modification, ranging and scaling.
- UL Recognition
- The only 1" display
- Complete signal conditioning that is price and performance competitive.
- Unique internal digital control.
- Digital control with signal conditioning.
- Plug-in display for greater maintainability and reliability.

Underwriter Laboratory recognition of the Model 4424 digital panel instrument is the latest of the long line of LFE "firsts" in digital instrumentation.

DIMENSIONS



HOW TO ORDER

DC VOLTAGE RANGES

Model 4424*	Price	Model 4443	Price	Input Resistance	Maximum Overload
0 to ±199.9mV	$135.00	0 to ±99.9mV	$175.00	〉100megΩ	240V rms
0 to ±1.999V	135.00	0 to ±999mV	175.00	〉100megΩ	240V rms
0 to ±19.99V	135.00	0 to ±9.99V	175.00	10megΩ	240V rms
0 to ±199.9V	135.00	0 to ±99.9V	175.00	10megΩ	240V rms

*UL Recognized

DC CURRENT RANGES

Model 4424*	Price	Model 4443	Price	Input Resistance	Maximum Overload
0 to ±19.99μA	$135.00	0 to ±9.99μA	$175.00	10KΩ	5mA
0 to ±199.9μA	135.00	0 to ±99.9μA	175.00	1KΩ	15mA
0 to ±1.999mA	135.00	0 to ±999μA	175.00	100Ω	50mA
0 to ±19.99mA	135.00	0 to ±9.99mA	175.00	10Ω	150mA
0 to ±199.9mA	135.00	0 to ±99.9mA	175.00	1Ω	500mA

*UL Recognized

AC VOLTAGE RANGES

Model 4424	Price	Model 4443	Price	Input Resistance	Maximum Overload
0 to 199.9mV	$195.00	0 to 99.9mV	$235.00	275KΩ	±10V peak
0 to 1.999V	195.00	0 to 999mV	235.00	275KΩ	±10V peak
0 to 19.99V	195.00	0 to 9.99V	235.00	1megΩ	±500V peak
0 to 199.9V	195.00	0 to 99.9V	235.00	1megΩ	±500V peak
0 to 500V	195.00	0 to 500V	235.00	1megΩ	±750V peak

AC CURRENT RANGES

Model 4424	Price	Model 4443	Price	Input Resistance	Maximum Overload
0 to 19.99μA	$195.00	N/A	N/A	10KΩ	5mA
0 to 199.9μA	195.00	0 to 99.9μA	$235.00	1KΩ	15mA
0 to 1.999mA	195.00	0 to 999μA	235.00	100Ω	50mA
0 to 19.99mA	195.00	0 to 9.99mA	235.00	10Ω	150mA

TEMPERATURE RANGES

Model 4424	Price	Model 4443	Price	Temperature Coefficient (Typical)	T/C Type	Accuracy
0 to +1000°F	$225.00	0 to +1000°F	$265.00	±.05°F/°C	J (I/C)	±1.5°F
0 to +550°C	225.00	0 to +550°C	265.00	±.03°C/°C	J (I/C)	±1.0°C
+600 to +1800°F	225.00	N/A	N/A	±.16°F/°C	K (C/A)	±2°F
+300 to +1000°C	225.00	+300 to +1000°C	265.00	±.1°C/°C	K (C/A)	±2°C

SPECIFICATIONS

Accuracy (Model 4424): DC Ranges: 0.05% Rdg. ±0.1%FS. AC Ranges: @ 60 Hz, ±.01% Rdg. ±.01%FS. From 50 to 1000 Hz, 0.1% Rdg. ±0.2%FS.
Accuracy (Model 4443): DC Ranges: 0.05% Rdg. ±0.2%FS. AC Ranges: @ 60 Hz, ±.01% Rdg. ±0.2%FS. From 50 to 1000 Hz, 0.1% Rdg. ±0.4%FS.
Input Isolation from Power Line: 500 volts peak.
Operating Temperature: +5°C to +55°C.
Storage Temperature: −20°C to +85°C.
Reading Rate: 3.3 reading/second. Special reading rates optional.
Power: Standard, 120 VAC 50/60 Hz. Strappable, 240 VAC 50/60 Hz.
Display Blanking: Requires two TTL loads.
Programmable Decimal Points: Available at rear terminals as an option.
Polarity: Positive Logic "1" +2.4V minimum @ −40 μA. Negative Logic "0" +0.4V maximum @ +1.6mA.
Digit Serial Multiplexed BDC Outputs: (Standard) will drive 1 TTL load or 9 LTTL loads.
Input Bias Current: 4.0 pA typical. 1.0 nA maximum, basic ranges.
Power Dissipation: 4 watts typical.
Warm Up Time: Less than 5 minutes.

OPTIONS & ACCESSORIES:
See Series 4400 Digital Process and Control Instruments pages.

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*The prices listed above are net each for lots of 1-9. Deduct 5% for lots of 10-24.

LFE
CORPORATION

SERIES 4400 DIGITAL PROCESS AND CONTROL INSTRUMENTS

MILLIVOLTS AC
+1901
PSI
292
DEGREES F
+1450

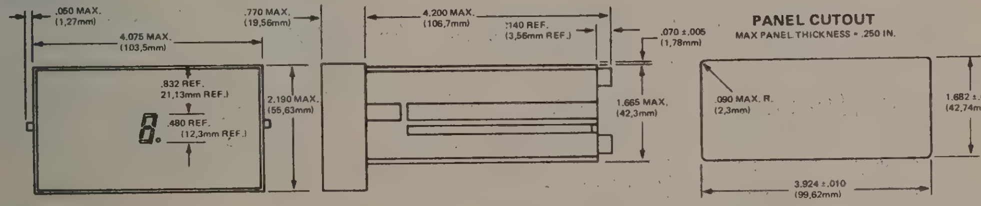
NEW
DIGITAL CONTROL INSTRUMENTATION

Digital control instrumentation provides adjustable setpoints for alarm and/or control applications in a manner similar to a meter-relay. LFE can provide these adjustable setpoints with signal conditioning, all in one digital panel instrument. Electro-mechanical relays actuated by the setpoints are sufficient to drive large contactors for controlling heavy loads. Optional external AC solid-state relays allow switching up to 40 amperes.

NEW
DIGITAL PROCESS INSTRUMENTATION

LFE offers pre-designed signal conditioning boards that allow measurement of temperature and precision AC current and voltage. This approach provides instrumentation to meet many requirements with exceptional performance at low price. The boards are self-contained within the digital panel instrument.
Special OEM requirements for other process parameters can also be met.

DIMENSIONS



OPTIONS

DESCRIPTION	PRICE ADDER
Floating Input[1]	$ 8.00
Input Offset[1]	8.00
Ratiometric[1]	6.00
Read Hold	10.00
Non-Standard Reading Rate	10.00
Programmable Decimal Points (Specify When Ordering)	N/C
Standard Offset for Process Control Ranges (4/20mA, 10/50mA, etc.)	10.00 25.00[2]
Other Special Ranges or Scaling	Consult Factory
Special Legends (14 Character/Spaces Maximum)	
Hand Lettering 1-9 Pieces	5.00
Artwork Master 10 Pieces or more	50.00[2]

ACCESSORIES

DESCRIPTION	PART NUMBER	LIST PRICE
Main Board Connector[3]	1125-243	$3.50
Conversion Board Connector[3]	1125-329	3.50
Bezel	241-65	2.00

NOTES

[1] Available on Digital Panel Meter (DC Ranges) only.

[2] Engineering charges are one-time, non-recurring charges. Show engineering charges as separate items. Do not add to list price.

[3] DC digital panel meters require only a main board connector. All other configurations require a main board connector and a conversion board connector.

SPECIFICATIONS FOR DIGITAL CONTROL

Relay:	1 form C (SPDT) for each setpoint, 2 amp resistive load at 28 VDC or 0.5 amp resistive load at 120 VAC.
Visual:	One high intensity Red Light Emitting Diode (LED) for each setpoint. Indicates "greater than" for "high" setpoint, "less than" for "low" setpoint. LED turns on when relay is de-energized.
On-Off Control:	Standard with no external components. Left setpoint is "low", right setpoint is "high". (Double "high" or Double "low" is optional.)
Latching:	Standard on all units. Shorted external connection latches relay whenever de-energized conditions occur. Opening external connection (with an external switch or relay) allows relay to function in on-off mode. Relay will latch in de-energized position upon power failure when external connection is shorted.
Other Standard Features:	Flashing over-range. Same display for input signal and setpoint eliminate setpoint linearity errors. Continuous comparison of signal and setpoint (even when readjusting setpoint).

CURRENT PRICES WILL APPLY ON ALL LINES

CORPORATION

SERIES 4350 DIGITAL PANEL METERS
MODEL 4354 DIGITAL TEMPERATURE INDICATOR
MODEL 4355 DUAL CONTROL COMPARATOR

- **½" planar 7-segment display**
- **MOS-LSI technology**
- **Switchboard reliability**
- **mV, µA, mA and Ω**
- **Rugged polycarbonate case**

Series 4350 is the designer's choice for style, reliability and economy. The crisp, green 7-segment display provides unmatched readability and eye ease, as well as 100,000 hours proven lifetime. Very high input and line noise rejection provide stable performance in industrial locations near contactors, motors, spark gaps, etc. Conservative specifications and a wide choice of standard ranges makes the Series 4350 a sure success in new applications. All logic inputs and outputs are TTL/DTL compatible. Size 4" wide x 2 1/8" high; depth given in table below.

SPECIFICATIONS			
MODEL NUMBER	4354	4352	4355
Number of digits	2¾	3½	4
Readout range	0-499	±1999	±9999
Accuracy R = reading FS = full scale	0.2% R ±0.2% FS	0.1% R ±0.1% FS	
Reading rate (readings per second)	5	5	
Noise rejection common mode dB normal mode dB	 90-110 30	 >120 30	
Temperature stability	.04% R/°C	.008% FS/°C	
Panel depth	4.25"	4.25"	
Input bias current Typical mA Worst Case mA	 70 250	 1 5	
AC volts ±10%** Power, 50-60 Hz **230 volts optional	115 V 10 W	115 V 10 W	115 V 1.3 W

How to order
Specify part numbers given below.

DC Range	Input Resistance	Model 4352		Model 4354	
		Part Number*	Price	Part Number*	Price
0-19.99 mV	100 megΩ	Q2-0800-0000	$215.00	–	–
0-49.9 mV	100 megΩ	–	–	Q4-1800-0000	$210.00
0-199.9 mV	100 megΩ	Q2-4700-0000	$215.00	–	–
0-499 mV	100 megΩ	–	–	Q4-5900-0000	$180.00
0-1.999 V	100 megΩ	Q2-0401-0000	$215.00	–	–
0-4.99 V	100 megΩ	–	–	Q4-1601-0000	$180.00
0-19.99 V	1 megΩ	Q2-4301-0000	$215.00	–	–
0-49.9 V	1 megΩ	–	–	Q4-5601-0000	$180.00
0-199.9 V	10 megΩ	Q2-7701-0000	$215.00	–	–
0-499 V	10 megΩ	–	–	Q4-8801-0000	$180.00
0-1.999 µA	10 KΩ	Q2-4740-0000	$215.00	–	–
0-19.99 µA	10 KΩ	Q2-0802-0000	$215.00	–	–
0-49.9 µA	10 KΩ	–	–	Q4-1802-0000	$180.00
0-199.9 µA	1 KΩ	Q2-4702-0000	$215.00	–	–
0-499 µA	1 KΩ	–	–	Q4-5902-0000	$180.00
0-1.999 mA	100 Ω	Q2-4003-0000	$215.00	–	–
0-4.99 mA	100 Ω	–	–	Q4-1803-0000	$180.00
0-19.99 mA	10 Ω	Q2-4303-0000	$215.00	–	–
0-49.9 mA	10 Ω	–	–	Q4-5603-0000	$180.00
0-199.9 mA	1 Ω	Q2-7703-0000	$215.00	–	–
0-499 mA	1 Ω	–	–	Q4-8803-0000	$180.00
0-499 Ω	1 mA	–	–	Q4-6004-0040	$210.00
0-4.99 KΩ	1 mA	–	–	Q4-6504-0040	$210.00
0-49.9 KΩ	100 µA	–	–	Q4-7504-0040	$210.00
0-499 KΩ	10 µA	–	–	Q4-8504-0040	$210.00
0 - +499°F	**			Q4-6604-0020	$215.00
0 - +499°C				Q4-8004-0030	$215.00
–80 to +299°F				Q4-6904-0020	$215.00
–80 to +299°C				Q4-6904-0030	$215.00

Input	Supply Voltage	Part Number	Price*
Dual ±9999 thumbwheel setpoints	+5 VDC	Q5-2300-1200	$195.00
Dual ±9999 thumbwheel setpoints	115 VAC	Q5-2302-1200	$215.00
	230 VAC	Q5-2306-1200	$215.00
Dual ±9999 hardwired setpoints	+5 VDC	Q5-2300-0001	$140.00

ACCESSORIES	
Input signal connector	3.50
Power input and BCD output connector	3.50
Bezel part no. 241-65	2.00

NOTE: Exact specifications may vary slightly from range to range.

473
DC MILLIVOLTS

Model 4354
Digital
Panel Meter

19.73
DC MILLIVOLTS

Model 4352
Digital
Panel Meter

** RTD SENSOR USED WITH MODEL 4354 DTI:
Type 1, 100 ohm platinum probe, 3850 PPM.

Model 4354
Digital
Temperature
Indicator

0825
1260
LO
HI
4355

Model 4355
Dual Control
Comparator

*The prices listed above are net each for lots of 1-9. Deduct 5% for lots of 10-24.

LFE
CORPORATION

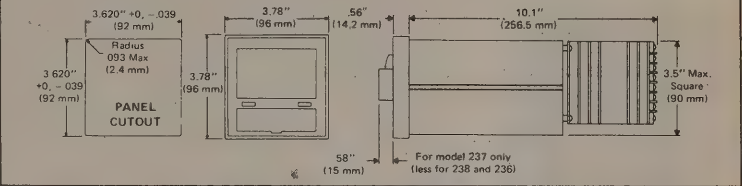
SERIES 230
TEMPERATURE CONTROLLERS

LFE's Series 230 Temperature Controllers are ideally suited for the exacting requirements of thermal processes. They represent the latest state-of-the-art electronics technology backed by LFE's long experience in process control.

LFE Series 230 Temperature Controllers use reliable solid-state design with advanced integrated circuit technology that minimizes heat and component failure and reduces total components. You get precise and consistent control of temperature to assure constant product uniformity, high product quality, and profitable throughput. The controller extends only six inches in depth from the front of the panel. Plug-in construction enables simple field maintenance and rapid replacement if it should become necessary.

Digital and analog setpoint versions are available. Model 236 has a full scale temperature indicator. Models 237 and 238 have a ±50°F or °C deviation indicator. Deviation or process alarm functions are available. LFE Series 230 Controllers provide proportional, integral, and derivative action. Controller adjustments conveniently located up front are proportional band, rate time (derivative), reset (integral), cycle time, alarm setpoint, and secondary setpoint. For output current switching in excess of 20 amps, consult factory for power pack.

DIMENSIONS



LFE
SERIES 230 CONTROLLER
LFE
SERIES 230 CONTROLLER
LFE
SERIES 230 CONTROLLER

HOW TO ORDER

1. Specify the model number and electrical outputs.

			MODEL NUMBERS AND PRICES*		
ELECTRICAL OUTPUT	IPP: 20A Integral Power Pack TP: Time Proportioning SS: Solid-State		Analog setpoint full scale indicator	Analog setpoint deviation indicator	Digital setpoint deviation indicator
			3 mode control with adjustable rate and reset	3 mode control with fixed rate and reset	3 mode control with adjustable rate and reset
SINGLE OUTPUT proportional heat or cool control	0-5V, 1-5mA, 4-20mA, TPR SS relay, IPP/TPR		**Model 236-13** **$255.00** **$340.00**	**Model 237-13** **$210.00** **$295.00**	**Model 238-13** **$255.00** **$340.00**
DUAL OUTPUT proportional heat control on/off cool control	Primary (3 mode): 0-5V, 1-5mA, 4-20mA, TPR SS relay, IPP/TPR Secondary (on/off): SS relay		**Model 236-23** **$285.00** **$370.00**	**Model 237-23** **$240.00** **$325.00**	**Model 238-23** **$285.00** **$370.00**
BIDIRECTIONAL OUTPUT proportional heat and cool controls	Primary (3-mode)	Secondary (3-mode)	**Model 236-33** **$305.00** **$390.00**	**Model 237-33** **$260.00** **$345.00**	**Model 238-33** **$305.00** **$390.00**
	TP SS relay	TP SS relay			
	IPP/TP	TP SS relay			
	TP SS relay	0-5V			
	IPP/TP	0-5V			
	0-5V	TP SS relay			
	0-5V	0-5V			
	4-20mA	TP SS relay			
	4-20mA	4-20mA			
	1-5mA	1-5mA			
	1-5mA	TP SS relay			
4:1	0-5V	TP SS 4:1			
Cooling gain is 25% of heating gain. Where not specified, cooling and heating gains are equal.	TP SS relay	TP SS 4:1			
	IPP/TP	TP SS 4:1			
	4-20mA	TP SS 4:1			

First price: without integral power pack
Second price: with integral power pack

2. Specify the range and sensor type from the following list. The prices listed above do not include temperature sensors.

STANDARD RANGES FOR ANALOG SETPOINT MODELS		STANDARD RANGES FOR DIGITAL SETPOINT MODELS	
0 to 300°F	J	0 to 400°F	J
0 to 400°F	J	0 to 500°F	J, T
0 to 500°F	J, T	0 to 600°F	J
0 to 600°F	J	0 to 800°F	J
0 to 800°F	J	0 to 1000°F	J, K
0 to 1000°F	J	0 to 2000°F	K
0 to 1500°F	K	0 to 500°C	J, K
0 to 2000°F	K	0 to 600°C	K
0 to 2500°F	K	0 to 800°C	K
0 to 3000°F	R, S	0 to 1000°C	K
–100 to +400°F	T		
–300 to +300°F	T		
0 to 200°C	J		
0 to 300°C	J		
0 to 500°C	J, K		
0 to 600°C	J		
0 to 800°C	K		
0 to 1000°C	K, R, S, Pt II		

Thermocouple sensors (T/C)

J	Iron-Constantan
K	Chromel-Alumel
T	Copper-Constantan
R	Pt/Pt, 13% Rh
S	Pt/Pt, 10% Rh
Pt II	Platinel II

3. Specify alarm option, if required. Only one of the three alarm options can be specified for any one instrument.

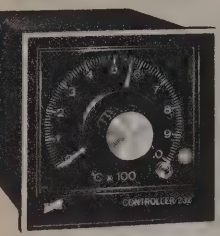
Alarm Option	Price* Adder
DEVIATION ALARM (Hi or Lo) plus **OR** minus a desired percent from the principal setpoint. SPDT adjustable 0-25% of span.	**$35.00**
DEVIATION BAND ALARM (Hi and Lo) plus **AND** minus a desired percent from the principal setpoint. SPDT adjustable ± 0.5% to ± 25% of span.	**40.00**
FULL PROCESS ALARM (Hi or Lo) activated when process temperature exceeds or falls below an independent setpoint. SPDT adjustable 0-100%.	**35.00**

***The prices listed above are net each for lots of 1-9. Deduct 5% for lots of 10-24.**

LFE CORPORATION

TEMPERATURE CONTROLLERS

MODEL 232

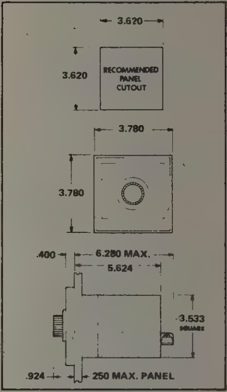


The Model 232 is a compact solid-state controller available in a variety of control functions. It is suitable for temperature control of processes up to 3,000°F. An easily-read extra long 6.5 inch 250° arc indicator scale provides full scale temperature readout. A press-to-set knob allows the setpoint to be set on the indicator scale. The 232 controller saves panel space with its ¼ DIN dimensions. The 232 controller is available with on-off or time proportioning output.

The Model 232-20 is a highly compact solid-state Temperature Controller designed for applications requiring two separate but related control actions from one control unit. An auxiliary setpoint is adjustable 0 to 5% above or below the primary setpoint.

The 232-F is a Factory Mutual approved temperature limit instrument. It is designed specifically to protect people and equipment by shutting off heating equipment and/or sounding an alarm when the limit setpoint temperature is exceeded. (FM # 22945)

RANGES	T/C
0 to 300°C	J
0 to 300°F	J
0 to 500°C	J
0 to 500°F	J
0 to 800°F	J
0 to 1000°C	K
0 to 1000°F	J
0 to 1000°F	K
0 to 1200°F	K
0 to 1500°F	J
0 to 1500°F	K
0 to 2000°F	K
0 to 2500°F	K
0 to 3000°F	R
0 to 3000°F	S



Model Number	Description	Control Output	Price*	
			No Meter Indication	With Meter Indication
232	Single output controller	On/off	$107.00	$127.00
		Time proportioning	112.00	132.00
232-20	Dual output controller with auxiliary setpoint	On/off (primary)	163.00	183.00
		Time proportioning (primary)	168.00	188.00
232-F	Temperature limit instrument	Limit	125.00	145.00

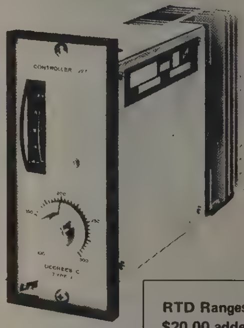
RTD Ranges $15.00 adder

Option	For Model	Price* Adder
Solid state switch	232	$10.00
2 solid state switches	232-20	$20.00
External indicator output	232	$ 5.00

MODEL 227

The Model 227 Temperature Controller is especially designed for applications requiring a moderately priced controller with two-mode (proportional plus integral, or reset) stability. The 227 will accept Thermocouple or RTD (Resistance Temperature Detector) sensor inputs, and is available with any one of five outputs; Proportioning voltage, proportioning current, on/off relay, and phase fired or zero crossing pulse output. Full-scale temperature indication is provided on a large 3" edgewise display. It is also available with integral power pack for applications requiring an economical controller for loads up to 20 Amperes.

RANGES	T/C
0 to 300°F	J
0 to 500°F	J
0 to 600°F	J
0 to 800°F	J
0 to 1000°F	J,K
300 to 800°F	J
500 to 1500°F	K
0 to 2000°F	K
1000 to 2000°F	K
500 to 2500°F	K,R,S
1000 to 3000°F	R,S,B
−100 to +400°F	T
0 to 200°C	J
0 to 300°C	J
0 to 500°C	J,K
0 to 600°C	J
0 to 800°C	J,K
0 to 1000°C	K,R,S
200 to 1200°C	K,R,S
700 to 1700°C	R
−200 to +200°C	T



RTD Ranges $20.00 adder

Control Mode	OUTPUT FORM	Price*	
		Package A	Package C
On/Off	On/Off Relay output. SPDT contacts rated at 2 amps, 120 VAC noninductive	$190.00	$174.00
	On/Off triac, 9-amp solid state control element for resistive loads up to 240 VAC with integral power pack.	$195.00	–
Single Mode	Time proportioning, 9 amp solid state control element for resistive loads up to 240 VAC with integral power pack.	$195.00	–
Two Mode	Proportioning voltage output: 0 to 5 volts DC into a min. load of 1K.	$183.00	$167.00
	Proportioning current output: 0 to 5 mA DC into a max. load of 3K.	$183.00	$167.00
	SCR Driver phase-fired output—two isolated pulse outputs to drive SCR gates. Pulse amplitude 10 volts, 10 micro-second duration.	$203.00	$187.00
	SCR Driver zero-crossing output—two isolated pulse outputs to drive SCR gates	$221.00	$205.00
	Proportioning phase-fired integral control. 9-amp solid-state control element for resistive loads up to 240 VAC with integral power pack.	$226.00	–
	Proportioning zero crossing fired integral control. 9-amp solid-state control element for resistive loads up to 240 VAC with integral power pack.	$247.00	–
	Proportioning phase fired 20 Amp integral control for resistive loads up to 240 VAC with integral power pack.	$293.00	–
	Proportioning zero-crossing fired 20 Amp integral control for resistive loads up to 240 VAC with integral power pack.	$313.00	–

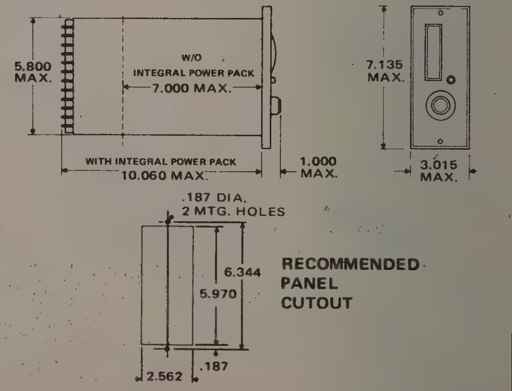
Package configurations

A = complete package with integral temperature indicator and integral setpoint assembly.

C = package with remote setpoint assembly and no temperature indicator.

OPTIONS	Price*
Remote setpoint/meter assembly	$ 40.00
Ten-position switch (req'd. when a single meter or recorder is used to monitor process temperature at several points)	$ 50.00
Edge card connector part no. 1125-245	$ 4.50
Special Range (subject to factory acceptance)	$100.00
Adjustable proportioning band and integral action	$ 30.00

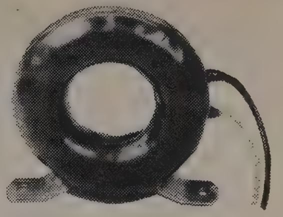
DIMENSIONS



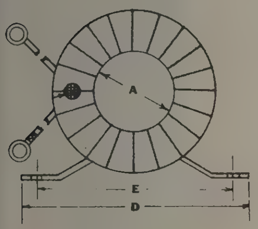
*The prices listed above are net each for lots of 1-9. Deduct 5% for lots of 10-24.

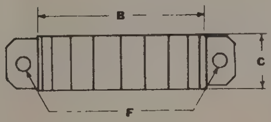
Midwest Current Transformers

Ring type current transformers measure currents accurately for switchboard and portable AC ammeters, etc.; transformer slips over primary conductor to be measured. The transformer core is made of coil oriented steel with carefully taped and insulated windings. Standard lead wires are 24″ long and are taped and tied in place. The entire unit is dipped in fungus-resistant "Dolflex" insulating compound to insure maximum protection against moisture, acids, bases, oils, and abrasive particles. Insulation will withstand 4,500 volts before breakdown. Available current ratios 20/5 amps to 3000/5 amps, 25–400 Hz; other ratios available on special order. All transformers supplied with mounting brackets for permanent installation.



TRANSFORMER DIMENSIONS





Midwest Model	Dimensions, Inches A	B	C	D	E	F	Approx. Wt., Lbs.
2CT	1¼	3¾	2⅞	5¼	4	9/32	3¾
3CT	1¼	3¾	1¼	4	3⅞	¼	1¼
4CT14–4CT16	1¼	3½	1¼	4	3⅞	¼	1¼
4CT175–4CT110	1¾	4	1¼	4	3⅞	¼	1½
6CT4–6CT8	1¼	4	2¾	5¼	4	9/32	4
6CT35–6CT13	1¼	3¾	1⅝	4½	3⅞	9/32	2
6CT14–6CT16	2¼	4⅞	1½	7	5¾	9/32	3
6CT175–6CT110	2¾	5	1½	7	5¾	9/32	2¼
6CT112–6CT1116	3¾	6½	1⅝	7¾	6½	9/32	3½
6CT120–6CT130	3½	6½	1¾	7½	6½	¼	3¾
8CT35–8CT14	2	5	1¾	7	5¾	9/32	4½
8CT15–8CT110	2⅛	4¾	2	7	5¾	9/32	5
9CT35–9CT110	2	5	2½	7	5¾	9/32	7

CURRENT TRANSFORMERS

Midwest Model	Current Ratio	Capacity, VA	Primary Turns	Accuracy	List Price
2CT210	10/5	2	2	6.00%	$25.50
2CT115	15/5	2	1	6.00%	25.50
2CT120	20/5	2	1	6.00%	25.50
2CT125	25/5	2	1	6.00%	25.50
2CT130	30/5	2	1	6.00%	25.50
2CT135	35/5	2	1	6.00%	25.50
2CT140	40/5	2	1	6.00%	25.50
3CT205	5/5	2	20	3.00%	17.00
3CT101	10/5	2	10	3.00%	17.00
3CT1015	15/5	2	10	2.00%	17.00
3CT62	20/5	2	6	2.50%	17.00
3CT625	25/5	2	6	2.00%	17.00
3CT63	30/5	2	6	1.60%	17.00
3CT64	40/5	2	6	1.25%	17.00
3CT34	40/5	2	3	2.50%	17.00
3CT15	50/5	2	1	6.00%	17.00
3CT35	50/5	2	3	2.00%	17.00
3CT16	60/5	2	1	5.00%	17.00
3CT36	60/5	2	3	1.60%	17.00
3CT175	75/5	2	1	3.80%	17.00
3CT375	75/5	2	3	1.30%	17.00
3CT18	80/5	2	1	3.80%	17.00
3CT38	80/5	2	3	1.25%	17.00
3CT11	100/5	2	1	3.00%	17.00
3CT21	100/5	2	2	1.50%	17.00
3CT115	150/5	2	1	2.00%	17.00
3CT215	150/5	2	2	1.00%	17.00
3CT12	200/5	2	1	1.50%	17.00
3CT125	250/5	2	1	1.20%	17.00
3CT13	300/5	2	1	1.00%	17.00
4CT135	350/5	2	1	1.00%	19.75
4CT14	400/5	2	1	0.75%	19.75
4CT15	500/5	2	1	0.60%	19.75
4CT16	600/5	2	1	0.50%	19.75
4CT17	700/5	2	1	0.50%	24.25
4CT175	750/5	2	1	0.40%	24.25
4CT18	800/5	2	1	0.38%	24.25
4CT110	1000/5	2	1	0.30%	24.25
6CT205	5/5	5	20	3.00%	22.00
6CT1015	15/5	5	10	2.00%	22.00
6CT62	20/5	5	6	2.50%	22.00
6CT25	25/5	5	1	6.00%	22.00
6CT625	25/5	5	6	2.00%	22.00
6CT63	30/5	5	6	1.60%	22.00
6CT635	35/5	5	6	1.60%	22.00
6CT4	40/5	5	1	6.00%	22.00
6CT34	40/5	5	3	1.25%	22.00
6CT64	40/5	5	6	2.50%	22.00
6CT5	50/5	5	1	6.00%	22.00
6CT35	50/5	5	3	2.00%	22.00
6CT6	60/5	5	1	6.00%	22.00
6CT36	60/5	5	3	1.60%	22.00
6CT7	70/5	5	1	6.00%	22.00
6CT75	75/5	5	1	3.75%	22.00
6CT375	75/5	5	3	1.30%	22.00
6CT8	80/5	5	1	6.00%	22.00
6CT38	80/5	5	3	1.25%	22.00
6CT11	100/5	5	1	3.00%	22.00
6CT1125	125/5	5	1	3.00%	22.00
6CT115	150/5	5	1	2.00%	22.00
6CT12	200/5	5	1	1.50%	22.00
6CT125	250/5	5	1	1.20%	22.00
6CT13	300/5	5	1	1.00%	22.00
6CT135	350/5	5	1	2.50%	25.50
6CT14	400/5	5	1	0.75%	25.50
6CT15	500/5	5	1	0.60%	25.50
6CT16	600/5	5	1	0.50%	25.50
6CT17	700/5	5	1	0.40%	29.50
6CT175	750/5	5	1	0.40%	$29.50
6CT18	800/5	5	1	0.38%	29.50
6CT19	900/5	5	1	0.35%	29.50
6CT110	1000/5	5	1	0.30%	29.50
6CT112	1200/5	5	1	0.25%	37.95
6CT1115	1500/5	5	1	0.15%	37.95
6CT1116	1600/5	5	1	0.15%	43.50
6CT180	1800/5	5	1	0.15%	43.50
6CT120	2000/5	5	1	0.10%	43.50
6CT1250	2500/5	5	1	0.10%	49.50
6CT130	3000/5	5	1	0.10%	49.50
8CT101	10/5	10	10	6.00%	31.95
8CT1015	15/5	10	10	6.00%	31.95
8CT62	20/5	10	6	3.00%	31.95
8CT625	25/5	10	6	3.00%	31.95
8CT63	30/5	10	6	1.60%	31.95
8CT34	40/5	10	3	1.25%	31.95
8CT35	50/5	10	3	2.00%	31.95
8CT36	60/5	10	3	1.60%	31.95
8CT75	75/5	10	1	3.75%	31.95
8CT375	75/5	10	3	1.30%	31.95
8CT38	80/5	10	3	1.25%	31.95
8CT11	100/5	10	1	3.00%	31.95
8CT21	100/5	10	2	1.50%	31.95
8CT1125	125/5	10	1	2.00%	31.95
8CT115	150/5	10	1	2.00%	31.95
8CT215	150/5	10	2	1.00%	31.95
8CT12	200/5	10	1	1.50%	31.95
8CT13	300/5	10	1	1.00%	31.95
8CT14	400/5	10	1	0.75%	37.80
8CT15	500/5	10	1	0.60%	37.80
8CT16	600/5	10	1	0.50%	37.80
8CT175	750/5	10	1	0.40%	43.50
8CT18	800/5	10	1	0.38%	43.50
8CT110	1000/5	10	1	0.30%	43.50
8CT112	1200/5	10	1	0.25%	50.50
8CT1115	1500/5	10	1	0.15%	50.50
8CT1116	1600/5	10	1	0.15%	56.50
8CT120	2000/5	10	1	0.15%	56.50
8CT1250	2500/5	10	1	0.10%	64.50
8CT130	3000/5	10	1	0.10%	64.50
9CT62	20/5	15	6	6.00%	38.00
9CT4	40/5	15	1	3.00%	38.00
9CT34	40/5	15	3	3.00%	38.00
9CT35	50/5	15	3	2.00%	38.00
9CT375	75/5	15	3	1.30%	38.00
9CT11	100/5	15	1	3.00%	38.00
9CT1125	125/5	15	1	2.75%	38.00
9CT115	150/5	15	1	2.00%	38.00
9CT12	200/5	15	1	1.50%	38.00
9CT125	250/5	15	1	1.20%	38.00
9CT13	300/5	15	1	1.00%	38.00
9CT135	350/5	15	1	1.00%	43.50
9CT14	400/5	15	1	0.75%	43.50
9CT15	500/5	15	1	0.60%	43.50
9CT16	600/5	15	1	0.50%	43.50
9CT17	700/5	15	1	0.50%	49.50
9CT175	750/5	15	1	0.40%	49.50
9CT18	800/5	15	1	0.38%	49.50
9CT19	900/5	15	1	0.30%	49.50
9CT110	1000/5	15	1	0.30%	49.50
9CT112	1200/5	15	1	0.25%	58.00
9CT1115	1500/5	15	1	0.15%	58.00
9CT1116	1600/5	15	1	0.15%	66.50
9CT120	2000/5	15	1	0.15%	66.50
9CT1250	2500/5	15	1	0.10%	75.50
9CT130	3000/5	15	1	0.10%	75.50

All Transformers Supplied With Mounting Brackets

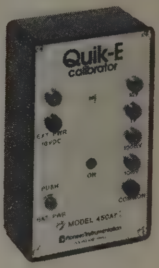
MIDWEST CURRENT TRANSFORMERS CAN BE USED WITH ANY 5A METER

Pioneer/Instrumentation Quik-

PORTABLE PRECISION VOLTAGE SOURCE

VOLTAGE CALIBRAT
MODEL 45

- FOUR OUTPUT VOLTAGES...10 VDC, 1.0 VDC, 100mVDC, and 10mVDC
- ±0.05% ACCURACY...10 V, IV, and 100mV OUTPUTS
- ±0.1% ACCURACY 10mV OUTPUT
- LOW OUTPUT RESISTANCE
- SHORT CIRCUIT PROOF OUTPUTS
- BATTERY POWERED
- PROVISION FOR EXTERNAL SUPPLY
- LED BATTERY CONDITION INDICATOR
- LOW COST



DESCRIPTION

The Quik-E® is a portable precision DC voltage source which was designed to provide a convenient means of checking and adjusting voltage measuring equipment.

The performance of the Model 450A is intended to complement that of precision digital instruments, but its low output resistance gives it the versatility required for use as a universal calibration tool.

The exceptional accuracy and stability of the Quik-E® are achieved using a solid state voltage reference and precision voltage divider.

APPLICATIONS

- Calibration of Digital Voltmet and Multimeters
- Calibration of VOM's
- DC Calibration of Oscilloscop
- Portable Voltage Reference
- Calibration of Chart Recorder

SPECIFICATIONS

Output Voltages: 10mVDC, 100mVDC, 1.0VDC, 10.0VDC.

Output Resistance: 5 ohms typical for 10mVDC
50 ohms typical for 100mVDC
500 ohms typical for 1.0 VDC
1000 ohms typical for 10.0VDC

Note: Specific output resistance on each unit.

Guaranteed Accuracy: ±0.05% (15 to 35°C) on 100mV,1.V, 10.V Outputs
+0.1% (15 to 35°C) on 10mV Output

Temp. Coefficient: 10 PPM/°C typical 0 – 50°C

Output Stabilization Time: 30 seconds to rated accuracy.

Power Required: Self contained batteries (2 Mallory MN 1604 alkaline cells, 9 VDC, or equivalent) or external 15 to 20 VDC supply at approximately 15 MA.

Battery Life: Minimum of 10 hours @ continuous duty. Approximately 6 months @ normal intermittent duty.

Weight: Approximately 16 ounces with batteries

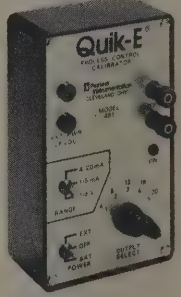
Dimensions: 3½" wide, 6" long, 2" deep

Model 450A Quik-E® Calibrator . $99.50 Model PS45A-AC Adapter Accessory for 110 VAC Line Operation . $25
Statement of Calibration traceable to National Bureau of Standards . $15.00

PORTABLE CURRENT and VOLTAGE SOURCE

PROCESS CONTROL CALIBRAT
MODEL

- ALL COMMON CONTROL LOOP RANGES
- BATTERY OPERATED
- HANDY SIZE
- 1% ACCURACY
- OUTPUT SHORT CIRCUIT PROOF
- OPEN LOOP INDICATION
- PROVISION FOR EXTERNAL SUPPLY
- A.C. ADAPTER AVAILABLE
- LOW COST



DESCRIPTION

The Model 451 Quik-E® Calibrator is a dependable and convenient D.C. current and voltage source designed for use in calibration and testing of process control systems.

In use the Model 451 can be substituted for the signal source and used to calibrate or check indicators or controls in the signal loop as well as continuity of the loop itself.

FUNCTIONS

- Supply Calibration Signals to Instruments and Sensors
- Simulate Transducers
- Verify Loop Continuity
- As a Constant Current Sou

SPECIFICATIONS

Output Ranges: 4 to 20 MADC in 5 steps of 4 MA.
1 to 5 MADC in 5 steps of 1 MA.
1 to 5 VDC in 5 steps of 1 volt.

Load Resistance for Current Outputs: 0 – 1000 ohms.

Accuracy all Ranges: ±1%

Operating Temperature Range: 15 to 45° C

Warm Up: None Required

Power Source: 3 nine volt batteries (Mallory MN 1604 or equal) or 28 VDC Supply at approximately 28 MA max. or optional PS451 AC Adapter.

"On" Indicator: L. E. D. extinguishes when battery power is insufficient to drive set current into load resistance.

Weight: Approximately 18 ounces with batteries.

Dimensions: 3½" wide X 6" long X 2" deep.

Quik-E® Model 451 Process Control Calibrator . $99.50 AC Adapter Model PS451 . $25.

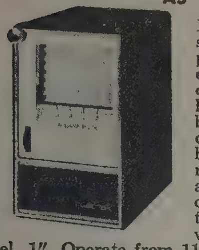
rustrak

THE MINIATURE RECORDER PEOPLE

MINIATURE STRIP CHART RECORDERS

MINIATURE GRAPHIC RECORDERS

AS LOW AS $124.00



Miniature analog recorders print on pressure-sensitive chart paper, have wide applications in industry. Accuracy is ±2% of full scale (±1% available on special order). Standard chart speed is 1″ per hour; easily changed with optional gear boxes (listed on opposite page). 63-foot chart paper roll lasts one month at 1″ per hour. Features include: Internal chart review; time setting thumbwheel; chart access window; tear-off or reroll chart operation easily interchanged. Response time, 1 second for most units. Scale width: Single channel, 2 5/16″; dual channel, 1″. Operate from 115 VAC, 60 Hz. Ready to use; complete with panel mounting hardware, one roll of chart paper and operating manual. Finished in charcoal gray suede coating. Size, 3⅝″ w. x 4 5/16″ d. x 5⅝″ h. Shipping Weight, 5 lbs.

Miniature Graphic Recorders are available in other ranges and models. Write for brochure and prices.

SINGLE CHANNEL DC RANGE RECORDERS

Rustrak Model	Range	Resistance, Ohms	Net Each
288	0–10 uA	5700	$161.00
288	0–50 uA	4700	143.00
288	0–100 uA	4600	138.00
288	0–1 mA	100	124.00
288	0–100 mV	100	124.00

SINGLE RANGE DC VOLTAGE RECORDERS

Rustrak Model	Range	Sensitivity	Net Each
288	0–1 VDC	1000 ohms/V	$130.00
288	0–3 VDC	1000 ohms/V	130.00
288	0–5 VDC	1000 ohms/V	130.00
288	0–10 VDC	1000 ohms/V	130.00
288	0–50 VDC	1000 ohms/V	130.00
288	0–100 VDC	1000 ohms/V	130.00

DUAL CHANNEL DC RANGE RECORDERS

Rustrak Model	Ranges (Dual Channel)	Resistance, Ohms	Net Each
291	0–1 mA and 0–1 mA	100	$178.00
291	0–100 uA and 0–100 uA	4600	197.00
291	0–50 uA and 0–50 uA	5400	209.00

4-, 8- 16 AND 24-CHANNEL EVENT RECORDERS

Record up to twenty-four on-off events on the same chart. Actuator response time is 10 milliseconds. Access window slides down for notes. Thumb-wheel chart advance operates from front panel for precise time setting or fast paper discharge. Operates at one chart speed (¼, ½, 1, 2, 3, 6, 10, 12, 15, 30 or 60 inches per hour; specify when ordering). Other chart speeds are easily obtainable by using interchangeable gear box listed on opposite page. Standard recorder has 115 VAC, 60 Hz, 2-rpm motor; available with other motor speeds for chart speed up to 3000 inches/hour on special order. Requires 24 VDC at 70 mA per channel; use Model 921-8 power supply, below. Includes one roll of chart paper and operating manual. Finished in charcoal gray suede coating. Size: 4- and 8-channel models, 3⅝″ w. x 4 5/16″ d. x 5⅝″ h.; 16-channel model, 6⅝″ w. x 6″ d. x 5⅝″ h. Shipping Weight, 5 lbs. except 392-16, 392-16 and 4392-24, 8 lbs.

Rustrak Model 292-4 Recorder—4-channel. Net **$139.00**
Rustrak Model 292-8 Recorder—8-channel. Net **193.00**
Rustrak Model 392-16 Recorder—16-channel. Net **492.00**
Rustrak Model 4392-24 Recorder—32-channel. Net **758.00**
Rustrak Model 921-8 Power Supply—One required for 4 or 8-channel recorders; two needed for 16-channel recorder. Shpg. Wt., 5 lbs. Net Each **$35.00**

TEMPERATURE RECORDERS

MODEL 2122 RECORDING PYROMETER

Single channel thermocouple recorder has four switchable ranges: 0–400°F, 0–800°F, 0–1200°F and 0–2400°F; also available in Centigrade equivalents. Cold junction compensation. Supplied with I/C and C/A thermocouples. Operates from 115 VAC, 60 Hz. Size, 3⅝″ w. x 6″ d. x 5⅝″ h. Shipping Weight, 7 lbs.

Rustrak Model 2122 Recording Pyrometer—Specify °F or °C calibration.
Net Each **$278.00**

MODEL 2133 THERMISTOR PROBE RECORDER

Rustrak thermistor probe recorders provide high resolution temperature monitoring over the range of 32 to 212°F (0° to 100°C). Spans from 25°F to 100°F may be selected. The calibration of the recorder is self-checking. Single and dual channel units are available.

Specifications

Single Channel: Model 2133. Uses one probe.
Dual Channel: Model 2133B. Uses two probes. Select any two spans.
Temperature Spans: 25°F min., 100°F max. (15°C. min., 50°C. max.)
Temperature Range: 32°F to 212°F (0°C to 100°C).
Accuracy: ±2% of span.
Stability: ±0.5% of span.
Thermistor: Various types available. See page 10.
Supply Voltage: 120 VAC, 50/60 Hz; 240 VAC, 50/60 Hz; 12 VDC; 24 VDC; special voltages.
Model 2133 Single Channel Recorder—Net Each **$247.00**
Model 2133B Dual Channel Recorder—Net Each........... **408.00**

MODEL 2144 RESISTANCE BULB RECORDER

Nickel wire temperature recorders, unlike thermocouple recorders, provide significantly smaller scale spans, and they do not require cold junction compensation or reference points. Rustrak 2144 series recorders may be specified with temperature spans as narrow as 100°F., making reasonably high accuracy (±2.5% of span) measurements possible. Calibration of these recorders is self-checking.

Specifications

Temperature Span: 100°F. min. to 600°F. max.
Temperature Range: –100°F to 600°F.
Accuracy: ±2.5% of span; ±0.5% of full scale temperature.
Stability: ±0.5% of span.
Scales: Fahrenheit standard, Centigrade available.
Sensor: Two-wire interchangeable nickel wire probe. Available separately (see P. 10). Not available for 6 VDC operation.
Supply Voltage: 120 VAC, 50/60 Hz; 240 VAC, 50/60 Hz; 12 VDC; 24 VDC; special voltages.
Model 2144—Net each **$290.00**

MODEL 2155A THERMOCOUPLE RECORDER

The 2% accuracy of the Rustrak 2155A is the best value in temperature measurement now available. It is provided with automatic cold junction compensation, is unaffected by varying thermocouple lead lengths (up to 100 ohms), and is available in spans as narrow as 250°F. Offset spans are also available.

STANDARD RANGES

T/C Type	Span °F.	Span °C
J or K	0-250	0-150
J or K	250-500	150-300
J or K	0-500	0-300
J or K	500-1000	300-600
J or K	0-600	0-400
J or K	600-1200	400-800
J or K	0-1000	0-500
J or K	1000-2000	500-1000
K	0-1500	0-600
K	0-2000	0-800
K		0-1000

*Special ranges starting from below 0 degrees are available (For example, –100 to +500°) at extra cost.

Specifications

Accuracy: 2% of span.
Thermocouple Resistance: 100 Ohms maximum without recalibrating (180 ft. of #22 Type J)
Cold Junction Error: Maximum at 0°C and 50°C. Will not exceed ±2.5°C.
Minimum Span: 250°F (150°C).
Maximum Span: 2000°F (1000°C)
Sensor: Available separately.

RURSTRAK 2155A NARROW RANGE

This model is available with spans as narrow as 50°F. Offsets as great as 5 times the span are possible. In this example, the span could be 250° to 300°F.

Specifications

Temperature Span: 50°F to 250°F (Type J)
Accuracy: 2% of span.
Thermocouple Resistance: 1000 ohms max. without recalibrating.
Cold Junction Error: Maximum at 0°C and 50°C. Will not exceed ±2.5°C.
Calibration: Type J or K standard. T, R, or S optionally available.
Offset: None or up to 5 to 1 available.
Thermocouples: Available separately.
Model 2155A T/C Recorder—Net Each.............. **$193.00**
Model 2155A NR Narrowrange T/C Recorder—Net Each **366.00**

rustrak TEMPERATURE RECORDERS

THE MINIATURE RECORDER PEOPLE

NICKEL WIRE PROBES FOR RUSTRAK 2144

Utility probe, 304 s.s. Capable of withstanding most corrosive liquids and pressures to 500 PSI. Operating temperature —100° to +600°F. Time constant 3 seconds.
Shaft: 3⁄16″ dia. x 4½″ long. 1′ teflon lead. 15′ extension.
Model 1441 .... **$63.00**

Flexible surface sensor with sensing grid imbedded in a fiberglass carrier. Operating temperature —100° to +500°F. Time constant: 0.5 seconds.
Pad: ¾″ wide x 1¾″ long
Model 1442 .... **$26.00**

High pressure fitting. 304 s.s. For inserting Model 1441 probe into a pressure vessel. Maximum working pressure: 300 PSI.
Model 1443 .... **$10.00**

THERMISTOR PROBES FOR RUSTRAK 2133

Flexible lead, vinyl head. Time constant 7 seconds.
Head: 3⁄16″ dia. x 5⁄16″ long. 10′ cable.
Model 1331 .... **$24.00**

Straight tubular shaft, 304 s.s. For liquid (immersible to cap only) or internal use. Time constant: 3.7 seconds.
Shaft: 5⁄32″ dia. x 4½″ long, 10′ cable.
Model 1332 .... **$37.00**

Extended disc, 304 s.s. For flat surface measurement where handle is required. Time constant: 0.8 seconds.
Disc: 13⁄32″ dia. x 1⁄16″ thick, 10′ cable.
Model 1333 .... **$44.00**

Flexible lead disc, 304 s.s., plastic backed. For skin temperature and flat surfaces. Time constant: 1.7 seconds.
Disc: ⅜″ dia. x ⅛″ thick, 10′ cable.
Model 1334 .... **$37.00**

THERMOCOUPLE PROBES FOR RUSTRAK 2122 AND 2155A

Type J (iron-constantan), 20 gauge in 6 inch stainless steel sheath, 3⁄16 inch diameter with 6 ft. armored cable, Maximum range: 1000°F. Recommended range for continuous service: 900°F.
Model 1551 .... **$26.00**

Type K (chromel-alumel), 20 gauge in 6 inch stainless steel sheath, 3⁄16 inch diameter with 6 ft. armored cable. Maximum range: 2000°F Recommended range for continuous service: 1800° F.
Model 1552 .... **$34.00**

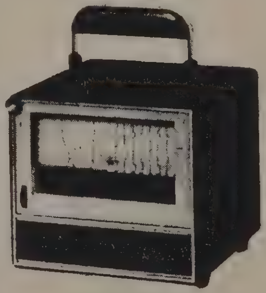
Pressure fitting, 304 s.s., for inserting Model 1551 or 1552 into pressure vessel. Approximate maximum pressure: 300 PSI.
Model 1553 .... **$10.00**

Bead only w/o cable.
.050 diam. 2″ leads.
Model L789 .... **$12.00**

Immersible in liquid.
Probe: 50′ cable.
Model 1924 .... **$52.00**

High pressure fitting, 304 s.s. For inserting Model 1332 probe into a pressure vessel. Maximum working pressure:
Model 1336 .... **$10.00**

300 SERIES RECORDERS



Miniature analog recorder series, available in two- or four-channel models. 5½″ wide chart features 2 3⁄16″ scale width for two-channel recorders, 1″ per channel for four-channel models. Standard chart speed is 1″ per hour; easily changed with optional gear box, listed below. 63-foot roll of chart paper lasts one month at 1″ per hour speed. Convenient time setting thumbwheel for precise or rapid chart advance. Sliding access window permits making notes on chart. Finished in charcoal gray suede coating. Includes handle, one roll of chart paper and operating manual. Size, 6⅝″ w. x 6″ d. x 5⅝″ h. Shipping Weight, 8 lbs.

Rustrak Model	Channels	Range, Each Channel	Resis. per Channel	Net Each
388	2	0–50 uA	4700 ohms	$357.00
388	2	0–100 *u*A	4600 ohms	366.00
388	2	0–1 mA	100 ohms	323.00
388	2	0–100 mV	100 ohms	323.00
391	4	0–1 mA	100 ohms	426.00
391	4	0–100 *u*A	4600 ohms	455.00

300 Series Recorders are available in other ranges. Write for descriptive brochure and prices.

MODEL 225 RELATIVE HUMIDITY/TEMPERATURE RECORDER

Electronically monitors relative humidity from 10% to 90% and temperature from 60°F to 90°F on a single chart. No ink to add; no messy cartridges to change. Chart lasts for two months of continuous monitoring operation. Ideal for use in computer rooms, offices, and similar applications.

Accuracy: Temperature, ±1F; humidity, ±4 (for 20–80% relative humidity at 77°F). **Response Time:** Temperature, 1 second (63%); humidity, 30 seconds (63%).

Sampling Rate: 8 seconds for one cycle.

Paper: Uses Style P chart paper (listed below). Complete with sensors and wall or panel mounting hardware. Size, 3⅝″ w. x 4 5⁄16″ d. x 5⅝″ h. Shipping Weight, 5 lbs.

Rustrak Model 225 Humidity/Temperature Recorder—Net Each **$396.00**

Remote Cables—Permit remote operation of Model 225 recorder up to 100 feet from sensor. 25-foot Cable. Net Each **$12.00**
50-foot Cable. Net .... **$18.00** 100-foot Cable. Net **$26.00**

MODEL 230 VOLT/AMP RECORDER

Industrial and commercial AC voltage and current recorder, housed in leatherette case. Three switchable voltage ranges: 0–150, 0–300 and 0–600 volts with ±3% accuracy. Three switchable current ranges: 0–25, 0–100 and 0–300 amps with ±4% accuracy. Thumbwheel chart advance; sliding chart access window. Standard chart speed is 1″ per hour; other speeds available on special order. Uses Q & R type chart paper. Operates from 115 VAC, 60 Hz; draws 3 watts. Furnished with two rolls of chart paper, clamp-on transducer and test leads. Size, 11″ long x 4¼″ wide x 6½″ high. Shipping Weight, 10 lbs.

Rustrak Model 230 Volt/Amp Recorder—Net Each **$186.00**

OTHER AC RECORDERS

AC VOLTMETER RECORDERS

Rustrak Model	AC Ranges	Net Each
288R	Single Range—0–10 V, 0–50 V, O–300 V, 0–600 V	$146.00
288	Any two ranges as listed above	169.00
288	Any three ranges as listed above	186.00
293	70–135 V	152.00
293B	70–135, 140-270 and 280–540 V	169.00
293A	70–135 and 140-270 V	157.00
2186	105–125 and 210–250 V	186.00
2186A	105–125, 210–250 and 420–500 V	196.00

AC AMMETER RECORDERS

Rustrak Model	AC Ranges	Net Each
2118	0–1 and 0–5 amps	$186.00
2107	0–500 amps with clamp-on transducer	189.00

ACCESSORY GEAR BOXES

For quick change of chart speed on Rustrak recorders. When used with 2-rpm motor, gear box number equals chart speed (⅛ to 60 inches per hour). When used with Model 400 recorder, chart speed equals gear box number (⅛ to 60) times four (½ to 240, inches per hour). For other motor speeds, chart speed equals half of motor speed (rpm) times the gear box number.

Rustrak Gear Box—Specify number: ⅛, ¼, ½, 1, 2, 3, 4, 6, 10, 12, 15, 30, 45 or 60. Net Each **$7.00**

rustrak

THE MINIATURE RECORDER PEOPLE

POTENTIOMETRIC RECORDERS AND ACCESSORIES

CHART PAPER IN 63-FOOT ROLLS

STANDARD SINGE AND DUAL CHANNEL

Rustrak Style	Description	Channels	Net Each
A	50 divisions	Single	$3.00
B	75 divisions	Single	3.00
C	65 divisions	Single	3.00
H	40 divisions	Single	3.00
I	30 divisions	Single	3.00
K	60 divisions	Single	3.00
D	20–20 divisions	Dual	3.00
N	50 divisions and 1 event	Dual	3.00

SPECIAL CHART PAPER

Rustrak Style	Description	Net Each
EE	4 and 8 events	$3.00
P	For Model 225 (Humidity/Temperature)	3.00
Q	For Model 230 (Current)	3.00
R	For Model 230 (Voltage)	3.00

FOR 300 SERIES RECORDERS

Rustrak Style	Description	Net Each
A-A	50-50 divisions	$5.25
A-E	50 divisions and 8 events	5.25
D-D	20-20/20-20 divisions (4 channels)	5.25
16E	16 channels, events	5.25

FOR 400 AND 3400 SERIES RECORDERS

Rustrak Style	For Series	Description	Channels	Net Each
WA	400	50 divisions	Single	$3.00
WB	400	75 divisions	Single	3.00
WC	400	65 divisions	Single	3.00
WH	400	40 divisions	Single	3.00
WI	400	30 divisions	Single	3.00
WK	400	60 divisions	Single	3.00
WA-A	3400	50–50 divisions	Dual	5.25
WA-E	3400	50 divisions, 8 events	Dual	5.25

4300 SERIES PAPER

Rustrak Style	Description	Net Each
A-AA	50-50-50 divisions	$8.95
24-E	24 channels event	8.95
D-D-D	20-20/20-20/20-20 division	8.95
N-N-N	50 div., 1 event/50 div., 1 event/ 50 div., 1 event	8.95
A-A-E	50-50-8 events	8.95
D-D-E	20-20/20-20/8 events	8.95

400A SERIES POTENTIOMETRIC RECORDERS

Continuous impression instrument records on pressure-sensitive paper. Offers basic sensitivity of 100 mV with ±1% full-scale accuracy. Features 2⁵⁄₁₆″ scale width; inkless writing; floating input; chart tear-off or reroll operation, easily interchanged. Standard chart speed is 1 inch per hour; changeable from ½″ per hour to 240″ per hour with optional gear boxes, listed at left. Input resistance, 1 megohm minimum. 60 Hz rejection, 100 dB minimum. Finished in charcoal gray suede coating. Order chart paper listed below, with prefix "W" (WA, WB, etc.). Includes one roll of chart paper. Operates from 115 V, 60 Hz only; DC operation **also available.** Usable with all Add-A-Function Modules. Size, 3⅝″ w. x 6″ d. x 5⅝″ h. Shipping Weight, 5 lbs.

Rustrak 400 Series Recorder—Net Each $285.00

MODEL 3400A DUAL-CHANNEL POTENTIOMETRIC RECORDER

Same specifications as 400 Series above, but has two channels. Scale width, 2⁵⁄₁₆″ per channel. Usable with Add-A-Function Modules below. Size, 6⅝″ w. x 6″ d. x 5⅝″ h. Shpg. Wt., 10 lbs.

Rustrak Model 3400 Recorder—Net Each $964.00

ADD-A-FUNCTION MODULES

Small solid-state modules plug into rear of Model 400 and 3400 recorders to change function, increase sensitivity or add ranges. No external power supply needed; no wiring required. Each module is interchangeable with any other potentiometric series recorders. Supplied with recorder scale to match function.

Rustrak Type	Description or Range	Input Resis. or Freq.	Accuracy	Net Each
P4001	0–10 mV	10k	±0.5%	$185.00
P4004	0–50 mV	1 meg	±0.5%	154.00
P4005	0–10 VDC	50k	±0.5%	25.00
P4005	0–50 VDC	10k	±0.5%	25.00
P4005	0–100 VDC	10k	±0.5%	25.00
P4005	0–150 VDC	10k	±0.5%	25.00
P4005	0–500 VDC	10k	±0.5%	25.00
P4006	0–50 *u*A	5400 ohms	±0.5%	25.00
P4006	0–100 *u*A	1000 ohms	±0.5%	25.00
P4006	0–100 *u*A	2200 ohms	±0.5%	25.00
P4006	0–200 *u*A	4600 ohms	±0.5%	25.00
P4006	0–500 *u*A	200 ohms	±0.5%	25.00
P4006	0–1 mA	100 ohms	±0.5%	25.00
P4088R	0–150 VAC	60 Hz	±2%	46.00
P4088R	0–300 VAC	60 Hz	±2%	46.00
P4088R	0–600 VAC	60 Hz	±2%	46.00
P4093	75–135 VAC	60 Hz	±2%	58.00
P4093	150–270 VAC	60 Hz	±2%	58.00
P4093	300–540 VAC	60 Hz	±2%	58.00
P4186	100–130 VAC	60 Hz	±1 V	58.00
P4186	200–260 VAC	60 Hz	±2 V	58.00
P4186	400–520 VAC	60 Hz	±4 V	58.00
P4118	0–1 and 0–5 amps AC	60 Hz	±2%	53.00

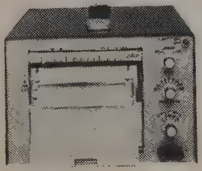
Write for brochure on complete line.

MODEL 3400A DUAL CHANNEL AND 4300A 3 CHANNEL POT. REC.

Same specifications as above but 3400A has two chanels and 4300A has 3 channels. Scale width 2⁵⁄₁₆″ per channel. Usable with Add-A-Function Modules below. Size. 3400 6⅝″ w. x 6½″ d. x 5⅝″ h.
4300 11″ w. x 6¼″ d. x 5⅝″ h.

4300—Net Each $1500.00

MODEL 500 B 4″ SERVO



The new Rustrak 500 Series of laboratory recorders solves these problems without being a compromise. It *is* moderately priced . . . and it *does* offer important features not usually associated with recorders in its price range. These features include quick plug-in range cards, event pen, low and high alarm contacts, and a choice between internal rewind, tear off and Z-fold chart paper styles.

FEATURES

- All controls are front panel accessible.
- Zero adjustment up to ±100% of full scale.
- Electric pen lift available for analog pen — either by switch closure or applied voltage (10-27 VDC).
- Readily multiplexed (two-point) with electric pen lift option.
- High and/or low alarm contacts available.
- Plug-in range cards for thermocouple temperature, dc voltage and dc current.
- Laboratory model accepts signal inputs from front or rear.
- Reroll chart mode has quick review feature.
- Select from tear-off, internal rewind and Z-fold chart operation.

500BZ Laboratory Z-Fold 339.00
500BT Laboratory Tear-off 399.00
500BR Laboratory Re-Roll 419.00
500B QD 525.00
Laboratory Rec w/Z-Fold, Multispan, Multispeed
500 B DC 795.00
Laboratory DC Operated w/reroll, Multispeed, Multispan.

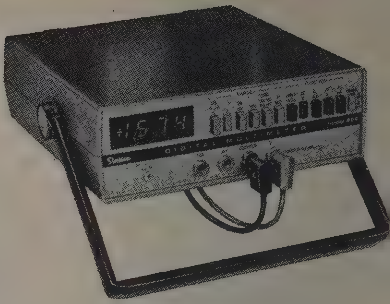
Accessories

TAC-241	19″ rack for one recorder	$ 45.00
TAC-242	19″ rack for two recorders	60.00
TAC-246	19″ rack with door for one recorder	100.00
TAC-247	19″ rack with door for two recorders	150.00
TAC-243	Event Marker	40.00
TAC-240	Electric Pen Lift	40.00
TAC-252	Alarm No. 1 High	40.00
TAC-253	Alarm No. 1 Low	40.00
TAC-254	Alarm No. 2 High	40.00
TAC-255	Alarm No. 2 Low	40.00
TAC-245	Door	40.00
TAC-257	Escutcheon	15.00
TAC-256	Multispeed Drive	60.00
TAC-258	Multispan (10, 50, 100mV, 0.5, 1V)	75.00
TAC-260	Series plug-in range cards (millivolts)	75.00
TAC-261	Series plug-in cards (volts)	20.00
TAC-262	Series plug-in range cards (current)	20.00
TAC-263	Series plug-in range cards (T/C)	**Consult Factory**
TAC-272	Event Marker	40.00

Simpson Digital Multimeters

INSTRUMENTS THAT STAY ACCURATE

MODEL 464 DIGITAL MULTIMETER



3½ digit, 0.43″ LED readout.
0.1% Accuracy on DC Voltage ranges.
Complete with line cord, leads and manual.
Pushbutton selection of all functions and ranges.
28 ranges.
Battery or AC line operation.
LSI circuitry.

SPECIFICATIONS

DC Volts: 0 to 0.2, 2, 20, 200, 1000 volts.

AC Volts: 0 to .2, 2, 20, 200, 600 volts.

DC Current: 0 to 200 μA; 0 to 2, 20, 200 mA; 0 to 2, 10 amps.

AC Current: 0 to 200 μA; 0 to 2, 20, 200 mA; 0 to 2, 10 amps.

Resistance: 0 to 200, 2K, 20K, 200K, 2000K; 0 to 20 megohms.

Accuracy (+15°C to +35°C): See table below.

Simpson Model 464A Digital Multimeter—For AC line operation only. Complete with test leads, line cord and manual. Net Each.......... **$210.00**

Simpson Model 464D Digital Multimeter—For AC line and battery operation. Complete with test leads, line cord and manual. Net Each.......... **$247.00**

360-2 DIGITAL MULTIMETER

3½ digit, 0.43″ LED readout.
29 ranges including "low power" ohms.
Analog indicator for nulls and peaks.
Analog output provision for recording.
Complete with line cord, leads and manual.
Solid-state, IC design.

SPECIFICATIONS

DC Volts: 0 to 0.2, 2, 20, 200, 1000 volts.

AC Volts: 0 to 0.2, 2, 20, 200, 600 volts.

DC Current: 0 to 20, 200 μAmps; 0 to 2, 20, 200 mAmps; 0 to 2, 10 Amps.

AC Current: 0 to 200 μAmps; 0 to 2, 20, 200 mAmps; 0 to 2, 10 Amps.

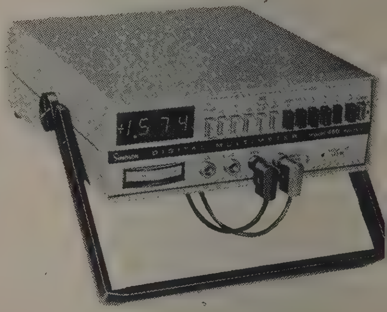
Resistance: 0 to 200, 2K ohms at low power; 0 to 20K, 200K, 2 megohms, 20 megohms.

Accuracy: (+15°C to +35°C): See table below.

Simpson 360-2 Digital Multimeter—For 110 VAC operation.
Net Each.......... **$257.00**

Simpson 360-2 Digital Multimeter—For 220 VAC operation.
Net Each.......... **$257.00**

460-3 DIGITAL MULTIMETER



3½ digit, 0.43″ LED readout.
AC line or battery operation.
Analog indicator with linear and dBm markings.
Digital LSI circuitry.
Complete with leads and manual.
26 ranges.

SPECIFICATIONS

DC Volts: 0 to 0.2, 2, 20, 200, 1000 volts.

AC Volts: 0 to 0.2, 2, 20, 200, 600 volts.

DC Current: 0 to 200 μAmps; 0 to 2, 20, 200 mAmps; 0 to 2 Amps.

AC Current: 0 to 200 μAmps; 0 to 2, 20, 200 mAmps; 0 to 2 Amps.

Resistance: (Normal and low-power) 0 to 200, 2K, 20K, 200K, 2 megohms, 20 megohms.

Accuracy: (+15° C to + 35° C): See table below.

Simpson 460-3A Digital Multimeter—For VAC operation only.
Net Each.......... **$285.00**

Simpson 460-3D Digital Multimeter—For VAC and battery operation.
Net Each.......... **$322.00**

ACCURACIES

MODEL 464 DMM

DC Voltage: ±(0.1% of reading +1 digit).

AC Voltage: ±(0.5% of reading +2 digits) from 40 Hz to 1 kHz; ±(1.0% of reading +2 digits) from 1 kHz to 10 kHz.

DC Current: ±(0.5% of reading +1 digit), except ±(1.0% of reading + 1 digit) on 2 A and 10 A ranges.

AC Current: ±(1.5% of reading + 2 digits), except ±(2.0% of reading + 2 digits) on 2 A and 10 A ranges.

Resistance: ±(0.5% of reading + 1 digit), except ±(1.0% of reading + 1 digit) on 20 megohm ranges.

360-2 DMM

DC Voltage: ±(0.25% + 1 digit).

AC Voltage: ±(0.5% + 1 digit) from 40 Hz to 1 kHz; ±(1.0% + 1 digit) from 1 kHz to 10 kHz; ± (2.0% of reading + 2 digits) from 10 kHz to 20 kHz; except ±(5% of reading + 2 digits) on 200 V range.

DC Current: ±(0.5% + 1 digit), except ±(1.0% + 1 digit) on 2 A and 10 A ranges.

AC Current: ±(1.0% + 1 digit) from 40 Hz to 10 kHz, except ±(2% + 2 digits) on 2 A and 10 A ranges.

Resistance: ±(0.5% + 1 digit), except ±(1.0% + 2 digits) on 2 and 20 megohm ranges.

460-3 DMM

DC Voltage: ±(0.1% + 1 digit).

AC Voltage: ±(0.5% + 2 digits) from 4 Hz to 10 kHz, except 600 V range whic is 40 Hz to 400 Hz; ±(1.0% + 2 digits from 10 kHz to 20 kHz, except 600 V rang which is 400 Hz to 20 kHz.

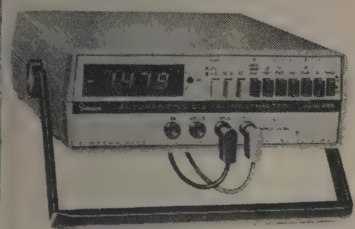
DC Current: ±(0.25% + 1 digit), excep ±(1.0% + 1 digit) on 2 A and 10 A range

AC Current: ±(0.7% + 2 digits), excep ±(1.5% + 2 digits) on 2 A and 10 ranges.

Resistance: ±(0.25% + 1 digit), excep ±(0.5% + 2 digits) on 2 and 10 megoh ranges.

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE

MODEL 465 AUTORANGING DIGITAL MULTIMETER



Range HOLD for repeated tests
3½ digit, 0.43″ LED readout
MOS/LSI circuitry
Automatic range selection
Pushbutton function selection
Complete with leads and manual

DC Volts: 0 to 0.2, 2, 20, 200, 1000 volts.
AC Volts: 0 to 0.2, 2, 20, 200, 600 volts.
DC Current: 0 to 200 μA; 0 to 2, 20, 200 mA; 0 to 2, 10 amps.
AC Current: 0 to 200 μA; 0 to 2, 20, 200 mA; 0 to 2, 10 amps.
Resistance (High Power): 1Ω to 2K, 20K, 200K, 20 megohms at 2.5 volts open circuit.
Resistance (Low Power): 1Ω to 2K, 20K, 200K, 2000K at 0.35 volts open circuit.
Accuracy: ±0.1% + 1 digit on DC volts; ±0.5% + 2 digits on AC volts; ±0.4% + 2 digits on resistance; ±0.25% + 1 digit on DC current; ±1% + 2 digits on AC current.

Simpson Model 465A Autoranging Digital Multimeter—For AC operation only. Complete with test leads, line cord and operator's manual. Net Each............ **$295.00**

Simpson Model 465D Autoranging Digital Multimeter—For AC and battery operation. Complete with test leads, operator's manual and line cord. Less batteries. Net Each............ **$332.00**

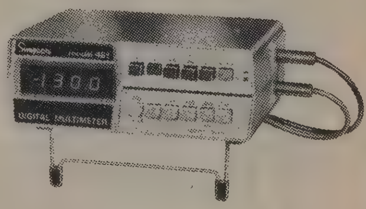
MODEL 461 DIGITAL MULTIMETER

Compact, portable.
3½ digit, 0.3″ LED display.
Automatic polarity and zeroing.
10 megohm input impedance.
Resolves 100 μV, 0.1 ohm, 100 nA.

Complete with nickel-cadmium batteries, battery charger/adapter, test leads and manual.
120 and 230 VAC versions available (specify when ordering).
26 ranges.
LSI circuitry.

SPECIFICATIONS

DC Volts: 0-200 mV; 0-2, 20, 200, 1000 volts.
Accuracy: ±0.5% of reading +1 digit.
AC Volts: 0-200 mV; 0-2, 20, 200, 600 volts.
Accuracy: ±1% of reading +2 digits.
DC Current: 0-200 μA; 0-2, 20, 200 mA; 0-2 amps.
Accuracy: ±1.5% of reading +1 digit for 0-2 amp range; ±1% +1 digit for all others.
AC Current: 0-200 μA; 0-2, 20, 200 mA; 0-2 amps.
Accuracy: ±2% of reading +2 digits for 0-2 amp range; ±1.5% +2 digits for all others
Resistance: 0-200, 2K, 20K, 200K, 2000K; 0-20 megohms.
Accuracy: ±1% of reading + 1 digit for 0-20 megohm range; ±0.5% +1 digit for all others.
Size: 2″ h. x 5.6″ w. x 4.6″ d.
Weight: Approximately 1 lb., 8 oz. with batteries.



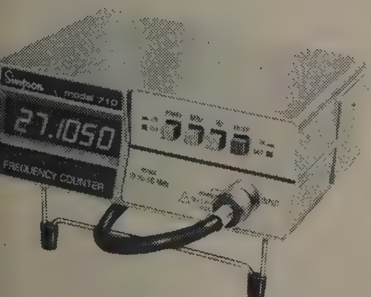
Simpson Model 461 Digital Multimeter—Net Each	**$130.00**
Simpson No. 00749—40 kV H.V. Probe. Net Each	**36.75**
Simpson No. 00748—RF Probe. Net Each	**26.25**
Simpson No. 12138—Model 153 AC Amp-Clamp Adapter. Net Each	**29.50**
Simpson No. 00747—Carrying Case. Net Each	**19.50**

MODEL 710 60 MHz FREQUENCY COUNTER

10 Hz to 60 MHz.
2 Ranges—Hz and MHz.
6 digit, 0.35″ LED display with overrange indicator.
Accuracy—±1 count (±time base accuracy), standard 10 ppm time base.

Resolves 1 Hz.
Switchable low-pass filter.
LSI circuitry.
Folding bench stand.

SPECIFICATIONS



Frequency Range: 10 Hz to 60 MHz.
Gate Time: 10 msec. (0.1 kHz resolution), 1 sec. (1 Hz resolution).
Accuracy: ±1 count ± time base accuracy.
Input Impedance: 1 megohm, shunted by 30 pF.
Input Sensitivity (sine wave): 50 mV rms from 10 Hz to 50 MHz; 100 mV rms from 50 MHz to 60 MHz.
Max. Input Voltage: 240 V peak from 10 Hz to 100 kHz; derated to 100 V peak at 1 MHz and 25 V peak at 60 MHz.
Internal Time Base:
Frequency: 6.5536 MHz.
Temperature Stability: ±10 ppm max., 0° C to +45° C.
Aging Rate: ±5 ppm max. per year.
Stability (with line voltage variations): ±1 ppm for ±10% line voltage variation.
Input Filter: Low pass, 3 dB at 1 MHz
Display: 0.35″, 7 segment, 6 digit.
Sample Rate: 5 samples/sec. at MHz switch position; 0.5 samples/sec. at Hz position.
Operating Temperature: 0° C to +45° C.
Storage Temperature: −40° C to +70° C.
Power Requirements: 120 VAC ±10%, 50–400 Hz, approximately 5 VA.
Size: 2″ h. x 5.63″ w. x 4.6″ d.
Weight: 12 oz.

Simpson Model 710 Frequency Counter—Net Each	**$150.00**
Simpson No. 00754—RF Connecting Cable. Net Each	**7.50**
Simpson No. 00755—Dummy Load, 50 ohm, 15 Watt capacity. Net Each	**15.00**
Simpson No. 00753—RF Connecting Cable For Use With Dummy Load. Net Each	**7.50**
Simpson No. 00756—12 VDC Auto Lighter Adapter. Net Each	**12.50**
Simpson No. 00238—General Purpose Probe. Net Each	**13.25**
Simpson No. 07548—Low-Capacity Probe. Net Each	**19.30**
Simpson No. 00747—Carrying Case. Net Each	**19.50**

Simpson Portable VOM's

INSTRUMENTS THAT STAY ACCURATE

260-6 VOM

Fast accurate measurements on 27 popular ranges.
External access battery and fuse compartment.
Complete with batteries, test leads and manual.
Taut band, varistor protected movement.

SPECIFICATIONS

DC Volts: 0 to .25, 1, 2.5, 10, 50, 250, 500, 1000 at 20,000 ohms per volt sensitivity.
AC Volts: 0 to 2.5, 10, 50, 250, 500, 1000 at 5000 ohms per volt sensitivity.
DC Current: 0 to 1, 10, 100, 500 mA; 0 to 10 amps.
AC Current: Direct dial scale reading to 250A when Amp-Clamp Model 150 is used.
dB: −20 to +10, −8 to +22, +6 to +36, +20 to +50
Output: 0.1μF capacitor in series with ACV ranges thru 250 volts.
Resistance: 0 to 2K, 200K ohms; 0 to 20 megohms.
Accuracy: DC Volts ±2%; AC Volts ±3%; DC Current ±1.5% on 50 μA, ±2% on others;
Resistance ±2.5° of arc on Rx1, ±2.0° of arc on others.

Simpson 260-6—With standard scale. Net Each........ $ 79.50
Simpson 260-6M—With mirror scale. Net Each........ 82.50
Simpson 260-6RT—With standard scale and in roll top safety case. Net Each........ 89.50
Simpson 260-6MRT—With mirror scale and in roll top safety case. Net Each........ 92.05
Simpson 260-6P—Same as 260-6 but has protective overload circuit with reset button that pops out when an overload is present. Net Each........ 119.00
Simpson 260-6PM—Same as 260-6P but with mirror scale. Net Each........ 122.00
Simpson 260-6PRT—Same as 260-6P but in roll top safety case. Net Each........ $129.00

SIMPSON 260 ADAPTER
TRANSISTOR BETA TESTER

COMMUNICATIONS TESTER

RF Power: 0–10, 25, 100, 250, 1000 W.
Accuracy: 5% F.S. accuracy at 27 MHz.
Modulation: 0–150% (±5% at 27 MHz).
Field Strength: 0–10, logging scale.
SWR: 1.0–10 (±5% of arc).
Dummy Load: 50 ohms, 25 W.
Simpson Model 658 Communications Add-A-Tester—Net Each........ $59.00

ADD-A-TESTER ADAPTERS FOR 260 AND 270 SERIES VOM'S

(NOT USEABLE WITH 260-6XL)

Adapters convert Simpson 260 and 270 Series VOM's into seven different testers. Plug in one adapter and you have added another application; no complicated connections. Take only ½ to ⅓ the storage space of individual testers. Each combination of an Add-A-Tester and the basic meter is self-contained and self-powered. All adapters provide for normal operation of the basic meter without disconnecting the adapter. Cannot be used with meters in roll top safety case nor with 260-6XL.

TRANSISTOR TESTER

Beta: 0 to 10, 50, 250 at an accuracy of ±5%.
Ico: 0 to 100μA at an accuracy of ±3%.
Simpson Model 650 Transistor Tester—Net Each........ $55.00

DC VTVM

DC Volts: 0 to 0.5, 1, 2.5, 5, 10, 25, 50, 100, 250, 500 volts.
Accuracy: ±5%.
Input Impedance: More than 10 megohms on all ranges.
Simpson Model 651 DC VTVM—Net Each........ $60.00

TEMPERATURE TESTER

Temperature: −50 to +100°F; +100 to +250°F.
Accuracy: ±2° from −30 to +220°F; ±4° otherwise.
Simpson Model 652 Temperature Tester—With thermistor and lead. Net Each. $60.00

AC AMMETER

AC Current: 0 to 0.25, 1, 2.5, 12.5, 25 amps.
Accuracy: ±3% on all ranges.
Simpson Model 653 AC Ammeter—Net Each........ $39.50

AUDIO WATTMETER

Wattage: 25 watts at 8 and 600 ohms; 50 watts at 4 and 16 ohms, continuous.
Accuracy: ±10% on all ranges.
Simpson Model 654 Audio Wattmeter—Net Each........ $42.00

MILLIOHMMETER

Ohms: 0 to 0.1 ohm (150 mA max. output); 0 to 0.25 ohm (100 mA); 0 to 0.5 ohm (90 mA) 0 to 1 ohm (80 mA).
Accuracy: ±2% on all ranges.
Simpson Model 657 Milliohmmeter—Net Each........ $63.00

DC AMMETER

DC Current: 0 to 1, 2.5, 5, 10, 25.
Accuracy: ±2% on all ranges.
Simpson Model 661 DC Ammeter—Net Each........ $39.50

MODEL 261-2 VOM

Designed for very high accuracy with taut band movement.
Mirror scale for precise readings.
External access battery and fuse compartment.
Complete with test leads, batteries and manual.

SPECIFICATIONS

DC Volts: 0 to 0.25, 2.5, 10, 50, 250, 1000, 5000 volts at 20,000 ohms per volt sensitivity.
AC Volts: 0 to 2.5, 10, 50, 250, 1000, 5000 volts at 5000 ohms per volt sensitivity.
DC Current: 0 to 50 μAmps; 0 to 1, 10, 100, 500 mAmps; 0 to 10 Amps.
AC Current: Direct dial scale reading to 250A when Amp-Clamp adapter is used.
dB: −20 to +10, −8 to +22, +6 to +36, +20 to +50.
Output: 0.1 μF capacitor in series with AC voltage ranges thru 250 volts.
Resistance: Rx1 (2K ohms); Rx100 (200K ohms); Rx10,000 (20 megohms).
Accurary: DC volts ±1.5% except 5000 volt range, ±2.5%; AC volts ±3% except 5000 volt range, ±4%; DC current ±1.5% except 50 μA range, ±1%; Resistance ±1.5° of arc except Rx1, ±2°.

Simpson Model 261-2 Portable VOM—Net Each........ $87.00
Simpson Model 261-2RT Portable VOM—In roll top safety case. Net Each.... $95.50

MODEL 270-4 VOM

Designed for highest accuracy with taut band movement.
Mirror scale for precise readings.
External access battery and fuse compartment.
Complete with test leads, batteries and manual.

SPECIFICATIONS

DC Volts: 0 to 0.25, 1, 2.5, 10, 50, 250, 500, 1000 volts at 20,000 ohms per volt sensitivity.
AC Volts: 0 to 2.5, 10, 50, 250, 500, 1000 volts at 5000 ohms per volt sensitivity.
DC Current: 0 to 50 μAmps; 0 to 1, 10, 100, 500 mAmps; 0 to 10 Amps.
AC Current: Direct dial scale reading to 250A when Amp-Clamp adapter is used.
dB: −20 to +10, −8 to +22, +6 to +36, +20 to +50.
Output: 0.1 μF capacitor in series with AC voltage ranges thru 250 volts.
Resistance: Rx1 (2K ohms); Rx100 (200K ohms); Rx10,000 (20 megohms).
Accuracy: DC volts ±1.25%; AC volts+ ±2%; DC current ±1.25% except 50 μA range ±0.75%;
Resistance ±1° of arc except Rx1 range, ±1.5°.

Simpson Model 270-4 Portable VOM—Net Each........ $ 99.00
Simpson Model 270-4RT Portable VOM—In roll top safety case. Net Each... $109.00

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE

Simpson Portable VOM's

NSTRUMENTS THAT STAY ACCURATE

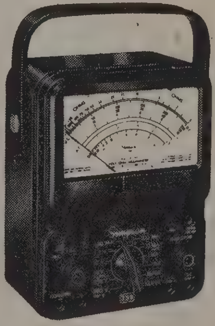
260-6XL VOM

Shock and drop resistant construction.
33 ranges including "low power" ohms.
Complete with batteries, test leads and manual.
Low-power ohms open-circuit voltage. 100 mV maximum.
Large viewing area.

SPECIFICATIONS

DC Volts: 0 to .25, 1, 2.5, 10, 25, 100, 250, 500, 1000 volts at 20,000 ohms per volt sensitivity.
AC Volts: 0 to 2.5, 10, 25, 100, 250, 500, 1000 volts at 5000 ohms per volt sensitivity.
DC Current: 0 to 50 μA; 0 to .5, 5, 50, 500 mA; 0 to 5 amps.
AC Current: Direct dial scale reading to 250A when Amp-Clamp adapter is used.
dB: −20 to +10, −9 to +21, −1 to +29, +11 to +41, +19 to +49.
Output: 0.1 μF capacitor in series with ACV ranges thru 250 volts.
Resistance: Low-power: Rx1 (1K ohms) and Rx10 (10K ohms); Conventional: Rx1 (1K ohms), Rx100 (100K ohms), Rx1K (1 megohm), Rx10K (10 megohms).
Accuracy: DC volts ±2%; AC volts ±3%; DC current ±2%; Resistance ±2.5° of arc.

Simpson 260-6XL—With standard scale. Net Each........................**$ 93.00**
Simpson 260-6XLM—With mirror scale. Net Each........................**96.00**
Simpson 260-6XLP—Same as 260-6XL but has protective overload circuit with reset button that pops out when overload is present. Net Each................**128.00**
Simpson 260-6XLPM—With mirror scale. Net Each........................**131.00**



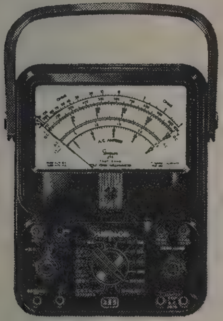
MODEL 250 VOM

Fused input circuits.
Varistor protected movement.
Complete with test leads, batteries and manual.
For solid-state servicing.
Taut band movement.
50mV drop on DC current.

SPECIFICATIONS

DC Volts: 0 to .05, .25, 2.5, 10, 50, 250, 500, 1000 volts at 20,000 ohms per volt sensitivity.
AC Volts: 0 to .25, 10, 50, 250, 500, 1000 volts at 5000 ohms per volt sensitivity.
DC Current: 0 to 50 μA; 0 to 1, 10, 100, 500 mA; 0 to 10 amps.
AC Current: Direct dial scale reading to 250A when Amp-Clamp adapter is used.
dB: −20 to +10, −8 to +22, +6 to +36, +20 to +50.
Resistance: Rx1 (2K ohms), Rx100 (200K ohms), Rx10K (20 megohms).
Accuracy: DC volts ±2%; AC volts ±3%; DC current ±2%; Resistance ±2° of arc.

Simpson Model 250—Net Each..**$87.50**



MODEL 255 VOM

Designed for gas and electrical appliance servicing.
Complete with test leads, batteries, thermocouple lead and manual.
Measures temperatures from +100° F to +1050° F.
22 ranges including temperature.

SPECIFICATIONS

DC Volts: 0 to .05, .25, 1, 1.5, 10, 50, 250, 1000 volts at 20,000 ohms per volt sensitivity.
AC Volts: 0 to 2.5, 10, 50, 250, 1000 volts at 5000 ohms per volt sensitivity.
DC Current: 0 to 50 μA; 0 to 1, 10, 100, 500 mA.
AC Current: Direct dial scale reading to 250A when Amp-Clamp adapter is used.
Resistance: Rx1 (2K ohms), Rx100 (200 ohms), Rx10K (20 megohms).
Temperature: +100° F to 1050° F.
Accuracy: DC volts ±2%; AC volts ±3%; DC current ±2%; Resistance ±2° of arc.

Simpson Model 255—Complete test leads, 5′ thermocouple lead and instruction manual. Net Each..**$101.50**

MODEL 265 INDUSTRIAL VOM

AC and DC currents to 12 amperes.
Taut band movement for high resolution.
Complete with test leads, batteries and operator's manual.
Simultaneous AC voltage and current measurements.

SPECIFICATIONS

DC Volts: 0 to 0.3, 3, 12, 60, 300, 600 volts at 20,000 ohms per volt sensitivity.
AC Volts: 0 to 3, 12, 60, 300, 600 volts at 5000 ohms per volt sensitivity.
DC Current: 0 to 60 μA; 0 to 1.2, 12, 120, 600 mA; 0 to 1.2, 12 amps.
AC Current: 0 to 120 mA, 0 to 1.2, 12 amps.
Resistance: Rx1, Rx100, Rx1K, Rx10K.
Accuracy: DC volts ±2%; AC volts ±3%; DC current ±2%.

Simpson Model 265 Industrial VOM—Net Each........................**$132.00**

MODEL TS-111 VOM

Designed for railroad servicing.
Built-in pointer stop for peak current measurements.
Special "power present" warning circuit for resistance measuring.
Complete with battery, test leads, leather case and operator's manual.
Measures "ON" time of coded track signals directly in percent.
Measures AC voltage superimposed on DC track signals.

SPECIFICATIONS

DC Volts: 0 to 0.6, 3, 15, 60, 300 volts at 1000 ohms per volt sensitivity.
AC Volts: 0 to 3, 15, 150, 600 volts at 300 ohms per volt sensitivity. Will measure up to 100 VAC superimposed on up to 20% DCV.
DC Current: 0 to 15, 60, 300 mA; 0 to 1.5, 6, 30 amps.
AC Current: 0 to 3, 30 amps.
Resistance: 0 to 100, 10,000 ohms.
Accuracy: DC volts ±2%; AC volts ±3%; DC current ±2%; AC current ±3%; Pulse On ±2%.
Pulse "ON" Time: 0 to 100%.

Simpson Model TS-111—Net Each..**$195.00**

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE

Simpson Micro Testers

INSTRUMENTS THAT STAY ACCURATE

MODEL 230-2 VOM

DC Volts: 0 to 10, 50, 250, 1000 at 1000 ohms/volt sensitivity.
AC Volts: 0 to 10, 250, 1000 at 1000 ohms/volt sensitivity.
DC Current: 0 to 10, 50, 250 mA.
Resistance: 0 to 1000 and 100,000 ohms.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 230-2 VOM—Complete with leads and manual.
Net Each........ **$55.00**

MODEL 240-4 VOM

DC Volts: 0 to 15, 75, 300, 750, 3000 at 1000 ohms/volt sensitivity.
AC Volts: 0 to 15, 150, 750, 3000 at 1000 ohms/volt sensitivity.
DC Current: 0 to 15, 150, 750 mA.
Resistance: 0 to 3000 and 300,000 ohms.
Accuracy: ±3% DC, ±4% AC.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 240-4 VOM—Complete with leads and manual. Net Each. **$55.00**

MODEL 362 LOW-OHMMETER

Resistance: 0 to 5 and 25 ohms.
Accuracy: ±3% of linear arc length.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 362-2 Low-Ohmmeter—Complete with calibrated test leads.
Net Each........ **$52.50**

MODEL 370 AC AMMETER

AC Current: 0 to 1, 2.5, 5, 10, 25 amps.
Accuracy: ±5% full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 370 AC Ammeter—Net Each........ **$50.00**

MODEL 371 AC VOLTMETER

AC Volts: 0 to 150, 300, 600.
Accuracy: ±3% full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 371 AC Voltmeter—Net Each........ **$50.00**

MODEL 372-2 OHMMETER

Resistance: 0 to 500, 5000, 50K, 500K, 5 megohms, 50 megohms.
Accuracy: ±3° of linear arc length.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 372-2 Ohmmeter—Complete with leads and manual.
Net Each........ **$52.50**

MODEL 373 DC MILLIAMMETER

DC Current: 0 to 1, 5, 10, 25, 50, 100, 250, 500, 1000.
Accuracy: ±3% of full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 373 DC Milliammeter—Net Each........ **$50.00**

MODEL 374 DC MICROAMMETER

DC Current: 0 to 50, 100, 250, 500, 1000 μA.
Accuracy: ±3% of full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 374 DC Microammeter—Net Each........ **$50.00**

MODEL 375 DC AMMETER

DC Current: 0 to 1, 2.5, 5, 10 25 amps.
Accuracy: ±3% of full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 375 DC Ammeter—Net Each........ **$50.00**

MODEL 376 AC VOLTMETER

AC Volts: 0 to 5, 10, 25, 50, 100, 250, 500, 1000 at 1000 ohms/volt sensitivity.
Accuracy: ±5% of full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 376 AC Voltmeter—Net Each........ **$50.00**

MODEL 377-2 DC VOLTMETER

DC Volts: 0 to 1, 2.5, 5, 10, 25, 50, 100, 250, 200, 1000 at 1000 ohms/volt sensitivity.
Accuracy: ± −3% of full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 377-2 DC Voltmeter—Net Each........ **$50.00**

MODEL 378 AC MILLIAMMETER

AC Current: 0 to 5, 25, 100, 250, 1000 mA.
Accuracy: ±5% of full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 378 AC Milliammeter—Net Each........ **$50.00**

MODEL 379 BATTERY TESTER

DC Volts: 0 to 1.5, 4.5, 6, 7.5, 9, 15, 22.5, 30, 45, 67.5, 90.
Load Resistance: Within ±5%.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 379 Battery Tester—Complete with leads and manual.
Net Each........ **$50.00**

MODEL 390 AC VOLT/AMP/WATTMETER

AC/DC Volts: 0 to 150, 300.
AC Current: 0 to 3, 15 amps.
Watts: 0 to 300, 600, 1500, 3000.
Accuracy: ±5% of full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 390 AC Volt/Amp/Wattmeter—Complete with test cord assembly and operator's manual. Net Each........ **$99.00**

MODEL 392 AC/DC VOLT/WATTMETER

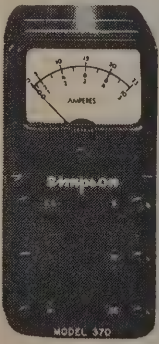
AC/DC Volts: 0 to 130, 260.
Watts: 0 to 1000, 5000.
Accuracy: ±3% of full scale AC, ±5% of full scale. DC.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 392 AC/DC Volt/Wattmeter—Complete with cord, plug, and operator's manual. Net Each........ **$99.00**

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE

Model 230

Model 240

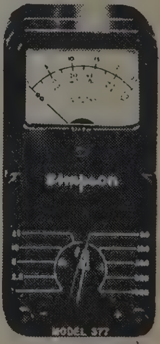
Model 362


Model 370

Model 371

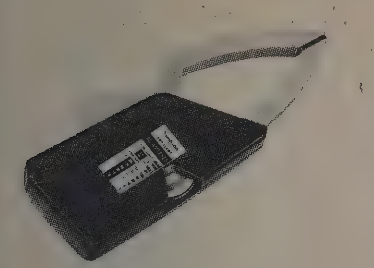
Model 375

Model 376


Model 377

Simpson Test Equipment

INSTRUMENTS THAT STAY ACCURATE



MODEL 150 AMP-CLAMP ADAPTER

Clamp-on type AC ammeter adapter allows measurement to be made without breaking the circuit being tested. Adapter plugs into 160, 260, 260XL, 261, 270, 250 or 255 VOM and can be used with any VOM having a 0–2.5, 0–3 or 0–5 VAC scale. Set VOM to the 2.5, 3, or 5 VAC scale. AC current ratings are: on 2.5 VAC scale, 0 to 5, 10, 25, 50, 100, and 250 amps; on 3 VAC scale, 0 to 6, 12, 30, 60, 120 and 300 amps; on 5 VAC scale, 10, 20, 50, 100, 200, and 500 amps. Accuracy, ±3% F.S.

Simpson Model 150 Amp-Clamp Adapter—Complete with test lead. Net Each. **$29.50**

MODELS 153 AND 154 AMP-CLAMP ADAPTERS

Clamp-on type AC ammeter adapter allows measurement to be made without breaking the circuit being tested. Adapter plugs into digital multimeter. Readout is on 0.2, 2 or 20 VAC scale. Ranges are: on 0.2 VAC scale, 0–2 A; 2 VAC scale, 20 A; 20 VAC scale, 200 A. **Accuracy:** ±3% on 20 and 200 A ranges; ±4% on 2 A range.

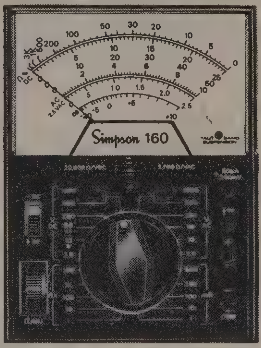
Simpson Model 153 Amp-Clamp Adapter—For Model 461 DMM. Net Each... **$29.50**

Simpson Model 154 Amp-Clamp Adapter—For Models 360-2, 460-3 and 464 DVMs. Net Each.......... **$29.50**

Simpson No. 00533—Extra Test Lead. Net Each.......... **$ 3.05**

Simpson No. 00548—Carrying Case. Net Each.......... **$10.20**

160 HANDI-VOM



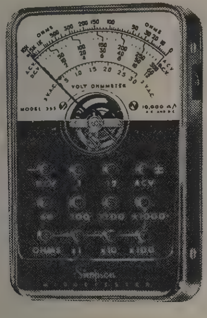
Miniature VOM is shock and drop resistant. Has self-shielding, taut band movement, varistor protected from overloads, accuracy and sensitivity of full-size VOM.

SPECIFICATIONS

DC Volts: 0 to .25, 1, 2.5, 10, 50, 250, 500, 1000 volts at 20,000 ohms per volt sensitivity.
AC Volts: 0 to 2.5, 10, 50, 250, 500, 1000 volts at 5000 ohms per volt sensitivity.
DC Current: 0 to 50 μA; 0 to 1, 10, 100, 250, 500 mA.
dB: −20 to +10, −8 to +22, +6 to +36, +20 to +50.
Resistance: Rx1, Rx10, Rx100, Rx1K, Rx10K.
Accuracy: DC ±2%; AC ±3%.
Size: 4⁹⁄₁₆″ h. x 3⁵⁄₁₆″ w. x 1¾″ d.
Weight: 12 ozs.

Simpson 160 Handi-VOM—Complete with alligator clip leads, batteries and operator's manual. Net Each.......... **$69.50**

Simpson No. 02056—Amp-Clamp Adapter Pins for 160 VOM. Net Each...... **$ 2.25**



MODEL 355 MIDGETESTER®

"Shirt-pocket" VOM for "in-the-field" voltage and resistance measurements.

SPECIFICATIONS

DC Volts: 0 to 0.3, 12, 60, 200, 1200 volts at 10,000 ohms per volt sensitivity.
AC Volts: 0 to 0.3, 12, 60, 200, 1200 volts at 10,000 ohms per volt sensitivity.
Resistance: Rx1, Rx10, Rx100, Rx1K.
Accuracy: DC ±3%; AC ±5%; Resistance ±3° of arc.
Size: 4½″ h. x 2¾″ w. x 1″ d.
Weight: 8 ozs.

Simpson Model 355 Midgetester—Complete with test leads and manual. Net Each.......... **$59.00**

MODEL 262-3 VOM

Compact design covers 34 ranges on easy-to-read 7″ scale with repetitive accuracy. Diode overload protection.

SPECIFICATIONS

DC Volts: 0 to 1.6, 8, 40, 160, 400, 800, 1600, 4000 (with probe) volts at 20,000 ohms per volt sensitivity.
AC Volts: 0 to 3, 8, 40, 160, 400, 800 volts at 5000 ohms per volt sensitivity.
DC Current: 0 to 80, 160 μA; 0 to 1.6, 16, 160 mA; 0 to 1.6, 8 amps.
dB: −12 to +45.5 in four ranges.
Output: 0.1 μF capacitor in series with AC voltage ranges thru 160 volts.
Resistance: Rx1 (500 ohms), Rx10 (5K ohms), Rx100 (50K ohms), Rx1K (500K ohms), Rx10K (5 megohms), Rx100K (50 megohms).
Accuracy: DC volts ±2%; AC volts ±3%; DC current ±2%; Resistance ±2.5° of arc.
Size: 7¼″ w. x 6″ h. x 3″ d.
Weight: 4 lbs.

Simpson Model 262-3—Complete with test leads, 4000 VDC probe extension, batteries and manual. Net Each.......... **$110.00**

MODEL 269-3 VOM

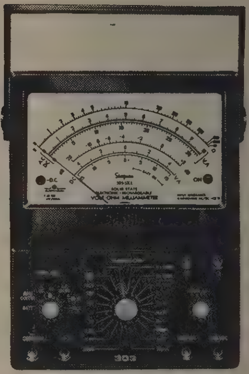
Self-shielded taut band movement gives better repeatability of readings. Input circuits protected by fuse; movement protected by varistor. Meter has mirror scale and knife-edge pointer for more accurate readings; ±1.5% DC and ±2.5% AC accuracy.

SPECIFICATIONS

DC Volts: 0 to 0.8, 1.6, 8, 40, 160, 400, 800, 1600, 4000 at 100,000 ohms/volt sensitivity.
AC Volts: 0 to 3, 8, 40, 160, 400, 800 at 5000 ohms/volt sensitivity.
DC Current: 0 to 16, 160 μA; 0 to 1.6, 16, 160 mA; 0 to 1.6, 8 amps.
dB: −12 to +45.5 in four ranges.
Output: External 0.1 μF capacitor required when DC is present.
Resistance: Rx1 (2K ohms), Rx10 (20K ohms), Rx100 (200K ohms), Rx1K (2 megohms), Rx10K (20 megohms), Rx100K (200 megohms).
Accuracy: All ranges ±1.5%; Resistance ±2° of arc.
Size: 7¼″ w. x 6″ h. x 3″ d.
Weight: 4 lbs.

Simpson Model 269-3—Complete with test leads, 4 KV probe extension, and manual. Net Each.......... **$137.00**

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE



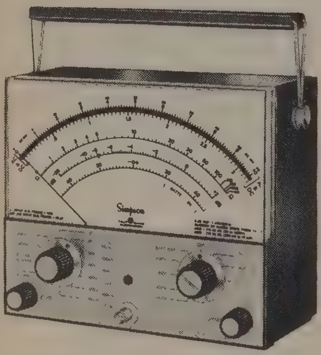
MODEL 303-3XL SOLID STATE FET VOM

High impact and shock resistant case.
Zero-center scale for nulling.
Low-power ohms for sensitive circuitry.
7 ranges on normal and low-power ohms.
Auto polarity indication.
Rechargeable battery operation, 120 VAC or 230 VAC input.
FET and IC circuitry.

SPECIFICATIONS

DC Volts: 0 to 0.03, 0.1, 0.3, 30, 100 300. 1000.
AC Volts: 0 to 0.03, 0.1, 0.3, 30, 100, 300, 1000.
DC Current: 0 to 30 μA, 0 to 1, 30 mA, 0 to 1, 10 amps.
AC Current: 0 to 30 μA, 0 to 1, 30 mA, 0 to 1, 10 amps.
Resistance: Rx1, Rx10, Rx100, Rx1K, Rx10K, Rx100K, Rx1M at 10 ohms center scale.
Accuracy: ±2% F.S. on DC all ranges; ±3% F.S. on AC from 50 to 100 Hz.
Input Impedance: 10 megohms AC and DC.
Frequency Response: Flat thru 20 kHz.
Size: 7.2″ h. x 5.5″ w. x 3.3″ d.
Weight: 2.5 lbs.

Simpson Model 303-3XL FET VOM—Complete with probe, test leads, battery charger adapter and operator's manual. Net Each.................................. **$195.00**
Simpson Model 303-3XL FET VOM—For 220 VAC operation. Net Each...... **$195.00**



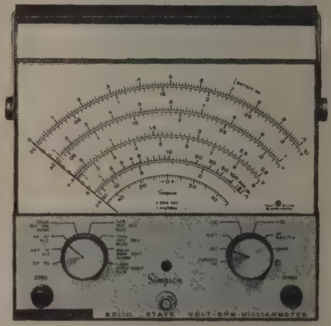
MODEL 314 SOLID STATE FET VOM

Portable, battery powered operation.
Conventional and low power ohms.
High or very high input impedance.
58 ranges.
7-inch mirror scale.
10 microampere minimum current.

SPECIFICATIONS

DC Volts: 0 to 0.05, 0.1, 0.3, 1, 3, 10, 30, 100, 300, 1000.
AC Volts: 0 to 0.01, 0.03, 0.1, 0.3, 1, 3, 10, 30, 100, 300, 1000.
DC Current: 0 to 10, 100 μA, 0 to 1, 10, 100 mA, 0 to 1 amp.
AC Current: 0 to 10, 100 μA, 0 to 1, 10, 100 mA, 0 to 1 amp.
Resistance: Rx1, Rx10, Rx100, Rx1K, Rx10K, Rx100K, Rx1M at 10 ohms center scale.
Decibels: −40, −30, −20, −10, 0, +10, +20, +30, +40, +50, +60.
Accuracy: ±2% F.S. DC; ±3% F.S. AC.
Input Impedance: 10 megohms AC and DC; 10x probe switch for 100 megohms.
Frequency Response: ±3% from 30 Hz to 20 kHz; to 100kHz on eight lowest ranges.
Size: 7¾″ w. x 6¾″ h. x 4⅝″ d.
Weight: 5¼ lbs.

Simpson Model 314 FET VOM—Complete with probe, batteries and operator's manual. Net Each.. **$255.00**



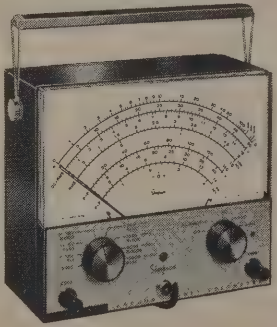
MODEL 313 SOLID STATE FET VOM

Voltage ranges overload protected.
Portable battery powered operation.
Easy-to-read 7-inch scale.
Built-in "battery test" function.

SPECIFICATIONS

DC Volts: 0 to 0.3, 1, 3, 10, 30, 100, 300, 1000.
AC Volts: 0 to 0.3, 1, 3, 10, 30, 100, 300, 1000 rms;
0 to 0.9, 2.8, 9, 28, 90, 280, 900, 2800 p-p.
DC Current: 0 to 0.1, 1, 10 100 mA, 0 to 1 amp.
Resistance: Rx1, Rx10, Rx100, Rx1K, Rx10K, Rx100K, Rx1M at 10 ohms center scale.
Decibels: −10 to +60 dB in 8 ranges.
Accuracy: ±2% DC and ±3% AC full scale.
Input Impedance: 11 megohms DC, 10 megohms AC.
Frequency Response: ±0.5 dB from 20 Hz to 20kHz; to 100kHz on three lowest ranges.
Size: 7¾″ w, x 6¾″ h. x 4⅝″ d.
Weight: 4⅓ bs.

Simpson Model 313 FET VOM—Complete with probe, batteries and operator's manual. Net Each.. **$172.00**



MODEL 312 AC/DC VTVM

Movement overload protected.
Extra high input impedance on DC.
Large 7-inch scale.
Excellent frequency response.

SPECIFICATIONS

DC Volts: 0 to 0.5, 1.5, 5, 15, 50, 500, 1500.
AC Volts: 0 to 1.5, 5, 15, 50, 150, 500, 1500;
0 to 4, 14, 40, 140, 400, 1400, 4000 p-p.
Resistance: Rx1, Rx10, Rx100, Rx1K, Rx10K, Rx100K, Rx1M at 10 ohms center scale.
Accuracy: ±3% of full scale AC and DC; ±3° of arc for resistance.
Input Impedance: 16 megohms DC; 1 megohm AC.
Frequency Response: ±3% from 15 Hz to 4 MHz.
Size: 7¾″ w. x 6¾″ h. x 4⅝″ d.
Weight: 4¾ bs.

Simpson Model 312 VTVM—Complete with probe and manual. Net Each.... **$139.00**

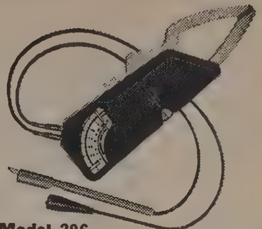
ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE

Simpson Test Equipment

INSTRUMENTS THAT STAY ACCURATE

AMP-CLAMP SERIES

Compact instruments for faster, easier measurement of AC systems and easy location of grounds and shorts in motors, relays, transformers and control circuits. Load balance tests and AC current measurements can be made without equipment shutdown or power interruption.



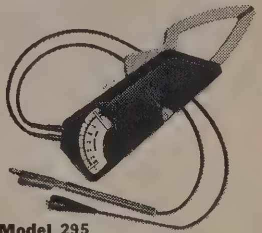
Model 296

MODEL 296 VOLT/OHM/AMMETER

SPECIFICATIONS

AC Volts: 0 to 30 150, 300, 600 volts.
AC Current: 0 to 6, 15, 30, 60, 150, 300 amps.
Resistance: 0 to 500 ohms.
Accuracy: ±3%.
Size: 10" l. x 2.7" w. x 1.4" d.
Weight: 14 ozs.

Simpson Model 296 Volt/Ohm/Ammeter—Complete with test leads, battery, two fuses and operator's manual. Net Each **$71.50**



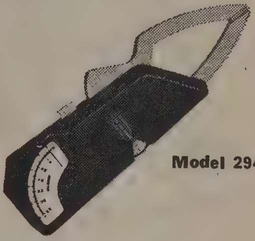
Model 295

MODEL 295 VOLT/AMMETER

SPECIFICATIONS

AC Volts: 0 to 30, 150, 300, 600 volts.
AC Current: 0 to 6, 15, 30, 60, 150, 300 amps.
Accuracy: ±3%.
Size: 10" l. x 2.7" w. x 1.4" d.
Weight: 14 ozs.

Simpson Model 295 Volt/Ammeter—Complete with test leads and manual. Net Each **$53.00**



Model 294

MODEL 294 AC AMMETER

SPECIFICATIONS

AC Current: 0 to 6, 15, 30, 60, 150, 300 amps.
Accuracy: ±3%.
Size: 10" l. x 2.7" w. x 1.4" d.
Weight: 14 ozs.

Simpson Model 294 AC Ammeter—Complete with manual. Net Each **$45.00**

ACCESSORIES

Simpson No. 02226—Deluxe black vinyl carrying case for Amp-Clamp meters. Net Each **$18.15**

Simpson No. 02228—Economy black vinyl carrying case for Amp-Clamp meters. Net Each **$7.15**

Simpson No. 02227—Voltage probe and holding bracket. Net Each **$2.90**

Model 151

MODEL 151 LINE SPLITTER

Line splitter measures AC line currents up to 10 amperes continuously or to 15 amperes intermittently, all without power interruption. Unit provides 10X multiplication for low current values. Permits appliance ground to be connected directly to earth ground. The tough, durable, high-impact resistant housing withstands industrial and heavy-duty maintenance conditions.

Model 151 AC Line Splitter—Complete with 2 ft. line cord, 3-prong plug and operator's manual. Net Each **$7.90**

DEGREES CENTIGRADE
Simpson
MODEL 388

MODEL 388-3L THERM-O-METER

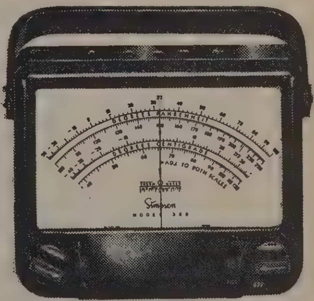
Measures the temperature of gases, air, solids or liquids over a range from −50° F to +1000° F (−40° C to +500° C). Combination Fahrenheit and Centigrade scale. Iron-Constantan thermocouple sensing element. **Accuracy:** ±1½ scale divisions. **Size:** $7\frac{15}{16}$" w. x 6" h. x $2\frac{15}{16}$" d. **Weight:** 4 lbs. Meter is switchable between three probes.

Simpson Model 388-3L Therm-O-Meter—Complete with one probe on 8 foot lead, battery and operator's manual. Net Each **$129.00**

MODEL 389-3L DUAL RANGE THERM-O-METER

Dual range temperature tester makes readings in three different locations with switch selection of probes. Dial has combination Fahrenheit and Centigrade scales. **Ranges:** −50° F to +100° F (−40° C to + 35° C); +100° F to +250° F (+40° C to + 120° C). **Accuracy:** ±2° F at center scale; ±3° F elsewhere. **Size:** $7\frac{15}{16}$" w. x 6" h. x $2\frac{15}{16}$" d. **Weight:** 4 lbs.

Simpson Model 389-3L Therm-O-Meter—Complete with 15 foot thermistor lead and operator's manual. Net Each **$119.00**



Model 385-3L

Model 387

MODEL 385-3L TEMPERATURE METER

Compact instrument ideal for measuring temperatures from −50° F to +70° F under conditions where fast, accurate readings are important. Thermistor type sensing element. Takes temperature readings in three different locations with switch selection. **Accuracy:** ±1° F at center scale; ±2° F at ends. **Size:** 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.

Simpson Model 385-3L Temperature Meter—Complete with one 15 foot thermistor lead and operator's manual. Net Each **$69.50**

MODEL 387 APPLIANCE TESTER

Millivoltmeter makes gas appliance servicing faster and more accurate. Connect the probe to the thermocouple output and test for the correct current output. Checks all gas-fired appliances. **Ranges:** 0 to 10, 30, 100, 300, 1000 millivolts. **Accuracy:** ±3% of full scale. **Size:** 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.

Simpson Model 387 Appliance Tester—Net Each **$53.00**

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE

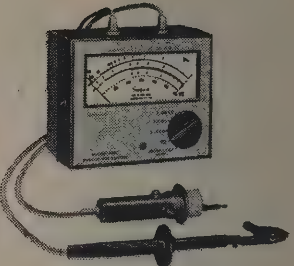
CURRENT PRICES WILL APPLY ON ALL LINES

Simpson Test Equipment

INSTRUMENTS THAT STAY ACCURATE

MODEL 400 INSULATION TESTER

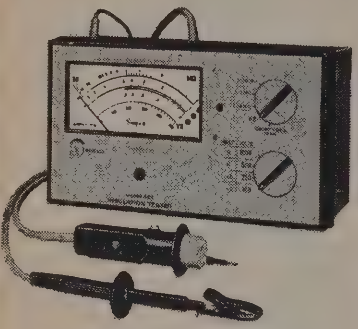
Tests insulation to 500 VDC.
Indicator probe illuminates measuring point.
Tests continuity in low resistance circuits.
Measures AC/DC voltage to 600 V.
Battery saver pushbutton operation.



SPECIFICATIONS

Voltage Range: 0 to 600 volts AC or DC.
Resistance Ranges: (1) 0 to 0.4 megohm
open circuit voltage 650 V, int. resis. 0.25 megohm.
(2) 0.01 to 5 megohms
open circuit voltage 650 V, int. resis. 0.15 megohm.
(3) 2 to 200 megohms
open circuit voltage 650 V, int. resis. 0.15 megohm.
Accuracy: ±1.5% of full scale.
Continuity Testing: On-off point of lamp approx. 500 ohms.
Power Required: Nine 1½ volt batteries.
Size: 5.6″ w. x 4.6″ h. x 3.2″ d.
Weight: 3 lbs.

Simpson Model 400 Insulation Tester—Complete with batteries, attached leads (one with illuminating probe), carrying strap and manual. Net Each.......... **$225.00**



MODEL 401 INSULATION TESTER

Tests insulation to 1000 VDC.
Four selectable test voltages.
Tests continuity in low resistance circuits.
Measures AC/DC voltage to 1000 V.
Indicator probe illuminates measuring point.

SPECIFICATIONS

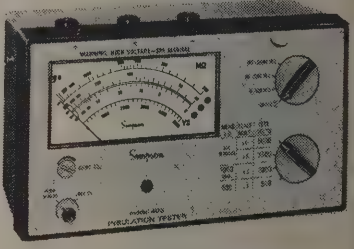
Test Voltage	Insulation Resistance, Megohms			Probe Lamp On-Off, Megohms
	1	2	3	
100	0 to 0.08	0.02 to 1	0.4 to 40	≧0.2
250	0 to 0.2	0.05 to 2.5	1 to 100	≧0.5
500	0 to 0.4	0.1 to 5	2 to 200	≧1.0
1000	0 to 0.8	0.2 to 10	4 to 400	≧2.0

Accuracy: ±1.5% of full scale.
Continuity Testing: On-off point of lamp approx. 500 ohms.
Power Required: Nine 1½ volt batteries.
Size: 9.6″ w. x 5.5″ h. x 4.13″ d.
Weight: 4.9 lbs.

Simpson Model 401 Insulation Tester—Complete with batteries, attached leads (one with illuminating probe) carrying strap and manual. Net Each............. **$395.00**

MODEL 405-2 INSULATION TESTER

Tests insulation to 5000 VDC.
Four selectable test voltages.
Measures voltage to 1000 V.
Guard circuit protects meter movement from surface and creepage current.



Test Voltage	Insulation Resistance, Megohms		
	1	2	3
500	0 to 50	4 to 200	20 to 2000
1000	0 to 100	8 to 400	40 to 4000
2500	0 to 250	20 to 1000	100 to 10,000
5000	0 to 500	40 to 2000	200 to 20,000

Accuracy: Resistance, ±1.5% of full scale; Voltage, ±5% of full scale.
Dielectric Test Voltage: 11 KV rms.
Size: 9.6″ w. x 5.5″ h. x 4 13″ d.
Weight: 5.3 lbs.

Simpson Model 405-2 Insulation Tester—Complete with two plug-in test leads, probes, batteries, carrying strap and manual. Net Each......................... **$495.00**

MODEL 380M MICROWAVE LEAKAGE TESTER

Meets the measurement requirements of the federal performance standard for leakage from microwave ovens.
Measures microwave leakage from domestic, industrial and commercial equipment operating at 2450 MHz.
Fast or slow response time for best measurement.
Tripod mount for stable measurements.
Non-polarized, hand-held probe for power density measurement provides automatic 5 cm spacing with maximum operator safety.
Battery powered operation.

SPECIFICATIONS

Calibration Frequency: 2450 MHz, ±10 MHz.
Power Density Ranges: 0 to 2.5, 10, 25, 100 mW/cm² at ±1 dB accuracy.
Response Time: Fast, 1.2 sec. max.; Slow, 3.0 sec. nom.
Temperature Coefficient: ±0.1 dB/10° C.
Power Required: Two NEDA #1604 batteries.
Size: 8.18″ l. x 3.03″ w. x 1.87″ d.
Weight: Under 1 lb.

Simpson Model 380M Microwave Leakage Tester—Complete with probe, foam spacer, two batteries and operator's manual in fitted carrying case. Net Each........... **$225.00**

MODEL 229, SERIES 2, AC LEAKAGE TESTER

For measurement of leakage current in 120 and 240 VAC appliances and electrical equipment in accordance with ANSI C101.1-1973 and proposed UL 1244.

SPECIFICATIONS

AC Current: 0 to 0.3, 1, 3, 10 mA.
AC Volts: 0 to 150, 300 volts.
Short Test: Red arc, 1500 ohms; Green arc, 1 megohm.
Accuracy: ±2% at 60 Hz.
Input Impedance: 1500 ohms in parallel with 0.15 μF.
Size: 7″ h. x 5¼″ w. x 3⅛″ d.
Weight: 3 lbs.

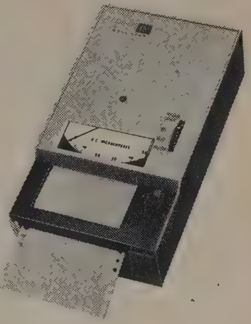
Simpson Model 229-2 AC Current Leakage Tester—Complete with test leads, batteries and operator's manual. Net Each.. **$115.00**

Simpson Test Equipment

INSTRUMENTS THAT STAY ACCURATE

MODEL 603 CHART RECORDERS

Impression type inkless recording.
Built-in 110 VAC event indicator.
Four switch selectable chart speeds.
Panel mount or portable use.



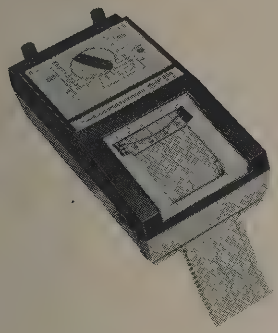
RANGES

Accuracy: DC, ±2.5%; AC, ±4% of full scale.
Chart Speeds: 1.5, 6, 12, 18 inches per hour.
Impression Rate: 2 seconds.
Size: 7.5" . x 4.19" w. x 2.78" d.
Weight: 2½ bs.

All supplied complete with panel mounting hardware, 2 rolls of chart paper and instructions.

Range	Catalog Number	Net Each
0–50 μADC	20201	$130.00
0–100 μADC	20202	125.00
0–1 mADC	20205	110.00
0–50 mVDC	20219	115.00

Range	Catalog Number	Net Each
0–50 VDC	20227	$120.00
0–5 AAC	20250	140.00
0–150 VAC	20280	125.00
0–300 VAC	20285	125.00
100–130 VAC	20286	130.00



MODEL 604-2 MULTICORDER® CHART RECORDER

22 selectable ranges.
Three selectable chart speeds.
Inkless recording of range and measured value
Shock-proof, taut-band movement.

SPECIFICATIONS

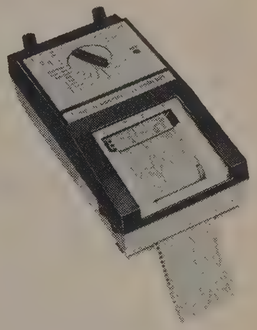
DC Volts: 0 to 100, 500 millivolts; 0 to 2, 5, 10, 25, 100, 250, 500 volts.
AC Volts: 0 to 10, 25, 100, 250, 500 volts.
DC Current: 0 to 50, 250μA; 0 to 1, 5, 25, 100, 250 mA; 0 to 1 Amp.
AC Current: 0 to 200 μAmp.
Accuracy: ±2.5% of full scale on recording; ±1.5% of full scale indicating.
Impression Rate: 1 or 2 seconds, selectable.
Chart Speeds: 1, 3, 12 inches per hour.
Size: 9.75" l. x 4.75" w. x 4" d.
Weight: 5½ lbs.

Simpson Model 604-2 Multicorder—For 120 VAC operation. Complete with test leads, two rolls chart paper and instructions. Net Each........................ **$310.00**

Simpson Model 604-2 Multicorder—For battery operation. Complete with test leads two rolls chart paper and instructions. Net Each........................ **$395.00**

MODEL 605-2 MULTICORDER® CHART RECORDER

Three selectable chart speeds.
24 selectable ranges.
Shock-proof, taut-band movement.
Inkless recording of range and value.



SPECIFICATIONS

DC Volts: 0 to 12, 30, 60 millivolts; to 3, 15, 60, 300, 600 volts.
AC Volts: 0 to 6, 30, 150, 300, 600 volts.
DC Current: 0 to 600 μA; 0 to 1.5, 3, 6, 30, 150 mA; 0 to 1.2, 6 Amps.
AC Current: 0 to 3, 15, 60, 300 mA; 0 to 1.2, 6 Amps.
Accuracy: ±2.5% of full scale on recording; ±1.5% of full scale indicating.
Chart Speeds: 1, 3, 12 inches per hour.
Impression Rate: 1 or 2 seconds, selectable.
Size: 9.75" l. x 4.19" w. x 4" d.
Weight: 5½ lbs.

Simpson Model 605-2 Multicorder—For 120 VAC operation. Complete with test leads, two rolls chart paper and instructions. Net Each........................ **$310.00**

Simpson Model 605-2 Multicorder—For battery operation. Complete with test leads, two rolls chart paper and instructions. Net Each........................ **$395.00**

MULTI-RANGE PRECISION MILLIOHMMETER
OHMS
OFF

MODEL 1699 MULTI-RANGE PRECISION MILLIOHMMETER

Ideal for lab use, for measuring low resistance values accurately (±1% of full-scale) and rapidly. Measures resistance values from .001 to 50 ohms by comparing with standard internal resistance. Test leads with Kelvin Clips are coupled with unique circuit using separate voltage and current paths to insure accuracy. Large 7" meter has mirrored scale and knife-edge pointer for easy readability. Single arc, 90° dial has 100 divisions. Battery operated, low current (less than 7.95 mW). **Ranges:** 0–.05, .1, .25, .5, 1, 5, 10, 50 ohms. **Max. Output Current:** 460 mA in lowest range, 0.5 mA in 50-ohm range. **Max. Dissipation:** (In sample) 7.95 mW in lowest range, .012 mW in 50 ohm range. **Size:** 11⅛" x 7⅜" x 3¼". Net Weight, 5 lbs. 10 oz.

Simpson Model 1699—With batteries, test leads and manual. Net Each.. **$275.00**

Simpson No. 00156—Extra Kelvin leads. Net Each..... **$7.75**

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE

Simpson Test Equipment Accessories

INSTRUMENTS THAT STAY ACCURATE

INSTRUMENT CARRYING CASES

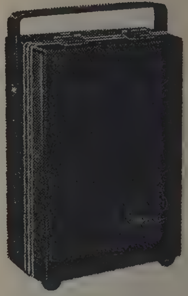
Provide protection and carrying convenience for your instruments.

Fits Model(s)	Description	Cat. No.	Net Each
150	Carrying case	00548	$10.20
160	Low cost vinyl	02935	6.65
160	Vinyl	02225	14.10
160	Vacuum formed	02929	16.80
208, 209	Carrying case	00578	14.10
250, 255, 260, 260XL, 261, 265, 270, 303XL	Utility vinyl	00549	25.68
250, 260, 260XL, 261, 265, 270	Vinyl	01818	18.50
250, 260, 260XL, 261, 265, 270, 303	Ever-Redy vinyl	00805	22.65
	Deluxe case	00812	22.65
260 and Add-A-Tester	Leather case	01871	22.65
260-2, Model 9, Model 10, 880	Roll top safety case	06192	15.45
250; 255; 260-3, -4, -5 family; 261; 265; 270	Roll top safety case	00249	16.80
260-6 family, 270-4	Roll top safety case	00248	16.80
260 series except 260XL, 270 series	Snap-on protective face cover	02163	2.00
262, 263, 267, 268, 269, 388-3L	Ever-Redy vinyl	05262	19.85
262, 263, 269	Leather, sponge lined	01613	20.45
294, 295, 296	Vinyl	02226	18.15
294, 295, 296	Low cost vinyl	02228	7.15
312, 313, 314	Vinyl	00577	21.80
312, 313, 314	Leather, sponge lined	01565	25.50
355	Ever-Redy, vinyl	06355	7.75
360-2	Carrying case	00816	26.25
380	Vinyl	00782	
385-3L, 387	Ever-Redy, leather	08073	22.65
391, 392	Leatherette covered	03413	15.45
400	Vinyl carrying case	01615	15.45
401, 405	Vinyl case	01616	18.70
408	Carrying case	00809	20.95
410	Vinyl	00811	20.00
413	Carrying case	22306	23.15
460-3, 464, 465	Vinyl	01617	26.50
461, 710	Carrying Case	00747	19.50
603	Sponge lined case	20196	26.25
884, 886	Package case	00217	25.65
2745	Leather case	22931	37.70
Microtesters	Ever-Redy vinyl	04299	14.10
Microtesters	Leatherette covered	03011	11.60
H. V. Probe	Snaps onto 00549	00574	7.75
TS-111	Carrying case	00719	27.65

SPECIAL USE PROBES

For Meter(s)	Description	Cat. No.	Net Each
250; 255; 260 (series 3, 4, 5, 6); 261, 261-2; 267; 270, 270-2, 270-3, 270-4,	5,000 VDC	00506	$ 5.80
	10,000 VDC	00507	21.80
	30,000 VDC	00509	24.30
	5,000 VAC	00505	5.80
	10,000 VAC	00161	24.30
260-2	25,000 VDC	00007	25.65
	30,000 VDC	00179	24.30
262, 262-2	16,000 VDC	00172	24.30
	30,000 VDC	00180	24.30
262-3	16,000 VDC	00146	25.65
	30,000 VDC	00145	25.65
263	15,000 VDC	00158	23.15
	30,000 VDC	00511	23.15
265	30,000 VDC	00158	23.15
269	16,000 VDC	00173	24.30
	30,000 VDC	00181	24.30
269-2, 269-3	16,000 VDC	00119	25.65
	30,000 VDC	00157	25.65
303-1	RF Probe	00073	16.30
	30,000 VDC	00074	25.65
303-2	RF probe	00073	16.30
	30,000 VDC	00186	23.15
311-1	DC/AC ohms	07594	15.45
	RF Probe	00731	24.30
	30,000 VDC	00732	24.30
311-2	DC/AC ohms	07594	15.45
	RF Probe	00174	20.45
	30,000 VDC	00732	24.30
311-3	RF Probe	00176	20.45
	30,000 VDC	00178	24.30
312	RF Probe	00152	16.30
	30,000 VDC	00155	25.65
313	RF Probe	00191	15.20
	30,000 VDC	00192	24.30
314	RF Probe	00193	15.20
	30,000 VDC	00196	24.30
360	30,000 VDC	00167	32.00
455, 459	Low-Cap.	07548	19.30
460	30,000 VDC	00159	32.00
2795	30,000 VDC	00509	24.30
00115 Leads	Retractable grip tip probe	00118	5.25
464, 465, 360-2, 460-3	RF probe	00433	26.25
	40,000 VDC	00432	36.75

00805



00812

TEST LEADS AND PROBES

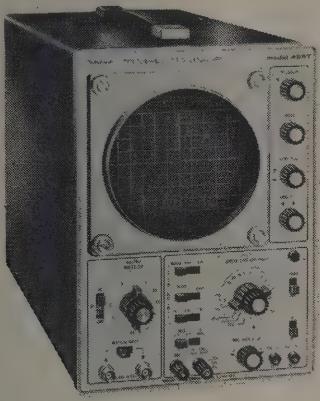
For Meter(s)	Description	Cat. No.	Net Each
150	Test leads	00533	$ 3.05
150 with 160	Adapter pins	02056	2.25
160	Probe tip leads	02055	4.45
	Alligator clip leads	01927	4.15
202, 208, 209, 229-2, 250, 255, 260 (series 3-6 only), 260XL, 261, 262 (series 3 only), 263, 265, 267, 268, 269 (series 2&3 only), 270, 360, 460	Comb. probe tip and removable alligator clip leads	00115	5.80
	Probe tip leads	07538	5.00
	Alligator clip leads	07500	4.70
	Retractable grip tip probe for use with 00115 leads	00118	5.25
230, 240, 260 (series 1&2 only), 372, 279	Probe tip leads	08381	5.00
	Alligator clip leads	08375	4.15
250, 255, 260, 261, 270	Low-power ohms probe	00735	32.50
256, 257, 2795	Comb. probe tip and removable alligator clip leads	07541	5.25
262 (series 1&2 only), 269 (series 1 only)	Comb. probe tip and removable alligator clip leads	08463	4.15
295, 296	Voltage probe	02227	2.90
303 (series 1 only), 651	DC probe tip lead	00067	7.75
	AC probe tip lead	00068	7.75
	Ground lead, 303-1	00069	4.00
	Ground lead, 651	00733	3.60
303 (series 2 only), 312	AC/DC probe tip lead	00150	16.30
	Ground lead	00733	3.60
311	AC/DC probe tip lead	00175	16.05
	Ground lead	00733	3.60
313	AC/DC probe and ground clip lead	00189	15.70
314	AC/DC probe and ground clip lead	00194	36.40
355	Probe tip leads	08600	4.70
362, 371, 373, 374, 375, 376, 377, 378, 387	Probe tip leads	08379	5.00
	Alligator clip leads	08376	4.15
383A	Test lead assembly	07509	4.15
390	Test cord assembly	08418	10.20
400, 401, 405	Probe and clip	00737	2.75
455, 458, 459	Shielded input cable	07549	7.50
461	Comb. probe tip and removable alligator clip leads	0042	5.80
466, 715	Shielded input cable	00100	6.35
650	Test lead	07545	2.65
1699	Kelvin lead	00156	
7016, 7026	Probe	00238	13.25
TS-111	Test leads	00236	5.55

TEMPERATURE TESTER LEADS AND PROBES

Fits Meter(s)	Description	Cat. No.	Net Each
385-3L, 389-3L, 651	Free air temp. probe	00789	$17.90
	15 ft. thermistor & lead	00010	15.45
	30 ft. thermistor & lead	00216	15.45
	50 ft. thermistor & lead	00415	16.80
	100 ft. thermistor & lead	00416	20.45
	150 ft. thermistor & lead	00417	
	Surface temp. probe	00790	14.10
388, 388-2L	8 ft. rugged service lead	00496	13.00
	Gen pur. thermocouple	00190	13.00
	Surface temp. thermocouple, 1000° F max.	00187	16.80
255	5 ft. thermocouple	00163	9.10

Simpson Oscilloscopes

INSTRUMENTS THAT STAY ACCURATE



MODEL 455T GENERAL PURPOSE 5″ OSCILLOSCOPE

Triggered or free-running sweep.
Useable in the 27 MHz CB range.
Two vertical inputs selected by switch.
For color TV or industrial servicing.
Unit accepts camera or light hood.
Amplitude and vector displays plus TVH, TVV and VITS settings of horizontal sweep.
Low parallax, high contrast graticule.

SPECIFICATIONS

VERTICAL AMPLIFIER

Bandwidth: DC Coupled, DC to 12 MHz (−3dB).
AC Coupled, 2 Hz to 12 MHz (−3dB).
Risetime: 30 nanoseconds.
Sensitivity: 9 calibrated steps from 10 mV/cm to 5 V/cm, ±5%; variable gain control.
Input Impedance: 1 megohm shunted by 35 pF max.

HORIZONTAL AMPLIFIER

Bandwidth: DC Coupled, DC to 800 kHz down−3dB.
AC Coupled, 2 Hz to 500 kHz down−3dB.
Sensitivity: 300 mV/cm; variable control.
Sweep Frequency Ranges: 5 ranges from 1 kHz to 200 kHz plus TV HOR. position.
Input Impedance: 100K ohms shunted by less than 50 pF.

GENERAL

Power Required: 105–125 or 210–250 VAC, 50/60 Hz, 100 VA max.
Size: 10⅜″ h. x 8″ w. x 16½″ d.
Weight: 24 lbs., approx.

Simpson Model 455 Oscilloscope—Complete with shielded input cable, line cord and operator's manual. Specify operating voltage. Net Each.................. **$395.00**

MODEL 452 DUAL TRACE 5″ OSCILLOSCOPE

Internal or external triggering with TVV, TVH and VITS TV sync positions.
Dual matched differential vertical amplifiers.
Automatically shifts between Chop and Alternate as sweep time is changed.
5X magnification.
24 nanoseconds rise time.

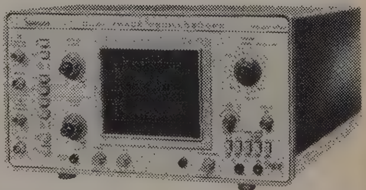
SPECIFICATIONS

VERTICAL AMPLIFIERS

Bandwidth: DC coupled, DC to 15 MHz at −3 dB; AC coupled, 2 Hz to 15 MHz at −3 dB.
Sensitivity: 11 calibrated steps from 5 mV/cm to 10 V/cm, calibrated in 1–2–5 sequence; uncalibrated continuous control between steps.
Input Impedance: 1 megohm, shunted by 25 pF.
Rise Time: 24 nanoseconds.
Overshoot: 5% or less.
Max. Input Voltage: 500 V (DC + peak AC).
Display Modes: Ch. A only, Ch. B only, Channels A and B (chopped at 1 msec/cm and slower sweeps; alternated for faster speeds), Add (A + B), Channel B invert (A − B).
Chop Frequency: 200 kHz.

HORIZONTAL AMPLIFIERS

Bandwidth: DC coupled, DC to 1.5 MHz at −3 dB; AC coupled, 2 Hz to 1.5 MHz at −3 dB.
Sensitivity: 5 mV/cm to 10 V/cm, calibrated in 1–2–5 sequence in 11 steps; accuracy within ±5% of full screen deflection; uncalibrated continuous control between steps.
Input Impedance: 1 megohm, shunted by 25 pF.
Max. Input Voltage: 500 V (DC + peak AC).



HORIZONTAL SWEEP RANGES

Time/cm (20 ranges): 0.2 µsec/cm to 0.5 sec/cm (±5%), calibrated to 1–2–5 sequence in 20 steps; uncalibrated continuous control between steps.
TV-H: 12.7 µsec/cm.
TV-V: 3,33 msec/cm.
VITS: 0.1 msec/cm.
Magnifier: 5X expands fastest sweep speed, from 0.2 µsec/cm to 40 nsec/cm.

TRIGGERING

Source: External, Channel A, Channel B.
Mode: Normal or Automatic.
Coupling: AC.
Slope: Positive or negative.
Sensitivity: Internal (Ch. A or Ch. B), 0.5 cm p-p from 10 Hz to 10 MHz; 1 cm p-p from 3 Hz to 15 MHz. Auto, 0.5 cm p-p from 50 Hz to 10 MHz. External, 0.5 cm p-p from 3 Hz to 15 MHz. TV sync, 0.5 cm p-p of deflection.

GENERAL

Power Requirements: 120 VAC ±10%, 220 VAC, ±10% or 240 VAC ±10%; 50/60 Hz; 45 VA average.
Fuse Rating: 2 amperes, 125 V, 3 AG slow-blow for 120 VAC operation.
Size: 6½″ h. x 12″ w. x 16″ d.
Weight: 20 lbs.

Simpson Model 452 Oscilloscope—Specify operating voltage. Net Each..... **$635.00**

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE

CURRENT PRICES WILL APPLY ON ALL LINES

Simpson Digital Panel Meters

INSTRUMENTS THAT STAY ACCURATE

SERIES 2850 DIGITAL PANEL METERS

+122.9
D.C. Volts
Simpson

High reliability LSI circuitry and .55″ planar gas discharge or 0.43″ LED displays combine to provide digital panel meters with 0.1% of reading accuracy, automatic zero and polarity, 3½ digit readout, and BCD output. **Accuracy:** ±(0.1% of reading + 1 digit), from +15° C to +35° C. **Temperature Coefficient:** ±(0.01% of reading + 0.05 digit)/° C, from 0° C to +55° C. **Sensitivity:** 100μV for 200 mV unit, 10 nA for 20μA unit. **Resolution:** 1 part in 2000. **Operating Temperature Range:** 0° C to + 55° C. **Power Required:** Models 2850 & 2852, 120/240 VAC, 50–400 Hz, 4 VA; Models 2851 & 2853, 5 VDC ± 5%, 700 mA. **Size:** 3.9″ w. x 1.93″ h. x 4.27″ d. **Weight:** 1 lb. approx. **Panel Cutout:** Standard, 1.682″ x 3.622″; IEC/DIN, 1.77″ x 3.622″; other domestic, 1.682″ x 3.92″.

DC VOLTAGE METERS

Range	Input Resis.	Overload Protection	Simpson No. Model 2850	Simpson No. Model 2851	Simpson No. Model 2852	Simpson No. Model 2853
±199.9 mV	>100 meg	350 V	22984	24101	24110	24119
±1.999 V	>100 meg	350 V	22976	24102	24111	24120
±19.99 V	10 meg	350 V	22977	24103	24112	24121
±199.9 V	10 meg	350 V	22978	24104	24113	24122

DC CURRENT METERS

Range	Voltage Drop, FS	Max. Input Curr.	Simpson No. Model 2850	Simpson No. Model 2851	Simpson No. Model 2852	Simpson No. Model 2853
±19.99 μA	200 mV	20 mA	22979	24105	24114	24123
±199.9 μA	200 mV	20 mA	22980	24106	24115	24124
±1.999 mA	200 mV	20 mA	22981	24107	24116	24125
±19.99 mA	200 mV	100 mA	22982	24108	24117	24126
±199.9 mA	200 mV	1 A	22983	24109	24118	24127

Simpson Model 2850—120/1240 VAC input and .55″ gas discharge display. Complete with panel mtg. clips, edge connector and manual. Net each........**$138.00**

Simpson Model 2851—5 VDC input and .55″ gas discharge display. Complete with panel mtg. clips, edge connector and manuals. Net Each........**$138.00**

Simpson Model 2852—120/240 VAC input and .43″ LED display. Complete with panel mtg. clips, edge connector and manual. Net Each........**$138.00**

Simpson Model 2853—5 VDC input and .43″ LED display. Complete with panel mtg. clips, edge connector and manual. Net Each........**$138.00**

Simpson No. 22992—Adapter for IEC/DIN cutouts. Net Each........**$3.00**

Simpson Model 22993—Adapter for domestic 1.682″ x 3.920″ cutouts. Net Each........**$3.00**

Simpson Model 22991—Optional "U" type mtg. bracket. Net Each........**$3.00**

SERIES 2860 DIGITAL PANEL METERS

1888
D C Volts
Simpson

High performance at a low price. 7-segment, 0.43″ LED display with 0.1% reading accuracy. 3½ digit readout. Highly reliable LSI circuitry. Choice of 120/240 VAC, 50–400 Hz or 5 VDC operation. Input/output edge connector included. **Accuracy:** ±0.1% of reading +1 digit at reference conditions. **Temperature Coefficient:** ±0.01% of reading +0.05 digit per °C, from 0° C to 55° C. **Sensitivity:** 100 μV for 200 mV unit; 10 nA for 20 μA unit. **Resolution:** 1 part in 2,000. **Input Bias Current:** 100 pA max. at reference conditions. **Response Time:** Less than 800 msec. to rated accuracy. **Normal Mode Rejection:** 50 dB min. at 60 Hz. **Common Mode Rejection:** 90 dB min. with 1000 ohm unbalanced at 60 Hz. Automatic polarity with "−" indication. Decimal point fixed with range. **Operating Temperature Range:** 0° C to +55° C. **Power Requirements: Model 2860**—120 or 220 to 240 VAC ±10%, 50 to 400 Hz, 3 VA; **Model 2861**—5 VDC ±5% at 100 mA. **Size:** 3.9″ w. x 1.93″ h. x 4.27″ d. **Weight:** 1 lb. approx.

DC VOLTAGE METERS

Range	Max. Indication	Input Resis.	Overload Protection	Simpson No. Model 2860	Simpson No. Model 2861
200 mV	±199.9 mV	100 meg	350 V	24300	24400
2 V	±1.999 V	100 meg	350 V	24301	24401
20 V	±19.99 V	10 meg	350 V	24302	24402
200 V	±199.9 V	10 meg	350 V	24303	24403

DC CURRENT METERS

Range	Max. Indication	Max. Input Current	Simpson No. Model 2860	Simpson No. Model 2861
20 μA	±19.99 μA	20 mA	24304	24404
200 μA	±199.0 μA	20 mA	24305	24405
2 mA	±1.999 mA	20 mA	24306	24406
20 mA	±19.99 mA	100 mA	24307	24407
200 mA	±199.9 mA	1 A	24308	24408

Simpson Model 2860—120/240 VAC input. Complete with panel mtg. clips, edge connector and manual. Net Each.....**$79.00**

Simpson Model 2861—5 VDC input. Complete with panel mtg. clips, edge connector and manual. Net Each........**$69.00**

Simpson Model 22992—Adapter for IEC/DIN cutouts. Net Each........**$3.00**

Simpson Model 22993—Adapter for domestic 1.682″ x 3.920″ cutouts. Net Each........**$3.00**

Simpson Model 22991—Optional "U" type mtg. bracket. Net Each........**$3.00**

Simpson Wide-Vue Panel Meters

INSTRUMENTS THAT STAY ACCURATE

Range	Approx. Resis., Ohms▲	1½" Model 1212		2½" Model 1227		3½" Model 1327		4½" Model 1329	
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
DC VOLTMETERS									
0–5	1000 Ohms per volt	09540	$25.65	09550	$27.45	09720	$28.35	09870	$30.90
0–8		......	......	......	......	09730	28.35	09880	30.90
0–10		09541	25.65	09560	27.45	09740	28.35	09890	30.90
0–15		09542	25.65	09570	27.45	09750	28.35	09900	30.90
0–25		09543	25.65	09580	27.45	09760	28.35	09910	30.90
0–30		09544	25.65	09590	27.45	09770	28.35	09920	30.90
0–50		09545	25.65	09600	27.45	09780	28.35	09930	30.90
0–100		09546	25.65	09610	27.45	09790	28.35	09940	30.90
0–150		09547	25.65	09620	27.45	09800	28.35	09950	30.90
0–200		......	......	09622	27.45	09810	28.35	09960	30.90
0–250		......	......	09623	27.45	09820	28.35	09970	30.90
0–300		......	......	09630	27.45	09830	28.35	09980	30.90
0–300	2000 Ohms per volt	09548	25.65	......	......	......	......	......	......
0–500		09549*	31.95	09640	28.35	09840	29.70	09990	32.10
0–750		......	......	09650*	34.35	09850	29.70	10000	32.10
0–1000		......	......	09660*	35.55	09860*	36.45	10010*	39.15

*External multiplier, Model 183, furnished; others self-contained.

DC MILLIVOLTMETERS									
0–50	10	07005	$25.65	07010	$26.25	07020	$27.45	07030	$29.70
50–0–50	20	......	......	......	......	07021	27.45	07031	29.70

DC MILLIAMMETERS									
0–1	43	06163	$24.45	06175	$25.80	06310	$26.55	06470	$28.35
0–3	2	......	......	06180	25.80	06320	26.55	06480	28.35
0–5	2 (20)	06164	24.45	06190	25.80	06330	26.55	06490	28.35
0–10	10 (2.2)	06165	24.45	06200	25.80	06340	26.55	06495	28.35
0–15	6.6 (2.2)	06166	24.45	06210	25.80	06350	26.55	06502	28.35
0–20	5	......	......	06215	25.80	06360	26.55	06524	28.35
0–25	4 (6)	06167	25.65	06220	26.25	06370	27.45	06530	29.70
0–50	2 (3)	06168	25.65	06230	26.25	06380	27.45	06540	29.70
0–100	1 (1.5)	06169	25.65	06240	26.25	06390	27.45	06550	29.70
0–150	.66 (1)	06170	25.65	06250	26.25	06400	27.45	06560	29.70
0–200	.5 (.75)	06171	25.65	06260	26.25	06410	27.45	06570	29.70
0–250	.4 (.6)	06172	25.65	06270	26.25	06420	27.45	06580	29.70
0–300	.33 (.5)	06173	25.65	06280	26.25	06430	27.45	06590	29.70
0–500	.2 (.3)	06174	25.65	06290	26.25	06440	27.45	06600	29.70
0–750	.13	......	......	......	......	06450	27.45	06610	29.70
0–1000	.05	......	......	06292	26.25	06460	27.45	06620	29.70

DC AMMETERS									
0–1	.05	02431	$25.65	02440	$26.25	02640	$27.45	02820	$29.70
0–1.5	.033	......	......	02450	26.25	02650	27.45	02830	29.70
0–2	.025	02432	25.65	02460	26.25	02660	27.45	02840	29.70
0–3	.017	02433	25.65	02470	26.25	02670	27.45	02850	29.70
0–5	.01	02434	25.65	02480	26.25	02680	27.45	02860	29.70
0–10	.005	02435	25.65	02490	26.25	02690	27.45	02870	29.70
0–15	.003	02436†	25.65	02500	26.25	02700	27.45	02880	29.70
0–25	.002	02437†	25.65	02510	26.25	02710	27.45	02890	29.70
0–30	.0017	......	......	02520	26.25	02720	27.45	02900	29.70
0–50	.001	02438†	25.65	02530	26.25	02730	27.45	02910	29.70
0–100	10	......	......	02540†	26.25	02740†	27.45	02920†	29.70
0–150	10	......	......	02550†	26.25	02750†	27.45	02930†	29.70
0–200	10	......	......	02552†	26.25	02760†	27.45	02940†	29.70
0–300	10	......	......	02554†	26.25	02770†	27.45	02950†	29.70
0–500	10	......	......	......	......	02780†	27.45	02960†	29.70
10–0–15	.0033	......	......	......	......	02790	28.95	......	......
30–0–30	.0017	......	......	......	......	02800	28.95	......	......
50–0–50	.001	......	......	......	......	02810	28.95	......	......

†50 mV movement requiring external shunt, not supplied; others self-contained.

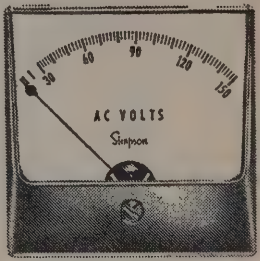
DC MICROAMMETERS									
0–50	1800 (5500)	04294	$32.10	04310	$33.00	04380	$33.75	04480	$36.30
0–100	1800	04295	28.65	04320	29.70	04390	30.90	04490	34.35
0–200	1100	04296	26.10	04330	27.00	04400	28.35	04500	30.90
0–500	90 (190)	04297	25.65	04340	26.55	04410	27.90	04510	30.30
25–0–25	1800 (5500)	04298	32.25	......	......	04420	34.05	04520	36.45
50–0–50	1800	04302	28.95	04350	30.30	04430	30.90	04530	34.50
100–0–100	1100	04300	26.25	04351	27.45	04440	28.65	04540	31.35
500–0–500	43	04301	24.90	04352	26.10	04450	27.00	04550	28.65

▲Resistances of Model 1212 shown in parenthesis.

Range	Approx. Imped Ohms	1½" Model	2½" Model 1257		3½" Model 1357		4½" Model 1359	
		Not Available	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
AC VOLTMETERS—IRON-VANE TYPE								
0–5	33	......	......	......	10160	$26.10	10260	$29.10
0–10	133	......	09670	$24.90	10170	26.10	01270	29.10
0–15	300	......	09675	24.90	10180	26.10	10280	29.10
0–25	833	......	09680	24.90	10190	26.10	10290	29.10
0–50	3333	......	09690	24.90	10200	26.10	10300	29.10
0–100	16,666	......	09695	25.65	10210	27.00	10310	29.10
0–150	25,000	......	09700	26.10	10220	27.90	10320	29.70
0–250	41,166	......	09705	26.10	10230	27.90	10330	29.70
0–300	50,000	......	09710	26.10	10240	27.90	10340	29.70
0–500	83,333	......	09715*	33.00	10250*	35.40	10350*	37.65

*External multiplier, Model 183, furnished; others self-contained.

Modern styling with durable, open face plastic cover for wide-angle readability and protection of meter face. DC meters have self-shielded meter movement (calibration not affected by stray magnetic fields or magnetic mounting). AC meters have iron-vane type movement. AC Milliammeters and Ammeters are calibrated for 25–800 Hz; Voltmeters are calibrated for use on 25–125 Hz; Wattmeters calibrated for either magnetic or non-magnetic panels and frequency range of 25–125 Hz. Other calibrations at frequencies up to 800 Hz, available on request.



SPECIFICATIONS

Size	Model	Accuracy Full Scale	Scale Length
1½"	1212, T 1214	±2% ±3%*	1.5"
2½"	1227, T 1247 1257	±2% ±3%* ±2%	2.30"
3½"	1327, T 1337 1347 1357	±2% ±2% ±3%* ±2%	3.14"
4½"	1329, T 1339 1349 1359 1379	±2% ±2% ±3%* ±2% ±2%	3.93"
8"	728T	±2%	6.9"

*At 25° C and 60 Hz sine wave.

DIMENSIONS

Size	Mtg. Hole	H. x W.	4 Mtg. Studs on
1½"	1.56" dia.	1.76" x 1.76"	1.32" ctrs. #4-40
2½"	2.22" dia.	2.47" x 2.47"	1.88" ctrs. #4-40
3½"	2.81" dia.	3.25" x 3.25"	2.24" ctrs. #4-40
4½"	2.81" dia.	4.00" x 4.68"	3.56" x 4" #6-32
8"	3" dia.	6.5" x 8"	4.5" x 6" #6-32

MOUNTING BEZEL AND ILLUMINATION KIT

FOR "WIDE-VUE" PANEL METERS

Mounting bezels add modern streamlined appearance to Wide-Vue panel meters. Groove and flange construction of diecast metal with satin black finish. For behind-panel mounting on panels ⅛" to 3/16" thick. With brackets, screws and template. Illumination kit is for 3½" and 4½" models.

Meter Size	For "Wide Vue" Models	Cat. No.	Net Each
3½"	1327, 1337, 1347, 1357	01253	$3.15
4½"	1329, 1339, 1349, 1359, 1379	01123	3.15
....	Illum. Kit	01165	3.00

WIDE-VUE LISTING CONTINUED ON FOLLOWING PAGE

Simpson Wide-Vue Panel Meters

INSTRUMENTS THAT STAY ACCURATE

WIDE-VUE PANEL METERS (CONTINUED)

Range	Approx. Resis., Ohms*	1½" Model 1212T		2½" Model 1227T		3½" Model 1327T		4½" Model 1329T		8" Model 728T	
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
TAUT-BAND DC MILLIAMMETERS											
0–1	10									11210	$48.00
TAUT-BAND DC MICROAMMETERS											
0–5	5750					04358	$62.40	04458	$66.60		
0–10	4900			04303	$52.65	04359	54.90	04459	59.40		
0–15	1960 (5000)	04601	$48.00	04304	48.00	04361	49.20	04461	53.55		
0–25	1960 (5780)	04602	44.70	04306	45.60	04371	47.70	04471	51.75	11200	$59.55
0–50	960 (1600)	04603	35.25	04311	35.85	04381	36.45	04481	39.30	11201	52.50
0–100	500	04604	31.35	04321	32.55	04391	33.75	04 91	37.20	11203	50.85
0–200	234	04605	29.10	04331	30.60	04401	31.95	04501	35.25		

*Resistances of Model 1212T shown in parenthesis.

Range	Approx. Imped Ohms	1½" Model	2½" Model 1257		3½" Model 1357		4½" Model 1359	
		Not Available	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
AC AMMETERS—IRON-VANE TYPE								
0–1	.213		02560	$23.70	03130	$24.90	03260	$26.40
0–1.5	.105		02570	23.70	03140	24.90	03270	26.40
0–2	.065				03150	24.90	03280	26.40
0–3	.028		02575	23.70	03160	24.90	03290	26.40
0–5	.008		02580	23.70	03170	24.90	03300	26.40
0–10	.004		02590	23.70	03180	24.90	03310	26.40
0–15	.0025		02599	23.70	03190	24.90	03320	26.40
0–25	.002		02609	24.45	03200	25.80	03330	27.45
0–30	.0015		02615	24.45	03205	25.80	03335	27.45
0–50	.001		02619	24.45	03210	25.80	03340	27.45
0–75	.0002				03215	27.90	03345	29.70
0–100	.008		02622#	23.70	03220#	24.90	03350#	26.40
0–150	.008		02624#	23.70	03230#	24.90	03360#	26.40
0–200	.008		02626#	23.70	03240#	24.90	03370#	26.40
0–300	.008		02627#	23.70	03250#	24.90	03380#	26.40

#Five ampere movement requiring external current transformer, not supplied; others self-contained.

DUAL RANGE AC VOLTMETERS/AMMETERS								
0–150 V, 0–5 A	15030, .021				03129	$35.55	03259	$37.80
AC MILLIAMMETERS—IRON-VANE TYPE								
0–10	1650		06294	$23.70	06625	$24.90	06665	$26.40
0–50	80		06295	23.70	06630	24.90	06670	26.40
0–100	17.2		06296	23.70	06640	24.90	06680	26.40
0–250	3.15		06297	23.70	06650	24.90	06690	26.40
0–500	.9		06300	23.70	06660	24.90	06699	26.40

Range	Approx. Resis., Ohms	1½" Model 1214		2½" Model 1247		3½" Model 1347		4½" Model 1349	
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
AC VOLTMETERS—RECTIFIER TYPE									
0–5		10011	$35.25	10015	$32.55	10020	$37.20	10090	$41.25
0–10	2000	10012	35.25	10016	32.55	10030	37.20	10100	41.25
0–15	Ohms					10040	37.20	10110	41.25
0–50	per					10050	37.20	10120	41.25
0–150	volt	10013	35.25	10017	32.55	10060	37.20	10130	41.25
0–300		10014	35.25	10018	32.55	10070	37.20	10140	41.25

DECIBEL METERS

Zero power level: 6 mW in 500-ohm line.

Range	Approx. Resis., Ohms	1½" Model 1214		2½" Model 1247		3½" Model 1347		4½" Model 1349	
−10 to +6 dB	5000			03483	$36.30	03485	$38.70	03487	$39.75

VOLUME LEVEL INDICATORS

Reference level: 1 mW in 600-ohm line.

Range	Approx. Resis., Ohms	1½" Model 1214		2½" Model 1247		3½" Model 1347		4½" Model 1349	
A Scale		10472	$39.15	10474	$43.05	10480	$43.95	10490	$48.00
B Scale						10550	43.95	10560	48.00

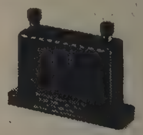
Range	Sensitivity μA	1½" Model 1212		2½" Model 1227		3½" Model 1327		4½" Model 1329	
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
DC GALVANOMETERS									
50–0–50	500–0–500			03700	$25.80	03730	$25.80	03732	$28.65
50–0–50	75–0–75			03710	27.90	03720	30.30	03734	33.00

Range	Approx. Resis., Ohms	3½" Model 1337		4½" Model 1339	
		Cat. No.	Net Each	Cat. No.	Net Each
RF AMMETERS					
0–1	.343	02970	31.35	03050	35.85
0–1.5	.2	02980	31.35	03060	35.85
0–2	.12	02990	31.35	03070	35.85
0–2.5	.1	03000	31.35	03080	35.85
0–3	.08	03010	31.35	03090	35.85
0–5	.045	03020	31.35	03100	35.85
0–8	.031	03030	31.35	03110	35.85
0–10	.023	03040	31.35	03120	35.85
RF MILLIAMMETERS					
0–500	.63	05362	37.05	05364	41.70

WATTMETERS

Range	Range Volts	Max. Amps	4½" Model 1379	
			Cat. No.	Net Each
DYNAMOMETER TYPE				
0–75	150	1	10960	$68.10
0–150	150	2	10970	68.10
0–300	150	4	10975	68.10
0–600	300	4	10980	72.45
0–750	150	10	10990	72.45
0–1500	300	10	11000	72.45
0–3000	300	20	11010	72.45
COMPENSATED TYPE				
0–10	300	.175	10930	$90.90
0–20	300	.400	10940	90.90
0–30	300	.650	10950	90.90

MODEL 183 MULTIPLIERS



FOR AC VOLTMETERS

166 ohms/volt. Meter drop, 150 volts.

Cat. No.	Range, Volts	Resis., Ohms	Net Each
08562	0–500	58,333	$12.15
08563	0–600	75,000	13.80
08564	0–750	100,000	15.15
08565	0–1000	141,666	18.00

FOR DC VOLTMETERS

2000 ohms/volt. Meter sensitivity, 500μA.

Cat. No.	Range, Volts	Resis., Megs	Net Each
08552	0–500	1	$10.05
08553	0–750	1.5	10.65
08554	0–1000	2	10.65
08555	0–1250	2.5	10.65
08556	0–1500	3	11.25
08557	0–2000	4	11.25
08558	0–2500	5	11.55
08559	0–3000	6	11.55
08560	0–4000	8	12.30
08561	0–5000	10	13.65

Simpson Century Panel Meters

INSTRUMENTS THAT STAY ACCURATE

DC VOLTMETERS

Range	Approx. Resis., Ohms	1½" Model 2121		2½" Model 2122		3½" Model 2123		4½" Model 2124	
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–5	1000 Ohms per volt	17840	$25.65	17445	$27.45	17525	$28.35	17618	$30.90
0–8		......	......	......	......	......	......	17619	30.90
0–10		17842	25.65	17446	27.45	17527	28.35	17620	30.90
0–15		17843	25.65	17447	27.45	17528	28.35	17621	30.90
0–25		17844	25.65	17448	27.45	17529	28.35	17622	30.90
0–30		17845	25.65	17449	27.45	17530	28.35	17623	30.90
0–50		17846	25.65	17450	27.45	17531	28.35	17624	30.90
0–100		17848	25.65	17451	27.45	17532	28.35	17625	30.90
0–150		17849	25.65	17452	27.45	17533	28.35	17626	30.90
0–200		......	......	......	......	17534	28.35	17627	30.90
0–250		......	......	......	......	17535	28.35	......	......
0–300		......	......	17455	27.45	17536	28.35	17629	30.90
0–300	2000 Ohms per volt	17850	25.65	......	......	......	......	......	......
0–500		17851*	31.95	17456	28.35	17537	29.70	17630	32.10
0–750		......	......	......	......	17538	29.70	17631	32.10
0–1000		......	......	17458*	35.55	17539*	36.45	17632*	39.15

*External multiplier, Model 183, furnished; others self-contained.

DC MILLIVOLTMETERS

Range	Approx. Resis., Ohms	1½" Model 2121		2½" Model 2122		3½" Model 2123		4½" Model 2124	
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–50	10	......	......	17472	$26.25	17540	$27.45	17636	$29.70
50–0–50	20	......	......	......	......	17541	27.45	17635	29.70

DC AMMETERS

Range	Approx. Resis., Ohms	1½" Model 2121		2½" Model 2122		3½" Model 2123		4½" Model 2124	
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–1	.05	17800	$25.65	17400	$26.25	17475	$27.45	17565	$29.70
0–1.5	.033	......	......	17401	26.25	17476	27.45	......	......
0–2	.025	17801	25.65	17402	26.25	17477	27.45	17567	29.70
0–3	.017	17802	25.65	17403	26.25	17478	27.45	17568	29.70
0–5	.01	17803	25.65	17404	26.25	17479	27.45	17569	29.70
0–10	.005	17805	25.65	17405	26.25	17480	27.45	17570	29.70
0–15	.003	17806†	25.65	17406	26.25	17481	27.45	17571	29.70
0–25	.002	17807†	25.65	17407	26.25	17482	27.45	17572	29.70
0–30	.002	......	......	17408	26.25	17483	27.45	17573	29.70
0–50	.001	17808†	25.65	17409	26.25	17484	27.45	17574	29.70
0–100	10	......	......	17410†	26.25	17485†	27.45	17575†	29.70
0–150	10	......	......	......	......	17486†	27.45	17576†	29.70
0–200	10	......	......	17412†	26.25	17487†	27.45	17577†	29.70
0–300	10	......	......	......	......	17488†	27.45	17578†	29.70
0–500	10	......	......	......	......	17489†	27.45	17579†	29.70
15–0–15	.003	......	......	......	......	17490	28.95	......	......
30–0–30	.002	......	......	......	......	17491	28.95	......	......

†50 mV movement requiring external shunt, not supplied; others self-contained.

DC MILLIAMMETERS

Range	Approx. Resis., Ohms	1½" Model 2121		2½" Model 2122		3½" Model 2123		4½" Model 2124	
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–1	43	17825	$24.45	17430	$25.80	17510	$26.55	17600	$28.35
0–3	2	......	......	17431	25.80	17511	26.55	17601	28.35
0–5	2	17826	24.45	17432	25.80	17512	26.55	17602	28.35
0–10	10	17827	24.45	17433	25.80	17513	26.55	17603	28.35
0–15	6.6	17828	24.45	17434	25.80	......	......	17604	29.70
0–20	5	......	......	......	......	17515	26.55	......	......
0–25	4	17829	25.65	17436	26.25	17516	27.45	17606	29.70
0–50	2	17830	25.65	17437	26.25	17517	27.45	17607	29.70
0–100	1	17832	25.65	17438	26.25	17518	27.45	17608	29.70
0–150	.66	17833	25.65	17439	26.25	17519	27.45	17609	29.70
0–200	.5	17834	25.65	17440	26.25	17520	27.45	17610	29.70
0–250	.4	17835	25.65	17441	26.25	17521	27.45	17611	29.70
0–300	.33	17836	25.65	17442	26.25	17522	27.45	17612	29.70
0–500	.2	17837	25.65	17443	26.25	17523	27.45	17613	29.70
0–750	.13	......	......	......	......	17524	27.45	17614	29.70
0–1000	.05	......	......	17444	26.25	......	......	17615	29.70

DC MICROAMMETERS

Range	Approx. Resis., Ohms	1½" Model 2121		2½" Model 2122		3½" Model 2123		4½" Model 2124	
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–50	1800	17815	$32.10	17418	$33.00	17499	$33.75	17589	$36.30
0–100	1800	17816	28.65	17420	29.70	17501	30.90	17591	34.35
0–200	1100	17818	26.10	17422	27.00	17503	28.35	17593	30.90
0–500	90	17819	25.65	17424	26.55	17505	28.35	17595	30.30
25–0–25	1800	17820	32.25	......	......	17506	34.05	17596	36.45
50–0–50	1800	17821	28.95	17425	30.30	17507	30.90	17597	34.50
100–0–100	1100	17822	26.25	17426	27.45	17508	28.65	17598	31.35
500–0–500	43	17823	24.90	17427	26.10	17509	27.00	17599	28.65

DC GALVANOMETERS

Range	Sensitivity µA	1½" Model	2½" Model 2122		3½" Model 2123		4½" Model
		Not Available	Cat. No.	Net Each	Cat. No.	Net Each	Not Available
50–0–50	500–0–500	......	17470	$25.80	17558	$27.00	......
50–0–50	75–0–75	......	......	......	17559	30.30	......

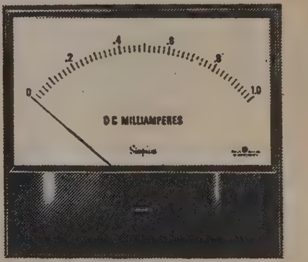
TAUT BAND DC MICROAMMETERS

Range	Approx. Resis., Ohms	1½" Model	2½" Model 2122T		3½" Model 2123T		4½" Model 2124T	
		Not Available	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–5	5750	......	......	......	17495	$62.40	17585	$66.60
0–10	4900	......	17415	$52.65	17496	54.90	17586	59.40
0–15	1960	......	17416	48.00	17497	49.20	17587	53.55
0–25	1960	......	17417	45.60	17498	47.70	17588	51.75
0–50	960	......	17419	35.85	17500	36.45	17590	39.30
0–100	500	......	17421	32.55	17502	33.75	17592	37.20
0–200	234	......	17423	30.60	......	......	17594	35.25

AC VOLTMETERS—RECTIFIER TYPE

Range	Approx. Resis., Ohms	1½" Model 2141		2½" Model 2142		3½" Model 2143		4½" Model 2144	
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–5	2000 Ohms per volt	17855	$35.25	17460	$32.55	17542	$37.20	17640	$41.25
0–10		17856	35.25	......	......	17543	37.20	17641	41.25
0–15		......	......	......	......	17544	37.20	17642	41.25
0–50		......	......	......	......	17545	37.20	17643	41.25
0–150		17860	35.25	17462	32.55	17546	37.20	17644	41.25
0–300		17861	35.25	......	......	......	......	17645	41.25

Century Series panel meters offer attractive design and easy reading. DC meters have self-shielded movements, with calibration unaffected by stray magnetic fields or magnetic mounting. AC meters have iron vane type movement. AC milliammeters and ammeters are calibrated for use on 25 through 800 Hz: AC voltmeters, 25–125 Hz. Calibration for frequencies up to 800 Hz available on request. **Flange Size:** 1½" meters. 1.75" sq.: 2½" meters, 2.38" sq.; 3½" meters, 3.00" sq.; 4½" meters, 4.66" x 4.20". **Depth Behind Panel:** 1.34" except 1½" meters, .90"; wattmeters, 1.75".



SPECIFICATIONS

Size	Model	Accuracy Full Scale	Scale Length
1½"	2121	±2%	1.25"
	2141	±3%	1.25"
2½"	2122	±2%	2.07"
	2122T	±2%	2.07"
	2142	±3%	2.07"
	2152	±2%	2.07"
3½"	2123	±2%	2.75"
	2123T	±2%	2.75"
	2143	±3%	2.75"
	2153	±2%	2.75"
	2133	±2%	2.75"
	2173	±2%	2.75"
4½"	2124	±2%	4.09"
	2124T	±2%	4.09"
	2144	±3%	4.09"
	2154	±2%	4.09"
	2134	±2%	4.09"
	2174	±2%	4.09"

DIMENSIONS

Size	Mtg. Hole	H. x W.	4 Mtg. Studs on
1½"	1.56" dia.	1.75" x 1.74"	1.32" ctrs. #4-40
2½"	2.22" dia.	2.38" x 2.38"	1.88" ctrs. #4-40
3½"	2.81" dia.*	3.00" x 3.00"	2.24" ctrs. #4-40
4½"	2.81" dia.*	4.20" x 4.66"	3.57" x 4" #6-32

*Except Models 2173, 2174, 2.75".

RF AMMETERS

Range	Approx. Imped., Ohms	2½" Model 2132	
		Cat. No.	Net Each
0–1	.343	17905	$28.65
0–2	.12	17906	28.65
0–3	.08	17907	28.65
0–5	.045	17908	28.65
0–10	.023	17909	28.65
		3½" Model 2133	
		Cat. No.	Net Each
0–1	.343	......	......
0–2	.12	17552	$31.35
0–3	.08	17554	31.35
0–5	.045	17555	31.35
0–10	.023	17557	31.35
		4½" Model 2134	
		Cat. No.	Net Each
0–1	.343	17650	$35.85
0–2	.12	17652	35.85
0–3	.08	......	......
0–5	.045	......	......
0–10	.023	17657	35.85

Simpson Century Panel Meters

INSTRUMENTS THAT STAY ACCURATE

CENTURY PANEL METERS (CONTINUED)

VOLUME LEVEL INDICATORS

Reference level: 1 mW in 600-ohm line.

Range	Approx. Resis., Ohms	1½" Model 2141		2½" Model 2142		3½" Model 2143		4½" Model 2144	
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
A Scale		17865	$39.15	17473	$43.05	17560	$43.95	17646	$48.00
A Scale♯								17662	52.20
B Scale						17561	43.95	17647	48.00
B Scale♯								17663	52.20

♯Illuminated; 12 V, 120 mA lamps.

DECIBEL METERS

Zero power level: 6 mW in 500-ohm line.

Range	Approx. Resis., Ohms	1½" Model 2141		2½" Model 2142		3½" Model 2143		4½" Model 2144	
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
−10 to +6 dB	5000			17465	$36.30	17549	$38.70	17648	$39.75

AC VOLTMETERS—IRON-VANE TYPE

Range	Approx. Imped., Ohms	1½" Model		2½" Model 2152		3½" Model 2153		4½" Model 2154	
		Not Available		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–5	33					17725	$26.10		
0–10	133			17685	$24.90	17726	26.10	17771	$29.10
0–15	300			17686	24.90	17727	26.10	17772	29.10
0–25	833			17687	24.90	17728	26.10	17773	29.10
0–50	3333			17688	24.90	17729	26.10	17774	29.10
0–100	16,666					17730	27.00	17775	29.10
0–150	25,000			17690	26.10	17731	27.90	17776	29.70
0–250	41,166			17691	26.10	17732	27.40	17777	29.70
0–300	50,000			17692	26.10	17733	27.90	17778	29.70
0–500	83,333					17734*	35.40	17779*	37.65

*External multiplier, Model 183, furnished; others self-contained.

AC MILLIAMMETERS—IRON-VANE TYPE

Range	Approx. Imped., Ohms	1½" Model		2½" Model 2152		3½" Model 2153		4½" Model 2154	
		Not Available		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–10	1650			17680	$23.25			17760	$26.40
0–50	80			17681	23.25	17716	$24.90	17761	26.40
0–100	17.2			17682	23.25	17717	24.90	17762	26.40
0–250	3.15			17683	23.25	17718	24.90	17763	26.40
0–500	.9			17684	23.25	17719	24.90	17764	26.40

AC AMMETERS—IRON-VANE TYPE

Range	Approx. Imped., Ohms	1½" Model		2½" Model 2152		3½" Model 2153		4½" Model 2154	
		Not Available		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–1	.213			17665	$23.70	17695	$24.90	17740	$26.40
0–1.5	.105			17666	23.70				
0–2	.065					17697	24.90	17742	26.40
0–3	.028			17667	23.70	17698	24.90	17743	26.40
0–5	.008			17668	23.70	17699	24.90	17744	26.40
0–10	.004			17669	23.70	17700	24.90	17745	26.40
0–15	.003			17670	23.70	17701	24.90	17746	26.40
0–25	.002			17671	24.45	17702	25.80	17747	27.45
0–30	.002			17672	24.45	17703	25.80	17748	27.45
0–50	.001			17673	24.45	17704	25.80	17749	27.45
0–75	.0002					17710	24.90	17755	29.70
0–100	.008			17674†	23.25	17706†	24.90	17751†	26.40
0–150	.008					17707†	24.90	17752†	26.40
0–200	.008					17708†	24.90	17753†	26.40
0–300	.008					17709†	24.90	17754†	26.40

†Five ampere movement requiring external current transformer, not supplied; others self-contained.

WATTMETERS
DYNAMOMETER TYPE

Range	Range Volts	Max. Amps	3½" Model 2173	
			Cat. No.	Net Each
0–75	150	1	17881	$54.90
0–150	150	2	17882	54.90
0–300	150	4	17883	54.90
0–600	300	4	17884	59.55
0–750	150	10	17885	59.55
0–1500	300	10	17886	59.55
0–3000	300	20	17887	59.55

Range	Range Volts	Max. Amps	4½" Model 2174	
			Cat. No.	Net Each
0–75	150	1	17896	$68.10
0–150	150	2	17897	68.10
0–300	150	4	17898	68.10
0–600	300	4	17899	72.45
0–750	150	10	17900	72.45
0–1500	300	10	17901	72.45
0–3000	300	20	17902	72.45

WATTMETERS
COMPENSATED TYPE

Range	Range Volts	Max. Amps	3½" Model 2173	
			Cat. No.	Net Each
0–10	300	.175	17875	$87.45
0–20	300	.4	17876	87.45
0–20	500	.175	17878	87.45
0–30	300	.65	17877	87.45
0–30	500	.3	17879	87.45
0–50	500	.5	17880	87.45

Range	Range Volts	Max. Amps	4½" Model 2174	
			Cat. No.	Net Each
0–10	300	.175	17890	$90.90
0–20	300	.4	17891	90.90
0–20	500	.175	17893	90.90
0–30	300	.65	17892	90.90
0–30	500	.3	17894	90.90
0–50	500	.5	17895	90.90

DUAL RANGE AC VOLTMETERS/AMMETERS

Ranges	Approx. Imped., Ohms	3½" Model 2153		4½" Model 2154	
		Cat. No.	Net Ea.	Cat. No.	Net Ea.
0-150 V, 0-5 A	15030, .021	17694	35.55	17739	37.80

MODEL 2100 4½" PORTABLE INSTRUMENT WITH BUILT-IN CENTURY SERIES METERS

Best suited for electric measurements in schools, labs and industry. Features large, easy to read scale, knife-edge pointer; non-fogging glass lens. Self-shielded DC and AC rectifier movements. Four color-coded, multi-range binding posts, one common and 3 for range selection. Rear hole permits mounting fuse holder; nylon plug covers hole when not in use. **Accuracy:** DC instruments, ±2% full-scale; AC instruments, ±3% full-scale. **Size:** 5.15" w. x 5.55" d. x 5.70" h.

Simpson Model 2100 Portable Instrument—Comes in white case with black and white panel. Built-in Century meters with following ranges are stock items.

Wide-Vue meters, other ranges available on special order.

DC METERS

Cat. No.	Ranges	Net Each
17950	0–1.5–3–30 Amps	$42.60
17951	0–1–10–100 mA	42.60
17952	0–25–50–500 mA	42.60
17953	0–10–50–250 μA	81.60
17954	0–1.5–3–30 V	42.60
17955	0–10–25–100 V	43.65
17960	0–1K–100K ohms	47.70

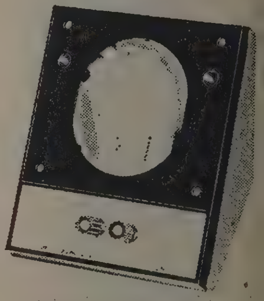
AC METERS

Cat. No.	Ranges	Net Each
17956	0–3–15–150 V	$60.90
17957	0–30–150–300 V	60.90
17958	0–150–300–600 V*	56.25

*Moving iron vanetype; other AC meters rectifier type.

D.C. AMPERES
Simpson

Model 2100



Model 2100 Case Kit

Simpson Model 2100, Catalog No. 17949 Case Kit—Case assembly for mounting a 4½" meter to meet specific needs. Includes case, panel assembly, legend overlay, two binding posts, nylon plug and hardware. Net Each.............................**$9.90**

Simpson Panel Meters

INSTRUMENTS THAT STAY ACCURATE

RECTANGULAR AND ROUND PANEL METERS

ACCURACY AND SCALE LENGTH

DC meters and AC iron vane type meters, ±2% full scale; dB and rectifier types, ±3% full scale at 25° C, 60 Hz sine wave; VU meters per ANSI specs.

Size	Models	Scale	Size	Models	Scale
2½"	125, 125T, 127, 127T, 135, 137, 145, 147	1.8"	3½"	55, 57, 75, 77	2.3"
2½"	155, 157, 175, 177	1.6"	4½"	29, 29T, 39, 49, 142	3.8"
3½"	25, 25T, 27, 27T, 35, 37, 45, 47	2.5"	4½"	59, 79	3.5"

DC meters: All have self-shielded movement. Calibration not affected by strong magnetic fields or magnetic mounting.

AC meters: All have iron vane type movement. AC Milliammeters and Ammeters are calibrated for use on 25–800 Hz; all AC Voltmeters calibrated for use on 25–125 Hz. Wattmeters have dynamometer movement for magnetic or non-magnetic panels; calibrated for 25–125 Hz. AC Voltmeters available for other frequencies; specify and request prices. **Note**—Special dials are available for substitution; write for availability and prices before ordering.

DIMENSIONS

Model	Fig.	Size, Inches
127, 127T, 137, 147, 157	A	2.37 sq.; body, 2.17 dia. x 1.45 d.
177	A	2.37 sq.; body, 2.17 dia. x 2.02 d.
125, 125T, 135, 145, 155	B	Flange, 2.69 dia.; body, 2.17 dia. x 1.39 d.
175	B	Flange, 2.69 dia.; body, 2.17 dia. x 1.98 d.
27, 27T, 37, 47	A	3 w. x 3.12 h.; body, 2.75 dia. x 1.36 d.
57	A	3 w. x 3.12 h.; body, 2.75 dia. x 1.45 d.
77	A	3 w. x 3.12 h.; body, 2.75 dia. x 2.11 d.
25, T, 35, 45,	B	Flange, 3.5 dia.; body, 2.75 dia. x 1.31 d.
55	B	
75	B	Flange, 3.5 dia.; body, 2.75 dia. x 2.06 d.
29, 29T, 39, 49	C	4.66 w. x 4.2 h.; body, 2.75 dia. x 1 d.
59	C	4.66 w. x 4.2 h.; body, 2.75 dia. x 1.09 d.
79	C	4.66 w. x 4.2 h.; body, 2.75 dia. x 1.68 d.
142	C	4.25 w. x 3.94 h.; body, 3.25 dia. x 1 d.

		2½" Case Styles				3½" Case Styles				4½" Case Styles	
		Round Model 125		Square Model 127		Round Model 25		Square Model 27		Rectangular Model 29	
Range	Approx. Resis., Ohms	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
					DC VOLTMETERS						
0–1.5	1000 Ohms per volt	08850	$27.45	09020	$27.45	......	......	07290	$28.35	07620	$30.90
0–3		08860	27.45	09030	27.45	07070	$28.35	07300	28.35	07630	30.90
0–5		08870	27.45	09040	27.45	07080	28.35	07310	28.35	07640	30.90
0–8		08880	27.45	09050	27.45	......	......	07320	28.35	07650	30.90
0–10		08890	27.45	09060	27.45	07100	28.35	07330	28.35	07660	30.90
0–15		08900	27.45	09080	27.45	07110	28.35	07350	28.35	07670	30.90
0–25		08910	27.45	09090	27.45	07120	28.35	07360	28.35	07680	30.90
0–30		08920	27.45	09100	27.45	07130	28.35	07370	28.35	07690	30.90
0–50		08930	27.45	09110	27.45	07140	28.35	07380	28.35	07700	30.90
0–100		08940	27.45	09130	27.45	07150	28.35	07400	28.35	07710	30.90
0–150		08950	27.45	09140	27.45	07160	28.35	07410	28.35	07720	30.90
0–200		08960	27.45	09160	27.45	07170	28.35	07430	28.35	07730	30.90
0–250		08970	27.45	09170	27.45	07180	28.35	07440	28.35	07740	30.90
0–300		......	......	09180	27.45	07190	28.35	07450	28.35	07750	30.90
0–500		......	......	09200	28.35	07200	29.70	07470	29.70	07760	32.10
0–750	2000 Ohms per volt	......	......	......	......	07210	29.70	07490	29.70	07770	32.10
0–1000		......	......	......	......	07220*	36.45	07495*	36.45	07780*	39.15
0–1500		......	......	......	......	07230*	36.45	07520*	36.45	07790*	39.45
0–2000		......	......	09225*	35.40	07240*	37.80	07530*	37.80	07800*	40.20
0–2500		......	......	......	......	......	......	07550*	38.40	07810*	40.95
0–3000		......	......	......	......	07260*	39.00	07560*	39.00	07820*	41.40
0–4000		......	......	......	......	......	......	......	......	07830*	41.70
0–5000		......	......	......	......	07280*	39.75	07600*	39.75	07840*	43.65

*External multiplier, Model 183, furnished; others self-contained.

					DC MILLIVOLTMETERS						
0–50	10	06970	$26.25	06990	$26.25	06910	$27.45	06930	$27.45	06950	$29.70
0–100	20	......	......	......	......	......	......	06940	27.45	06960	29.70
					DC AMMETERS						
0–1	.05	01460	$26.25	01680	$26.25	00005	$27.45	00230	$27.45	00450	$29.70
0–1.5	.033	01470	26.25	01690	26.25	00020	27.45	00240	27.45	00460	29.70
0–2	.025	......	......	01709	26.25	00030	27.45	00250	27.45	00470	29.70
0–3	.017	01490	26.25	01710	26.25	00040	27.45	00260	27.45	00480	29.70
0–5	.01	01500	26.25	01720	26.25	00050	27.45	00270	27.45	00490	29.70
0–10	.005	01510	26.25	01730	26.25	00060	27.45	00280	27.45	00500	29.70
0–15	.003	01520	26.25	01740	26.25	00070	27.45	00290	27.45	00512	29.70
0–25	.002	01530	26.25	01750	26.25	00080	27.45	00300	27.45	00520	29.70
0–30	.0017	01540	26.25	01760	26.25	00090	27.45	00310	27.45	00530	29.70
0–50	.001	01550	26.25	01770	26.25	00099	27.45	00320	27.45	00540	29.70
0–75	10	01560†	26.25	01780†	26.25	00110†	27.45	00330†	27.45	00550†	29.70
0–100	10	01570†	26.25	01790†	26.25	00120†	27.45	00340†	27.45	00560†	29.70
0–150	10	01580†	26.25	01800†	26.25	00130†	27.45	00350†	27.45	00570†	29.70
0–200	10	01590†	26.25	01810†	26.25	00140†	27.45	00360†	27.45	00580†	29.70
0–250	10	......	......	......	......	00151†	27.45	......	......	00590†	29.70
0–300	10	01610†	26.25	......	......	00160†	27.45	00380†	27.45	00600†	29.70
0–500	10	01620†	26.25	......	......	00170†	27.45	00390†	27.45	00610†	29.70
0–750	10	......	......	......	......	00177†	27.45	00400†	27.45	00620†	29.70
0–1000	10	......	......	......	......	00188†	27.45	00410†	27.45	00630†	29.70
15–0–15	.0033	......	......	......	......	00200	28.95	......	......	00640	30.45
30–0–30	.0017	01660	26.55	01880	26.55	00210	28.95	00430	28.95	00650	30.45
50–0–50	.001	01670	26.55	01890	26.55	00220	28.95	00440	28.95	00660	30.45

†50 mV movement calibrated for 5 foot leads and external shunt, not supplied; others self-contained.

RECTIFIER TYPE AC METERS

Available only in 3½" and 4½" case styles.

	3½" Case Styles			
	Round Model 45		Square Model 47	
Range	Cat. No.	Net Each	Cat. No.	Net Each
	AC MILLIAMMETERS			
0–1	06820	$35.85	06850	$35.85
0–2	......	......	06860	35.85
0–5	06840	35.85	06870	35.85
	AC MICROAMMETERS			
0–100	04080	$41.25	04120	$41.25
0–300	......	......	04140	35.85
0–500	......	......	04150	35.55
	AC VOLTMETERS			
2000 ohms/volt.				
0–1	......	......	08120	$37.20
0–3	......	......	08130	37.20
0–5	07960	$37.20	08140	37.20
0–10	07970	37.20	08150	37.20
0–15	......	......	08160	37.20
0–50	......	......	08170	37.20
0–100	......	......	08180	37.20
0–150	08010	37.20	08190	37.20
0–300	08020	37.20	08200	37.20

	4½" Case Style	
	Rectangular Model 49	
Range	Cat. No.	Net Each
	AC MILLIAMMETERS	
0–1	06880	$39.15
0–2	06890	39.15
0–5	06900	39.15
	AC MICROAMMETERS	
0–100	04160	$43.80
0–200	04170	39.75
0–300	04180	39.15
0–500	04190	38.40
	AC VOLTMETERS	
2000 ohms/volt.		
0–1	08300	$41.25
0–3	08310	41.25
0–5	08320	41.25
0–10	08330	41.25
0–15	08340	41.25
0–50	08350	41.25
0–100	08360	41.25
0–150	08370	41.25
0–300	08371	41.25

LISTING CONTINUED ON FOLLOWING PAGE

CURRENT PRICES WILL APPLY ON ALL LINES

Simpson Panel Meters

INSTRUMENTS THAT STAY ACCURATE

RECTANGULAR AND ROUND PANEL METERS (CONT'D)

DC MICROAMMETERS

Range	Approx. Resis., Ohms	2½″ Case Styles				3½″ Case Styles				4½″ Case Styles Rectangular Model 29	
		Round Model 125		Square Model 127		Round Model 25		Square Model 27			
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–50	1800	04210	$33.00	04260	$33.00	03760	$33.75	03860	$33.75	03960	$36.30
0–100	1800	04220	29.70	04270	29.70	03770	30.90	03870	30.90	03970	34.35
0–200	1100	04230	27.00	04280	27.00	03780	28.35	03880	28.35	03980	30.90
0–500	90	04240	26.55	......	......	03790	27.90	03890	27.90	03990	30.30
25–0–25	1800	04192	34.35	04243	34.35	03800	34.05	03900	34.05	04000	36.45
50–0–50	1800	04194	30.30	04245	30.30	03810	30.90	03910	30.90	04010	34.50
100–0–100	1100	04196	27.45	04247	27.45	03820	28.65	03920	28.65	04020	31.35
500–0–500	43	......	......	......	......	03830	25.80	03930	25.80	04030	28.65

TAUT BAND DC MICROAMMETERS

Range	Approx. Resis., Ohms	2½″ Case Styles				3½″ Case Styles				4½″ Case Styles Rectangular Model 29T	
		Round Model 125T		Square Model 127T		Round Model 25T		Square Model 27T			
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–5	5750	......	......	......	......	03738	$62.40	03838	$62.40	03938	$66.75
0–10	4900	04197	$52.65	04246	$52.65	03739	54.90	03839	54.90	03939	59.40
0–15	1960	04199	48.00	04248	48.00	03741	49.20	03841	49.20	03941	53.55
0–25	1960	04201	45.60	04251	45.60	03751	47.70	03851	47.70	03951	51.75
0–50	960	04211	35.85	04261	35.85	03761	36.45	03861	36.45	03961	39.30
0–100	500	......	......	......	......	03771	33.75	03871	33.75	03971	37.20

DC MILLIAMMETERS

Range	Approx. Resis., Ohms	2″½ Case Styles				3½″ Case Styles				4½″ Case Styles Rectangular Model 29	
		Round Model 125		Square Model 127		Round Model 25		Square Model 27			
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–1	43	05580	$25.80	05760	$25.80	04610	$26.55	04790	$26.55	05070	$28.35
0–1.5	43	05590	25.80	05780	25.80	04620	26.55	04810	26.55	05080	28.35
0–3	2	......	......	05790	25.80	04630	26.55	04820	26.55	05090	28.35
0–5	2	05610	25.80	05800	25.80	04640	26.55	04830	26.55	05100	28.35
0–10	10	05620	25.80	05810	25.80	04650	26.55	04840	26.55	05110	28.35
0–15	6.6	05630	25.80	05830	25.80	04660	26.55	04860	26.55	05120	28.35
0–20	5	......	......	......	......	04670	26.55	04880	26.55	05130	28.35
0–25	4	05650	26.25	05860	26.25	04680	27.45	04890	27.45	05140	29.70
0–50	2	05660	26.25	05880	26.25	04690	27.45	04910	27.45	05150	29.70
0–75	1.3	05670	26.25	......	......	......	......	......	......	......	......
0–100	1	05680	26.25	05910	26.25	04710	27.45	04940	27.45	05170	29.70
0–150	.66	05690	26.25	05930	26.25	04720	27.45	04960	27.45	05180	29.70
0–200	.5	05700	26.25	05940	26.25	04730	27.45	04980	27.45	05190	29.70
0–250	.4	05710	26.25	05960	26.25	04740	27.45	05000	27.45	05200	29.70
0–300	.33	05720	26.25	......	......	04750	27.45	05010	27.45	05210	29.70
0–500	.2	05730	26.25	05990	26.25	04760	27.45	05030	27.45	05220	29.70
0–750	.13	......	......	......	......	......	......	05050	27.45	05230	29.70
0–1000	.05	......	......	06020	26.25	04780	27.45	05060	27.45	05240	29.70

AC VOLTMETERS—IRON-VANE TYPE

Range	Imped., Ohms	2½″ Case Styles				3½″ Case Styles				4½″ Case Styles Rectangular Model 59	
		Round Model 155		Square Model 157		Round Model 55		Square Model 57			
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–1.5	3	......	......	......	......	......	......	......	......	08710	$29.10
0–3	12	......	......	......	......	......	......	08540	$26.10	08720	29.10
0–5	33	......	......	09390	$24.90	08410	$26.10	08550	26.10	08730	29.10
0–10	133	......	......	09400	24.90	08420	26.10	08566	26.10	08740	29.10
0–15	300	09270	$24.90	09420	24.90	08430	26.10	08580	26.10	08750	29.10
0–25	833	09280	24.90	09440	24.90	08440	26.10	08599	26.10	08760	29.10
0–50	3333	09290	24.90	09450	24.90	08450	26.10	08610	26.10	08770	29.10
0–100	16,666	......	......	09460	25.65	08460	27.00	08620	27.00	08780	29.10
0–150	25,000	09310	26.10	09470	26.10	08470	27.90	08630	27.90	08790	29.70
0–250	41,166	09320	26.10	09490	26.10	08480	27.90	08650	27.90	08800	29.70
0–300	50,000	09330	26.10	09500	26.10	08490	27.90	08660	27.90	08810	29.70
0–500	83,333	09340*	33.00	09520*	33.00	08500*	35.40	08680*	35.40	08820*	37.65
0–750	125,000	......	......	......	......	08510*	35.40	08690*	35.40	08830*	40.95
0–1000	166,666	......	......	......	......	......	......	08700*	40.95	08840*	42.30

*External multiplier, Model 183, furnished; others self-contained.

AC MILLIAMMETERS—IRON-VANE TYPE

0–10	1650	06030	$23.70	06100	$23.70	......	......	05440	$24.90	05510	$26.40
0–15	887	......	......	......	......	05380	$24.90	05499	24.90	......	......
0–25	270	......	......	......	......	......	......	05460	24.90	05530	26.40
0–50	80	06060	23.70	06130	23.70	05400	24.90	05470	24.90	05540	26.40
0–100	17.2	......	......	06140	23.70	05410	24.90	05480	24.90	05550	26.40
0–250	3.15	06080	23.70	06150	23.70	05420	24.90	05490	24.90	05560	26.40
0–500	.9	06090	23.70	06152	23.70	05430	24.90	05500	24.90	05570	26.40

DC GALVANOMETERS

Dial scales calibrated 50–0–50, but with sensitivities as listed.

Sensitivity µA	2½″ Case Styles			
	Round Model 125		Square Model 127	
	Cat. No.	Net Each	Cat. No.	Net Each
500–0–500	03670	$25.80	03690	$25.80
75–0–75	......	......	03680	27.90

Sensitivity µA	3½″ Case Styles			
	Round Model 25		Square Model 27	
	Cat. No.	Net Each	Cat. No.	Net Each
500–0–500	03630	$27.00	03650	$27.00
75–0–75	......	......	03640	30.30

Sensitivity µA	4½″ Case Styles	
	Round Model 29	
	Cat. No.	Net Each
500–0–500	03654	$28.65
75–0–75	03652	33.00

RF AMMETERS

Range	2½″ Case Styles			
	Round Model 135		Square Model 137	
	Cat. No.	Net Each	Cat. No.	Net Each
0–1	01901	$28.65	01980	$28.65
0–1.5	01910	28.65	02000	28.65
0–2	......	......	02010	28.65
0–2.5	01930	28.65	......	......
0–3	01940	28.65	02040	28.65
0–5	01950	28.65	02060	28.65
0–8	......	......	02080	28.65
0–10	......	......	02090	28.65

Range	3½″ Case Styles			
	Round Model 35		Square Model 37	
	Cat. No.	Net Each	Cat. No.	Net Each
0–1	00670	$31.35	00750	$31.35
0–1.5	......	......	00770	31.35
0–2	......	......	00780	31.35
0–2.5	......	......	00800	31.35
0–3	00710	31.35	00810	31.35
0–5	00720	31.35	00830	31.35
0–8	......	......	00850	31.35
0–10	00736	31.35	00860	31.35

Range	4½″ Case Styles	
	Rectangular Model 39	
	Cat. No.	Net Each
0–1	00870	$35.85
0–1.5	00880	35.85
0–2	00890	35.85
0–2.5	00900	35.85
0–3	00910	35.85
0–5	00920	35.85
0–8	00930	35.85
0–10	00940	35.85

RF MILLIAMMETERS

Range	3½″ Case Styles			
	Round Model 35		Square Model 37	
	Cat. No.	Net Each	Cat. No.	Net Each
0–115	05250	$56.25	05290	$56.25
0–150	05260	37.05	05300	37.05
0–250	05270	37.05	05310	37.05
0–500	05280	37.05	05320	37.05

Range	4½″ Case Styles	
	Rectangular Model 39	
	Cat. No.	Net Each
0–115†	05330	$58.95
0–150	05340	41.70
0–250	05350	41.70
0–500	05360	41.70

†0–100 uniformly divided scale.

LISTING CONTINUED ON FOLLOWING PAGE

RECTANGULAR AND ROUND PANEL METERS (CONT'D)

Range	Imped., Ohms	2½" Case Styles				3½" Case Styles				4½" Case Styles	
		Round Model 155		Square Model 157		Round Model 55		Square Model 57		Rectangular Model 59	
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
AC AMMETERS—IRON-VANE TYPE											
0-1	.213	02100	$23.70	02270	$23.70	00950	$24.90	01120	$24.90	01290	$26.40
0-1.5	.105					00960	24.90	01130	24.90	01302	26.40
0-2	.065	02120	23.70	02290	23.70	00970	24.90	01140	24.90	01310	26.40
0-3	.028	02130	23.70	02300	23.70	00980	24.90	01145	24.90	01320	26.40
0-5	.008	02140	23.70	02310	23.70	00990	24.90	01160	24.90	01330	26.40
0-10	.004	02150	23.70	02320	23.70	01001	24.90	01170	24.90	01340	26.40
0-15	.0025	02160	23.70	02330	23.70	01010	24.90	01180	24.90	01350	26.40
0-25	.002	02170	24.45	02340	24.45	01020	25.80	01190	25.80	01360	27.45
0-30	.0015	02180	24.45	02350	24.45	01030	25.80	01200	25.80	01370	27.45
0-50	.001	02190	24.45	02360	24.45	01040	25.80	01210	25.80	01380	27.45
0-75	.0002					03432	27.90	03434	27.90	03436	29.70
0-75	.008	02200#	23.70	02370#	23.70						
0-100	.008	02210#	23.70	02380#	23.70	01060#	24.90	01230#	24.90	01400#	26.40
0-150	.008	02220#	23.70	02390#	23.70	01070#	24.90	01240#	24.90	01410#	26.40
0-200	.008					01080#	24.90	01250#	24.90	01420#	26.40
0-250	.008	02240#	23.70	02410#	23.70	01090#	24.90	01260#	24.90	01430#	26.40
0-300	.008			02420#	23.70	01100#	24.90	01270#	24.90	01440#	26.40
0-500	.008	02260#	23.70	02422#	23.70	01110#	24.90	01280#	24.90	01450#	26.40

5 ampere movement requiring external current transformer, not supplied; others self-contained.

Range	Max. Volts	Max. Amps	2½" Case Styles				3½" Case Styles				4½" Case Styles	
			Round Model 175		Square Model 177		Round Model 75		Square Model 77		Rectangular Model 79	
			Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
WATTMETERS—DYNAMOMETER TYPE												
0-75	150	1			10860	$52.20	10580	$54.90	10650	$54.90	10720	$68.10
0-150	150	2	10800	$52.20							10730	68.10
0-300	150	4					10600	54.90	10670	54.90	10740	68.10
0-600	300	4							10680	59.55	10750	72.45
0-750	150	10			10900	57.30	10620	59.55	10690	59.55	10760	72.45
0-1500	300	10			10910	57.30			10700	59.55	10770	72.45
0-3000	300	20			10920	57.30			10710	59.55	10780	72.45
WATTMETERS—COMPENSATED TYPE												
0-10	300	.175							10642	$83.25	10712	$86.55
0-20	300	.4									10714	86.55
0-30	300	.65									10715	86.55
0-30	500	.3									10718	86.55
0-50	500	.5									10719	86.55

VOLUME LEVEL INDICATORS

Range	3½" Case Styles			
	Round Model 45		Square Model 47	
	Cat. No.	Net Each	Cat. No.	Net Each
A Scale			10450	$43.95
B Scale				

Range	4½" Case Styles	
	Rectangular Model 142	
	Cat. No.	Net Each
A Scale	10460	$48.00
A Scale#	10470	52.20
B Scale	10530	48.00
B Scale#	10540	52.20

#Illuminated; 6 V, 150 mA lamps.

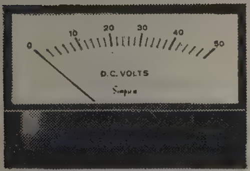
DECIBEL METERS

Reference level: 1 mW, 600-ohm line.

Range	3½" Case Styles		
	Round	Square Model 47	
	Not Available	Cat. No.	Net Each
−10 to +6 dB		03450	$37.20

Range	4½" Case Styles	
	Rectangular Model 49	
	Cat. No.	Net Each
−10 to +6 dB	03460	$40.05

DESIGNER SERIES PANEL METERS



Molded black phenolic-cased panel meters for compact equipment designs. Clean, professional styling. All have self-shielded spring backed jewel movement with ±2% accuracy and utilize maximum scale length for full readability. **Size:** Models 523, 543 and 553: 3.95" w. x 1.81" d. (behind panel) x 2.67" h.; mtg. ctrs., 2.936". Models 524, 544 and 554: 4½" w. x 1.81" d. (behind panel) x 2.9" h.; mtg. ctrs., 3½". All models supplied with necessary mounting and terminal hardware. Knife-edge pointer.

Range	Approx. Resis., Ohms	3½" Case Style Model 523		4½" Case Style Model 524	
		Cat. No.	Net Each	Cat. No.	Net Each
DC VOLTMETERS					
0-5	1000 Ohms per volt	15038	$28.35	15108	$30.90
0-10		15039	28.35	15109	30.90
0-15		15040	28.35	15110	30.90
0-30		15042	28.35	15112	30.90
0-50		15044	28.35	15114	30.90
0-100		15045	28.35	15111	30.90
0-150		15046	28.35	15116	30.90
DC MILLIVOLTMETERS					
0-50	10	15048	$27.00	15118	$29.70
DC AMMETERS					
0-1	.05	15031	$27.45	15101	$29.70
0-3	.017	15032	27.45	15102	29.70
0-5	.01	15033	27.45	15103	29.70
0-10	.005	15030	27.45	15100	29.70
0-15	.003	15034	27.45	15104	29.70
0-25	.002	15035	27.45	15105	29.70
0-50	.001	15036	27.45	15106	29.70
DC MILLIAMMETERS					
0-1	43	15000	$26.55	15070	$28.35
0-5	2	15001	26.55	15076	28.35
0-10	10	15002	26.55	15077	28.35
0-50	2	15003	27.45	15078	29.70
0-100	1	15010	27.45	15080	29.70
0-200	.5	15004	27.45	15079	29.70
0-300	.33	15012	27.45	15081	29.70
0-500	.2	15013	27.45	15082	29.70

DC MICROAMMETERS

Range	Approx. Resis., Ohms	3½" Case Style Model 523		4½" Case Style Model 524	
		Cat. No.	Net Each	Cat. No.	Net Each
0-15	1960	15014	$48.75	15092	$53.55
0-25	2100	15015	41.70	15085	45.90
0-50	1800	15017	33.75	15087	36.30
0-100	1800	15019	30.90	15089	34.35
0-200	1100	15021	28.35	15091	30.90
0-500	90	15022	27.90	15093	30.30
25-0-25	1800	15023	34.05	15094	36.45
50-0-50	1800	15025	30.90	15095	34.50
100-0-100	1100	15027	28.65	15097	31.35
500-0-500	43	15024	27.00	15096	28.65

AC VOLTMETERS—IRON-VANE TYPE

Range	Approx. Resis., Ohms	3½" Case Style Model 553		4½" Case Style Model 554	
		Cat. No.	Net Each	Cat. No.	Net Each
0-150	25,000	15060	$27.90	15130	$29.70
0-250	41,166	15061	27.90	15131	29.70
0-300	50,000	15062	27.90	15132	29.70
AC AMMETERS—IRON-VANE TYPE					
0-1	.213	15049	$24.90	15121	$28.95
0-5	.008	15050	24.90	15120	28.95
0-10	.004	15052	24.90	15122	28.95
0-15	.003	15051	24.90	15123	28.95
0-25	.002	15053	24.90	15125	29.70
0-50	.001	15054	24.90	15124	29.70
0-100	.008	15056*	24.90	15127*	28.95
0-150	.008	15057*	24.90	15128*	28.95

*Requires external current transformer, not supplied.

Range	Approx. Resis., Ohms	3½" Case Style Model 543		4½" Case Style Model 544	
		Cat. No.	Net Each	Cat. No.	Net Each
VOLUME LEVEL INDICATORS					
A Scale		15064	$43.95	15134	$48.00
A Scale#		15065	48.45	15135	52.20
B Scale#		15066	48.45	15136	52.20

#Illuminated; 28 V, 220 mA lamps.

Simpson Panel Meters

INSTRUMENTS THAT STAY ACCURATE

EDGEWISE PANEL METERS MODELS 3623 AND 3643

Self-shielding, 1⁵⁄₁₆″ core magnet movement. Front bezel zero adjust on right side. Horizontal mounting is standard; vertical available on special order. Accuracy: ±2% is standard; ±1% available on special order. Scale Length: 2.6″. Illuminated models are available on special order. Types: DC and AC rectifier, pivot and jewel or taut band. Size: 3.6″ w. x 1.125″ h. x 4.33″ d. behind panel.

MODEL 3623 DC PANEL METERS

Range	Approx. Resis., Ohms	Cat. No.	Net Each
MICROAMMETERS			
0–25*	2730	16862	$48.75
0–50*	1010	16863	45.90
0–100*	400	16864	43.35
0–200	400	16865	40.80
0–500	166	16866	39.60
25–0–25	1010	16867	46.35
MILLIAMMETERS			
0–1	62	16868	$38.70
4–20	1	16869	42.60
MILLIVOLTMETER			
0–50	10	16870	$39.75
VOLTMETERS			
0–25	1000 Ohms per volt	16873	$40.95
0–50		16874	40.95
0–10		16880	40.95
0–15		16881	40.95

*Taut-band movement.

MODEL 3643 AC PANEL METERS

Range	Approx. Resis., Ohms	Cat. No.	Net Each
0–5 AAC#	....	16871	$54.45
100–130 VAC†	500Ω/V	16879	99.60

#Rectifier type, internal transformer burden 0.5 VA. †Segmental.

EDGEWISE PANEL METERS MODELS 1521, 1522, 1541 AND 1542

For mounting wherever space is a problem. Supplied with mounting hardware, including bezel and nuts for quick, easy mounting. Accuracy: ±2% of full scale. Terminals: Stud type on ammeters; solder type on all others. Size: 1521, 1¾″ w. x 2″ d. x 1.13″ h. overall; mtg. ctrs. 2″; cutout 1.812″ x .53″; scale 1⅜″ lg. 1522, 2½″ w. x 3½″ d. x 1.72″ h. overall; mtg. ctrs. 2.938″; cutout 2.56″ x .68″; scale 1⅞″ lg. Vertical mounting available on special order, also available in rectifier type AC voltmeters.

Range	Resis., Ohms	1½″ Case Styles Model 1521		2½″ Case Styles Model 1522	
		Cat. No.	Net Each	Cat. No.	Net Each
DC MILLIVOLTMETERS					
0–50	10	07013	$26.25	07011	$28.95
DC VOLTMETERS					
0–10	1000 Ohms per volt	10354	$24.90	10360	$27.45
0–15		10355	24.90	10370	27.45
0–25		10356	24.90	10375	27.45
0–50		10357	24.90	10380	27.45
0–150		10358	24.90	10390	27.45
0–500	2000Ω/V	10359	25.20	10410	27.75
DC MICROAMMETERS					
0–25	3150	......	......	04560	$40.20
0–50	1800	04553	$32.85	04570	35.40
0–100	1100	04554	29.10	04580	31.95
0–200	290	04555	26.25	04590	28.95
0–500	90	04556	25.65	04600	27.90
DC MILLIAMMETERS					
0–1	20	06811	$24.45	06710	$27.00
0–5	2.5	06812	24.45	06720	27.00
0–10	13.5	06813	24.45	06730	27.00
0–25	5.4	06815	25.65	06740	28.20
0–50	2.7	06816	25.65	06750	28.20
0–100	1.35	06817	25.65	06760	28.20
0–200	.5	06818	25.65	......	......
0–500	.27	06819	25.65	06810	28.20
DC AMMETERS					
0–5	.01	......	......	03390	$28.95
0–25	.002	......	......	03420	28.95

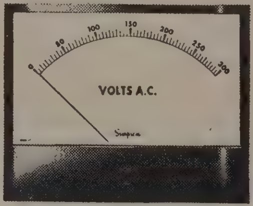
STACKING EDGEWISE PANEL METERS MODELS 1622, 1642, 1921 AND 1941

Stack horizontally or vertically. Feature self-shielding core magnet meter movement to eliminate protruding barrel. Steel housing, plastic window, dust-proof construction. Accuracy: DC, ±2% of full scale; AC rectifier type, ±3% of full scale. Terminals: 1622 and 1642, 6-32 studs; 1921 and 1941, solder type. Size: 1622 and 1642, 2.35″ w. x .53″ h. x 3.48″ d. overall; 1921 and 1941, 1.69″ w. x 0.50″ h. x 2.30″ d. overall. Available as vertical mount on special order.

Range	Resis., Ohms	1½″ Case Styles Model 1921		2½″ Case Styles Model 1622	
		Cat. No.	Net Each	Cat. No.	Net Each
DC MILLIVOLTMETERS					
0–50	20	18028	$27.45	18029	$29.10
DC VOLTMETERS					
0–10	5000 Ohms per volt	18000	$31.50	18006	$33.30
0–15		18001	31.50	18007	33.30
0–25		18002	31.50	18008	33.30
0–50		18003	31.50	18009	33.30
0–150		18004	31.50	18010	33.30
0–500		......	......	18011	33.60
DC MICROAMMETERS					
0–25	7760	18030	$40.50	18035	$42.30
0–50	2020	10831	40.20	18036	41.70
0–100	1060	18032	35.85	18037	38.25
0–200	310	18033	33.00	18038	34.95
0–500	63	18034	32.25	18039	33.90
DC MILLIAMMETERS					
0–1	18	18012	$31.05	18019	$33.15
0–5	2	18013	31.05	18020	33.15
0–10	5	10814	31.05	18021	33.15
0–25	2	18015	32.70	18022	34.65
0–50	1	18016	32.70	18023	34.65
0–100	.5	18017	32.70	18024	34.65
0–500	.1	18018	32.70	18025	34.65
Range	**Resis., Ohms**	**1½″ Case Styles Model 1941**		**2½″ Case Styles Model 1642**	
		Cat. No.	**Net Each**	**Cat. No.**	**Net Each**
AC VOLTMETERS					
0–150	5000Ω/V	18042	$39.30	18043	$41.10

"RUGGED SEAL" PANEL METERS

MILLIAMPERES D.C.
Simpson



Metal-cased panel instruments for use in field test equipment or where rigorous environments are encountered. Completely sealed, commercially ruggedized, metal case and shielded against steel panel mounting. External magnet movement. AC meters are rectifier type with ±3% of full scale accuracy. DC meters have ±2% of full scale accuracy.

Range	Approx. Resis., Ohms	3½″ Case Styles Model 3343		4½″ Case Styles Model 3344		4″ x 6″ Case Styles Model 3346	
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
AC VOLTMETERS—RECTIFIER TYPE							
0–150	1000 Ohms per volt	16065	$37.50	16160	$39.60	16255	$43.50
0–300		16070	37.50	16165	39.60	16260	43.50
AC AMMETERS—RECTIFIER TYPE							
0–1	.5 VA max.	......	......	16170	$48.60	......	......
0–5		16080	$46.80	16175	48.60	16270	$52.65
AC MILLIAMMETERS—RECTIFIER TYPE							
0–1	600	16085	$37.20	16180	$39.30	16275	$46.80
AC MICROAMMETERS—RECTIFIER TYPE							
0–100	4000	16090	$39.30	16185	$40.95	16280	$44.55

Range	Approx. Resis., Ohms	3½″ Case Styles Model 3323		4½″ Case Styles Model 3324		4″ x 6″ Case Styles Model 3326	
		Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
DC VOLTMETERS							
0–1.5	1000 Ohms per volt	16000	$31.20	16095	$34.05	16190	$37.20
0–10		16005	31.20	16100	34.05	16195	37.20
0–15		16010	31.20	16105	34.05	16200	37.20
0–25		16015	31.20	16110	34.05	16205	37.20
0–50		16020	31.20	16115	34.05	16210	37.20
0–100		16025	31.20	......	......	16215	37.20
0–500		16030	31.20	......	......	16220	37.20
DC MILLIVOLTMETERS							
0–50	10	16062	$31.35	16157	$34.50	16252	$37.80
DC AMMETERS							
0–5	....	16035	$31.95	......	......	......	......
0–10	....	16040	31.95	16135	$34.35	......	......
DC MILLIAMMETERS							
0–1	80	16045	$30.15	16140	$32.55	16235	$36.30
0–100	.5	15050	......	......	......	16240	38.10
DC MICROAMMETERS							
0–50	3000	16055	$40.20	16150	$43.05	16245	$46.95
0–100	1450	16060	36.45	16155	39.30	16250	43.50

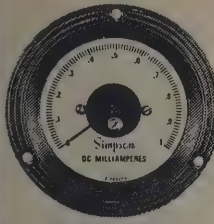
DIMENSIONS

Size	Model	Scale Lgth.	Mtg. Hole	H. x W.	4 Mtg. Studs on
3½″	3323 3343	2.74″	2.81″ dia.	3.25″ x 3.25″	2.25″ x 2.25″ ctrs. #4-40
4½″	3324 3344	4.05″	2.81″ dia.	4.15″ x 4.68″	3.56″ x 4.00″ ctrs. #6-32
4″ x 6″	3326 3346	4.94″	2.81″ dia.	4.62″ x 5.84″	3.00″ x 5.25″ ctrs #6-32

Simpson Panel Meters, Shunts & CT'S

INSTRUMENTS THAT STAY ACCURATE

250° LONG-SCALE METERS



Simpson
D.C.MILLIAMPERES

Range	Approx. Resis., Ohms	3½" Case Styles Model 2523 Cat. No.	3½" Case Styles Model 2523 Net Each	3½" Case Styles Model 2123L Cat. No.	3½" Case Styles Model 2123L Net Each	4½" Case Styles Model 2524 Cat. No.	4½" Case Styles Model 2524 Net Each
DC MICROAMMETERS							
0–50	8000	17970	$65.70	17910	$53.55	17980	$70.05
0–100	4200	17971	63.75	17911	49.20	17981	67.50
0–500	340	17972	57.60	17912	45.45	17982	61.35
DC MILLIAMMETERS							
0–1	135	17973	$54.00	17913	$44.10	17983	$57.75
0–10	10	17974	54.00	......	......	17984	57.75
0–500	.2	17975	56.55	......	......	17985	60.45
1–0–1	50	17996	54.00	......	......	17997	57.60
DC AMMETERS							
0–10	.005	17976	$56.55	......	......	17986	$60.45
DC MILLIVOLTMETERS							
0–50	10	17977	$56.70	17914	$45.45	17987	$60.60

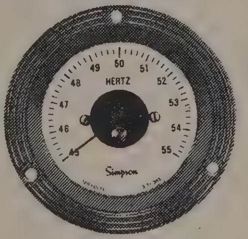
Range	Approx. Resis., Ohms	3½" Case Styles Model 2543 Cat. No.	3½" Case Styles Model 2543 Net Each	3½" Case Styles Model 2143L Cat. No.	3½" Case Styles Model 2143L Net Each	4½" Case Styles Model 2544 Cat. No.	4½" Case Styles Model 2544 Net Each
AC VOLTMETERS—RECTIFIER TYPE							
0–10	2000	17990	$70.95	17915	$57.75	17995	$74.70
0–150	Ohms	17978	70.95	17916	57.75	17988	74.70
0–300	per volt	17979	70.95	17917	57.75	17989	75.45
AC AMMETERS							
0–5	....	......	......	17918	$57.75	......	......
0–5% load	....	......	......	17919	57.75	......	......

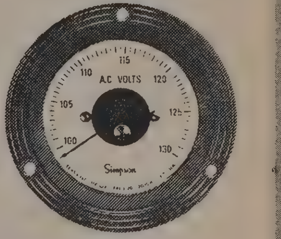
Designed for applications that require high-accuracy readings, 250° panel meters provide more than double the scale length of the standard 90° or 100° movements. They are self-shielded, permanent magnet, moving coil instruments with non-magnetic pivots and spring-backed jewels. Round style 2523, 2543 and 2524, 2544 are metal cased and sealed to MIL-M-10304. Square styles 2123L and 2143L use phenolic unsealed cases. External front access zero adjust. Red, knife edge type pointer. **Accuracy:** DC, 2% of full scale; AC, 3% of full scale. **Scale Length:** 4.77" for 3½" meters; 6.54" for 4½" meters.

The 0–10 VAC rectifier type voltmeters may be used with current transformer Model 186 to provide 17 common AC ammeter ranges from 0–50 mA to 0–50 amps. Prices on another Simpson page.

SEGMENTAL METERS

Segmental meters make it possible to measure very small changes in input conditions. The significant portion of the overall voltage or frequency range is expanded to cover the full scale length. Thus, only that segment of the range that is important appears. Segmental voltmeters are available in either average sensing or true rms sensing units. In addition to those listed, special segmental voltmeters can be built on special order. **Frequency Meter Accuracy:** 0.5%, except 400 Hz units, 0.3%. **Voltmeter Accuracy:** 0.5%, except Rugged Seal Style, 1.0%.





AC VOLTMETERS

Range VAC	3½" Rectangular Wide-Vue Model 1347 Cat. No.	3½" Rectangular Wide-Vue Model 1347 Net Each	3½" Square Century Model 2143 Cat. No.	3½" Square Century Model 2143 Net Each	4½" Rectangular Wide-Vue Model 1349 Cat. No.	4½" Rectangular Wide-Vue Model 1349 Net Each	4½" Square Century Model 2144 Cat. No.	4½" Square Century Model 2144 Net Each
100–130	10152	$80.85	17548	$80.85	10155	$81.30	17638	$81.30
100–130 200–260 400–520	......	......	......	......	10157†	100.35	17639†	100.35

†Supplied with external potential transformer.

AC VOLTMETERS—TRUE RMS SENSING

Range	3½" Rectangular Rugged Seal Model 3383 Cat. No.	3½" Rectangular Rugged Seal Model 3383 Net Each	4½" Rectangular Rugged Seal Model 3384 Cat. No.	4½" Rectangular Rugged Seal Model 3384 Net Each	4" x 6" Rectangular Rugged Seal Model 3386 Cat. No.	4" x 6" Rectangular Rugged Seal Model 3386 Net Each
100–130	16365	$105.75	16395	$116.55	16425	$124.65

AC VOLTMETERS—AVERAGE SENSING

Range VAC	3½" 250° Long Scale Round Model 2543 Cat. No.	3½" 250° Long Scale Round Model 2543 Net Each	3½" 250° Long Scale Rectangular Model 2143L Cat. No.	3½" 250° Long Scale Rectangular Model 2143L Net Each
100–130	17991	$73.50	17926	$73.50

FREQUENCY METERS

Power required for operation is 110–120 VAC (150 V max.).

Range Hz	3½" 250° Long Scale Round Model 2583 Cat. No.	3½" 250° Long Scale Round Model 2583 Net Each	3½" 250° Long Scale Rectangular Model 2183L Cat. No.	3½" 250° Long Scale Rectangular Model 2183L Net Each	3½" Standard Scale Rectangular Model 2183 Cat. No.	3½" Standard Scale Rectangular Model 2183 Net Each	4½" Standard Scale Rectangular Model 2184 Cat. No.	4½" Standard Scale Rectangular Model 2184 Net Each
44–55	17992	$74.85	17007	$74.85	17920	$68.55	17923	$70.35
55–65	17993	74.85	17008	74.85	17921	68.55	17924	70.35
380–420	17994	74.85	17009	74.85	17922	68.55	17925	70.35

CURRENT TRANSFORMERS

Inserted one-turn primary type. For use with AC ammeters. Secondary, 5 amps.

Primary Amps	Secondary Amps	Cat. No.	Net Each
50	5	01293	$36.45
75	5	01306	27.00
100	5	01297	22.50
150	5	01298	19.95
200	5	01299	19.95
250	5	01313	19.95
300	5	01300	22.50
400	5	01305	24.90
500	5	01301	27.00
600	5	02303	27.00
750	5	02459	31.95
1000	5	02304	34.20

SWITCHBOARD SHUNTS

For DC switchboard ammeters. Drop, 50 mV. Accuracy, ±1%. With 5-ft. leads.

Amps	Cat. No.	Net Each
100	06500	$ 15.30
150	06503	16.50
200	06504	16.50
250	06505	16.50
300	06506	16.50
400	06507	19.95
500	06508	23.70
600	06509	27.75
750	06510	35.55
800	06511	37.50
1000	06512	45.60
1200	06513	54.30
1500	06514	67.50
2000	06515	74.85
2500	06516	94.50
3000	06517	112.05

PORTABLE SHUNTS

For DC panel ammeters requiring external shunt. Drop, 50 mV. Accuracy, ±1%. Phenolic base; with 5-ft. leads.

Amps	Cat. No.	Net Each
1	06700	$15.30
5	06703	15.30
10	06704	15.30
15	06705	15.30
25	06707	15.30
30	06708	15.30
50	06709	15.30
75	06711	15.30
100	06713	15.30
150	06714	15.30
200	06715	15.30

Simpson Pyrometers and Meter Relays

PYROMETERS

All models are manufactured with ambient (bi-metal) cold-junction and circuit copper compensation. **Accuracy:** ±2% except Model 3326, ±1%. Calibrated for use with Simpson iron constantan or chromel-alumel thermocouples which are not supplied. Each pyrometer is supplied with an external, adjustable series resistor to permit use of lower resistance thermocouples in the field. **Size:** Model 29, 4.66″ w. x 4.20″ h. x 1.70″ d. behind panel; mtg. centers, 4.00″ x 3.56″. Model 2123, 3.00″ w. x 3.00″ h. x 2.04″ d. behind panel; mtg. centers, 2.24″ x 2.24″. Model 2124, 4.66″ w. x 4.20″ h. x 2.04″ d. behind panel; mtg. centers, 4.00″ x 3.57″. Model 3324, 4.68″ w. x 4.15″ h. x 1.89″ d. behind panel; mtg. centers, 4.00″ x 3.56″. Model 3326, 5.84″ w. x 4.62″ h. x 1.75″ d. behind panel; mtg. centers, 5.25″ x 3.00″.

Cat. No.	Temperature Range		Res., Ohms*	Thermo-couple Type	Net Each
	°F	°C			
MODEL 29 PHENOLIC CASE					
21200	–150 to +250	–100 to +120	10	I/C	$49.20
21202	0 to +300	–20 to +150	10	I/C	49.20
21204	0 to +500	–20 to +260	10	I/C	49.20
21206	0 to +800	–20 to +425	10	I/C	49.20
21208	0 to +1000	–20 to +540	10	I/C	49.20
21209	0 to +1500	–20 to +820	10	C/A	45.75
21210	0 to +2000	–20 to +1100	10	C/A	45.75
21211	0 to +2500	–20 to +1380	10	C/A	45.75
MODEL 2123 TAUT BAND CENTURY 3½″ SERIES					
21365	–150 to +250	–100 to +120	10	I/C	$47.55
21366	0 to +300	–20 to +150	10	I/C	47.55
21367	0 to +500	–20 to +260	10	I/C	47.55
21368	0 to +800	–20 to +425	10	I/C	47.55
21369	0 to +1000	–20 to +540	10	I/C	47.55
21370	0 to +1500	–20 to +820	10	C/A	43.95
21371	0 to +2000	–20 to +1100	10	C/A	43.95
21372	0 to +2500	–20 to +1380	10	C/A	43.95
MODEL 2124 TAUT BAND CENTURY 4½″ SERIES					
21373	–150 to +250	–100 to +120	10	I/C	$49.20
21374	0 to +300	–20 to +150	10	I/C	49.20
21375	0 to +500	–20 to +260	10	I/C	49.20
21376	0 to +800	–20 to +425	10	I/C	49.20
21377	0 to +1000	–20 to +540	10	I/C	49.20
21378	0 to +1500	–20 to +820	10	C/A	45.75
21379	0 to +2000	–20 to +1100	10	C/A	45.75
21380	0 to +2500	–20 to +1380	10	C/A	45.75

4½″ MOTOR-LOAD METER RELAYS

Motor-load meter relays for monitoring motor current for overload and/or no-load conditions; hence motor is protected from costly burn-outs or other damages. Scale on 0–150% ranges are green (0–100%) and red (100–150%); scales on other ranges show motor load in AC amps.

Scale	Range F.S.	Single Control-Point‡		Double Control-Point	
		Cat. No.	Net Each	Cat. No.	Net Each
0–150%*	10 VAC	21298	$141.75	21299	$176.40
0–150%†	5 amp AC	21296	152.40	21297	187.05
0–1 amp*	10 VAC	21301	147.15	21300	181.80
0–3 amp*	10 VAC	21303	147.15	21302	181.80
0–10 amp*	10 VAC	21305	147.15	21304	181.80
0–25 amp*	10 VAC	21307	147.15	21306	181.80
0–40 amp*	10 VAC	21309	147.15	21308	181.80
0–50 amp†	5 amp AC	21311	157.50	21310	192.15
0–100 amp†	5 amp AC	21313	157.50	21312	192.15
0–150 amp†	5 amp AC	21315	157.50	21314	192.15
0–200 amp†	5 amp AC	21317	157.50	21316	192.15
0–250 amp†	5 amp AC	21319	157.50	21318	192.15
0–300 amp†	5 amp AC	21321	157.50	21320	192.15
0–400 amp†	5 amp AC	21323	157.50	21322	192.15
0–500 amp†	5 amp AC	21325	157.50	21324	192.15

*Use with Model 186 current transformer. †Use with donut type current transformer. ‡High-limit.

Model 3324

°C
°F
PYROMETER
Simpson

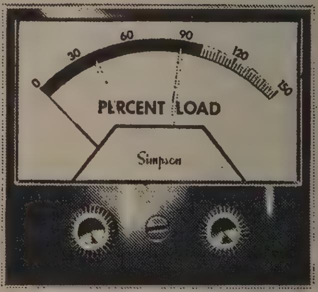
Cat. No.	Temperature Range		Res., Ohms*	Thermo-couple Type	Net Each
	°F	°C			
MODEL 3324 RUGGED SEAL 4½″ SERIES					
21210	–150 to +250	–100 to +120	10	I/C	$67.05
21203	0 to +300	–20 to +150	10	I/C	67.05
21205	0 to +500	–20 to +260	10	I/C	67.05
21207	0 to +800	–20 to +425	10	I/C	67.05
21212	0 to +1000	–20 to +540	10	I/C	67.05
21213	0 to +1500	–20 to +820	10	C/A	63.60
21214	0 to +2000	–20 to +1100	10	C/A	63.60
21215	0 to +2500	–20 to +1380	10	C/A	63.60
MODEL 3326 TAUT BAND 4″ x 6″ SERIES					
21381	–150 to +250	–100 to +120	10	I/C	$70.65
21382	0 to +300	–20 to +150	10	I/C	70.65
21383	0 to +500	–20 to +260	10	I/C	70.65
21384	0 to +800	–20 to +425	10	I/C	70.65
21385	0 to +1000	–20 to +540	10	I/C	70.65
21386	0 to +1500	–20 to +820	10	C/A	67.20
21387	0 to +2000	–20 to +1100	10	C/A	67.20
21388	0 to +2500	–20 to +1380	10	C/A	67.20

*Approximate.

THERMOCOUPLES

Iron constantan or chromel alumel thermocouples in a stainless steel overbraid for rugged service applications or in glass cloth overbraid for general purpose applications, or for permanent mounting in protected sheaths or conduit.

Cat. No.	Type	Resis., Ohms	Overbraid	Lgth, Inches	Gauge	Net Each
21221	I/C	5	Stainless steel	162	20	$21.45
21222	I/C	10	Glass cloth	137	24	7.80
21223	I/C	10	Glass cloth	34	30	6.50
21224	I/C	10	Stainless steel	325	20	38.70
21231	C/A	10	Stainless steel	154	20	23.85
21232	C/A	10	Glass cloth	90	24	14.50



SPECIFICATIONS

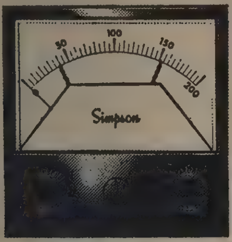
Calibration Accuracy: ±2% of full scale.
Control Points Adjustment: 0–100% of arc for single; 0–95% of arc for double low-limit; 5–100% of arc for double high-limit; all controls adjustable to within 4° of each other.
Switching: Within 1% of indication.
Differential: "On", "Off" difference is within 0.5% of full scale.
Contacts/Output Relay: DPDT relay contacts for each control point; each set of contacts rated at 10 amps, 115 VAC.
Movement: Self-shielding annular.
Power: 115 VAC, 50–500 Hz.
Case: Sealed metal case, glass window.

PIONEER INSTRUMENT LABS ARE AUTHORIZED REPAIR AND MODIFICATION CENTERS FOR SIMPSON

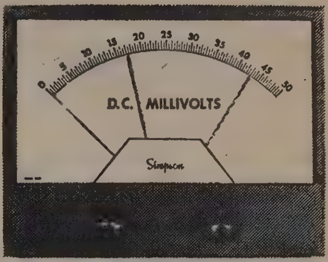
Simpson Controllers

INSTRUMENTS THAT STAY ACCURATE

RUGGED SEAL CONTACTLESS CONTROLLERS



Set points are 100% (single), 95% (dual) adjustable on scale by front panel knobs thru a gear drive; indication, by separate lance pointers, within 1% of actual switching. Sensing is done through a long-life lamp and photoconductors. Solid state switching circuit and DPDT slave relay provided internally for each control point; both slaves open in case of power failure. Slaves will switch to 10 amps resistive per set of contacts at 115 VAC. **Power Required:** 115 VAC, 50–500 Hz. **Size:** 3½″ units, 3.25″ sq. x 4.55″ d. behind panel; 4½″ models, 4.68″ w. x 4.15″ h. x 4.55″ d. behind panel; 4″ x 6″ models, 5.84″ w. x 4.62″ h. x 4.55″ d. behind panel.

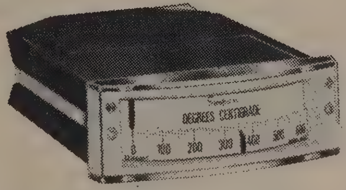


	3½″ Model				4½″ Model 3344XA				4″ x 6″ Model 3326XA			
	Single Control Point		Double Control Point		Single Control Point		Double Control Point		Single Control Point		Double Control Point	
Range	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–5 AAC	....	....	....	....	16465	$147.15	16649	$181.80	....	....	....	....
0–10 VAC	....	....	....	....	16570	136.65	16650	171.30	....	....	....	....
0–150 VAC	....	....	....	....	16571	136.65	16572	171.30	....	....	....	....

	3½″ Model 3323TXA				4½″ Model 3324TXA				4″ x 6″ Model 3326TXA			
	Single Control Point		Double Control Point		Single Control Point		Double Control Point		Single Control Point		Double Control Point	
Range	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–10 μADC*	16606	$157.50	16631	$192.15	16614	$159.75	16639	$194.40	16622	$163.80	16651	$198.45
0–25 μADC*	16604	144.00	16632	178.65	....	....	16640	180.75	16620	150.30	16652	184.95
0–50 μADC*	16602	135.45	16633	170.10	16610	137.70	16641	172.35	16618	141.75	16653	176.40
0–100 μADC*	16600	131.40	16634	166.05	16608	133.50	16642	168.15	16616	137.70	16654	172.35

	3½″ Model 3323XA				4½″ Model 3324XA				4″ x 6″ Model 3326XA			
	Single Control Point		Double Control Point		Single Control Point		Double Control Point		Single Control Point		Double Control Point	
Range	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each	Cat. No.	Net Each
0–200 μADC	....	....	....	....	16453	$134.55	16645	$169.20	....	....	....	....
0–500 μADC	....	....	....	....	16454	130.35	16646	165.00	....	....	....	....
0–1 mADC	16883	$126.00	16882	$160.65	16887	128.25	16886	162.90	16891	$132.30	16890	$166.95
0–50 mVDC	16885	129.15	16884	163.80	16889	131.40	16888	166.05	16893	135.45	16892	170.10

*Taut band movement.



CONTACTLESS TEMPERATURE CONTROLLERS

Same dimensions and features as voltage and current ranges listed above, but including high-impedance input amplifier. Thermocouple inputs from 0 to 100 ohms may be used without adjustments. Electrical cold junction compensation and thermocouple break protection are standard.

	4½″ Model 3324XA			
	Single Control Point		Double Control Point	
Range	Cat. No.	Net Each	Cat. No.	Net Each
−75 to +250° F*	16801	$150.30	16807	$184.95
0 to +300° F*	16802	150.30	16808	184.95
0 to +500° F*	16803	147.15	16809	181.80
0 to +750° F*	16804	147.15	16810	181.80
0 to +1000° F	16805	147.15	16811	181.80
0 to +1500° F	16806	147.15	16812	181.80
0 to +2000° F	21278	147.15	21280	181.80
0 to +2500° F	21279	147.15	21281	181.80

*Taut band movement.

MODELS 3623XA, 3643XA

CONTACTLESS CONTROLLERS

Single and double set point models with mode indication lamps; removable set point knobs to prevent tampering; relays are field-replaceable. **Power Ratings:** 4 VA max. single set point, 6 VA max. double set point; life, 1,000,000 operations. **Set Points:** Single, 0–100% of full scale; double, 0–98% low and 2–100% high, can be set within 2° of each other; control switching within 1.0% of set points; dead band less than 0.5% of full scale. Also available as temperature controller or as photocell output meter relay. All units are less output load switch; **select one per set point from listing below.**

Cat. No.	Model	Range	Net Each
19300	3623XA†	0–50 μADC	$123.90
19301*	3623XA†	0–50 μADC	158.55
19302	3623XA†	0–100 μADC	119.70
19303*	3623XA†	0–100 μADC	154.35
19304	3623XA	0–1 mADC	114.45
19305*	3623XA	0–1 mADC	149.10
19306	3623XA	0–50 mVDC	117.60
19307*	3623XA	0–50 mVDC	152.25
19308	3643XA	0–5 AAC	143.70
19309*	3643XA	0–5 AAC	167.85
19310	3643XA	0–10 VAC	122.85
19311*	3643XA	0–10 VAC	157.35
19312	3643XA	0–150 VAC	122.85
19313*	3643XA	0–150 VAC	157.35

*Double set point meters; all others have single set point. †Taut-band type.

OUTPUT LOAD SWITCHES FOR MODELS 3623XA, 3643XA

No. 16898 Relay Assembly Kit—Includes one DPDT relay and connector rated 5 A at 120 VAC resistive. Net Each . . **$8.00**

No. 16899 Triac Switch Module—Switch contacts SPST N.O. rated 4 A at 120 VAC at 25° C. Net Each. **$25.00**

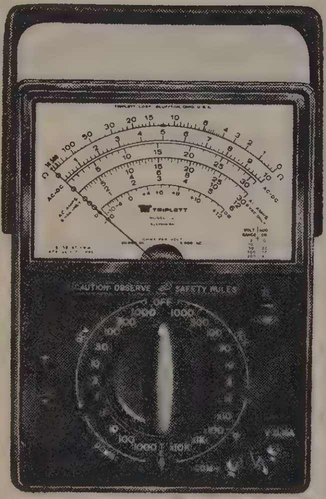
MODEL 186 CURRENT TRANSFORMERS FOR USE WITH 10 VOLT AC CONTROLLERS

Convert 0–10 VAC controllers to AC current control unit. Frequency range; 50 Hz to 5 kHz. Accuracy, ±2%.

Range	VA	Cat. No.	Net Each	Range	VA	Cat. No.	Net Each
0–50 mA	0.4	01294	$20.85	0–5 A	0.75	01312	$17.40
0–100 mA	0.5	01295	19.35	0–10 A	1.45	01314	17.40
0–200 mA	0.37	01296	19.35	0–15 A	1.05	01315	17.40
0–300 mA	0.48	01303	19.35	0–20 A	1.04	01316	17.40
0–500 mA	0.53	01304	19.35	0–25 A	1.50	01317	17.40
0–750 mA	0.37	01307	19.35	0–30 A	1.10	01318	17.40
0–1 A	0.42	01308	17.40	0–40 A	1.09	01319	17.40
0–2 A	0.54	01309	17.40	0–50 A	1.90	01321	17.40
0–3 A	0.66	01311	17.40				

TRIPLETT Test Instruments

It's new. It's x'tra rugged. It's overload protected. It's safety designed. The Triplett Model 60.



MODEL 60 V-O-M

1. X'tra rugged—Will withstand an accidental drop up to a five foot height.
2. Overload protected—All ranges protected by a diode and unusual three-fuse arrangement including ⅛ amp 1 amp and 2 amp/1000 V fuses.
3. Safety designed for you—Designed to most rigid safety standards; completely insulated unit including newly designed safety leads.

RANGES

DC Volts: 0–.3–1–3–10–30–100–300–1000 (approx. 20,000 ohms per volt).

AC Volts: 0–3–10–30–100–300–1000 (approx. 5000 ohms per volt).

Ohms: 0–1K–10K–100K–1 meg–10 meg (12 ohms center scale on low range).

DC Milliamperes: 0–0.1–10–100–1000 (approx. 320 mV).

Decibels: −20 dB to +52 dB ("0" dB is equal to .775 ACV across 600 ohms).

Output Volts: (AC—Requires external capacitor): 0–3–10–30–100–300 (approx. 5000 ohms per volt).

AC Amperes: (Requires accessory Model 10 Adapter) 0–6–12–30–60–120–300.

Accuracy (Full scale): ±2% DC; ±3% AC.

Scale Length: Approx. 4½".

Meter: Ruggedized suspension movement module, polarity reversing switch.

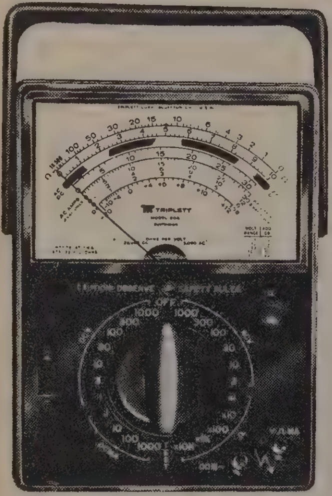
Overload Protection: Meter movement protected by a diode module, ⅛ amp/250 V, 1 amp/250 V and 2 amp/1000 V (20 KW) fuses.

Confidence Test: Switch position provides reassurance check of meter movement.

Case: Molded, black, 5¼" w. x 7¼" h. x 3¼" d.

Batteries: Neda #1604, 1-1½V D cell.

Triplett Model 60—Complete with 48" leads, insulated alligator clips, batteries and instruction manual. Shpg. wt. 2½ lbs. Net Each........................**$99.00**



LABORATORY ACCURACY
MODEL 60A V-O-M

1. X'tra rugged—Will withstand an accidental drop up to a five foot height.
2. Overload protected—All ranges protected by a diode and unusual three-fuse arrangement including ⅛ amp 1 amp and 2 amp/1000 V fuses.
3. Safety designed for you—Designed to most rigid safety standards; completely insulated unit including newly designed safety leads.

RANGES

DC Volts: 0–.3–1–3–10–30–100–300–1000 (approx. 20,000 ohms per volt).

AC Volts: 0–3–10–30–100–300–1000 (approx. 5000 ohms per volt).

Ohms: 0–1K–10K–100K–1 meg–10 meg (12 ohms center scale on low range).

DC Milliamperes: 0–0.1–10–100–1000 (approx. 320 mV).

Decibels: −20 dB to +52 dB ("0" dB is equal to .775 ACV across 600 ohms).

Output Volts: (AC—Requires external capacitor): 0–3–10–30–100–300 (approx. 5000 ohms per volt).

AC Amperes: (Requires accessory Model 10 Adapter) 0–6–12–30–60–120–300.

Accuracy (Full scale): ±1½% DC; ±3% AC.

Scale Length: Approx. 4½".

Meter: Ruggedized suspension movement module, polarity reversing switch, mirror scale, ½% resistors.

Overload Protection: Meter movement protected by a diode module, ⅛ amp/250 V, 1 amp/250 V and 2 amp/1000 V (20 KW) fuses.

Confidence Test: Switch position provides reassurance check of meter movement.

Case: Molded, black, 5¼" w. x 7¼" h. x 3¼" d.

Batteries: Neda #1604, 1-1½V D cell.

Triplett Model 60A—Complete with 48" leads, insulated alligator clips, batteries and instruction manual. Shpg. wt. 2½ lbs. Net Each....................**$106.00**

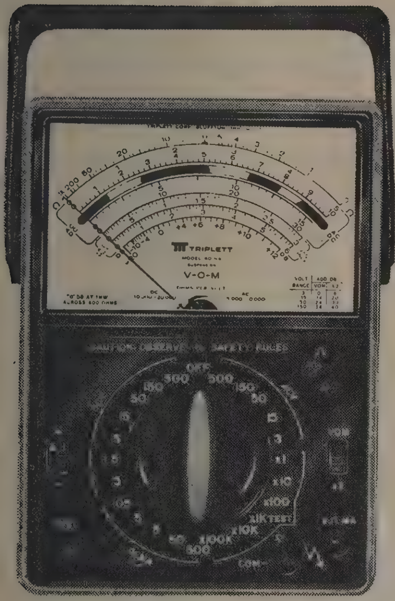
ACCESSORIES FOR 60

Triplett No. 10-2739—Leather Carrying Case. Net Each	**$25.20**
Triplett No. 79-357—30KVDC High Voltage Probe. Net Each	**$27.00**
Triplett No. 79-362—30KVAC High Voltage Probe. Net Each	**$27.00**
Triplett No. 91-628—30 amp DC Current Shunt. Net Each	**$19.10**
Triplett No. 91-629—100 amp DC Current Shunt. Net Each	**$23.70**
Triplett No. 60-211—Clamp-on AC Ammeter. Net Each	**$25.00**
Triplett No. 79-354—Attachment Lead. Net Each	**$4.90**
Triplett No. 60-218—Line Separator. Net Each	**$11.00**
Triplett No. 79-373—Clip Leads for High Density Circuits. Net Each	**$6.10**
Triplett No. 79-374—Replacement Safety Test Leads. Net Each	**$5.20**

TRIPLETT Test Instruments

MODEL 60-NA VOM

1. X'tra rugged—50 ranges with mirror scale and ±1½% DC accuracy. Will withstand an accidental drop up to a five foot height.
2. Overload protected—All ranges protected by diode and unusual three-fuse arrangement including ⅛ amp, 1 amp and 2 amp/1000 V fuses.
3. Safety designed for you—Designed to most rigid safety standards; completely insulated unit including newly designed safety leads.



RANGES

DC Volts: 0–.15–.5–1.5–5–15–150–500 (approx. 20,000 ohms per volt).
X2: 0–.3–1–3–10–30–100–300–1000 (approx. 10,000 ohms per volt).

AC Volts: 0–3–15–50–150–500 (approx. 10,000 ohms per volt).
X2: 0–6–30–100–300–1000 (approx. 5,000 ohms per volt).

Ohms: 0–1K–10K–100K–1 meg–10 meg–100 meg (6 ohms center scale and 120 mW on low range).

DC Milliamperes: 0–.05–.5–5–50–500 (approx. 150 mV)
X2: 0–.1–1–10–100–1000 (approx. 300 mV).

Output Volts: (AC—Requires external capacitor): 0–3–15–50–150 (approx. 10,000 ohms per volt).

AC Amperes: (Requires accessory Model 10-C adapter): 0–6–12–30–60–120–300.

Accuracy: (Full scale): ±1½% DC and Ohms; ±3% AC.

X2 Multiplier Switch: X2 position doubles range indicated by the range switch.

Polarity Switch: Lead polarity reversed quickly.

Scale Length: Approx. 4½".

Meter: Ruggedized suspension movement module, mirror scale, ½% resistors.

Confidence Test: Front panel jack provides reassurance test of meter movement.

Case: Gray plastic with non-slip finish, 5¼" w. x 7¼" h. x 3¼" d.

Batteries: One 30 V NEDA #210; one 1½ V "D" cell NEDA #13F.

Triplett Model 60-NA—Complete with 48" test leads, insulated alligator clips, batteries, spare fuses and instruction manual. Shipping Weight. 2½ lbs.
Net Each..**$136.00**

MODEL 64 FET MULTIMETER

1. X'tra rugged/overload protected (all ranges)/safety designed solid state voltohmmeter.
2. Low-power ohms—LP™—6 ranges with 90 mV power source for in-circuit measurements plus junction test circuit.
3. Exclusive Triplett Micro Power—TMP™—Permits continuous operation with carbon battery life in excess of a year.

RANGES

DC Volts: 0–.3–1–3–10–30–100–300–1000. Input Resistance, 11.12 megohms.

AC Volts: 0–.3–1–3–10–30–100–300–1000. Input Resistance, 10 megohms.

Ohms—Low Power: 0–1K–10K–100K–1 meg–10 meg–100 meg (90 mV maximum voltage, 9 mA maximum current, .08 mW maximum power, 10 ohms center scale on low range).

Ohms—Conventional: 0–1000 meg (.9 V maximum voltage, .1 µA maximum current, 08 µW maximum power, 10 meg center scale).

Junction Test: Shorted, germanium, silicon, open scale. (.9 V maximum voltage, 9 mA maximum current, .8 mW maximum power).

Decibels: −40 dB to +62 dB ("0" dB is equal to .776 VAC across 600 ohms).

Accuracy: ±3% of full scale.

Polarity Switch: Lead polarity reversed quickly.

Overload Protection: X'tra rugged to withstand an accidental drop up to a five-foot height with deviation from stated accuracy not exceeding ±4%. Overload protected by diodes and unusual two-fuse arrangement including 1 amp and 2 amp/1000 V fuses. Safety designed to most rigid safety standards to prevent explosive arcs in high energy circuits up to the 2 amp/1000 V (20 kW) fuse capacity.

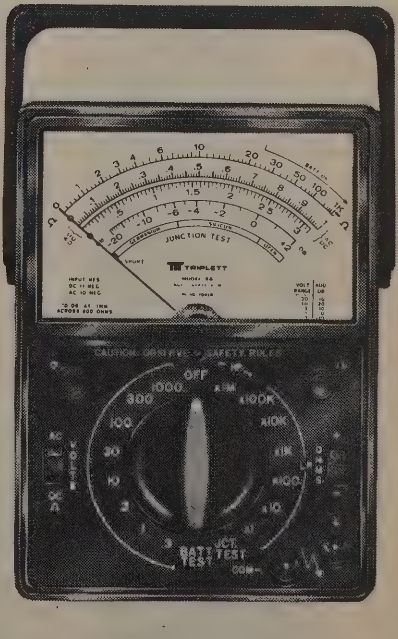
Scale Length: Approx. 4½".

Meter: Ruggedized suspension movement.

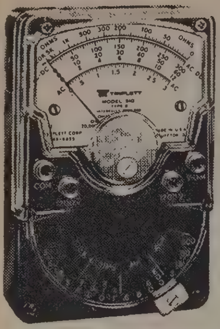
Case: Green plastic, with non-slip finish, 5¼" w. x 7¼" h. x 3¼" d.

Batteries: Two 9 V NEDA #1604 (Life one year on continuous use); one 1½ V NEDA #13F (Life one month on continuous use on ohms range).

Triplett Model 64—Complete with 48" safety test leads, insulated alligator clips, batteries, spare fuse and instruction manual. Shipping Weight 2¾ lbs.
Net Each..**$136.00**



TRIPLETT Test Instruments



Model 310

NEW DIODE-PROTECTED, HAND-SIZE V-O-M'S

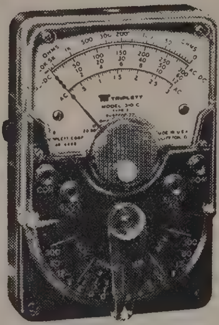
MODEL 310

1. Hand-size V-O-M with diode overload protection.
2. 20,000 ohms per volt DC and 5,000 ohms per volt AC.
3. Single range switch; provision for clamp-on AC ammeter.

RANGES

DC Volts: 0–3–12–60–300–1,200 (20,000 ohms per volt).
AC Volts: 0–3–12–60–300–1,200 (5,000 ohms per volt).
Ohms: 0–20K–200K–2 Meg–20 Meg.
DC Microamperes: 0–600 at 250 mV.
DC Milliamperes: 0–6–60–600 at 250 mV.
Accuracy: ±3% DC; ±4% AC.
Scale Length: 2⅛". Self-shielded.
Case: Molded, black, 2¾" w. x 1$\frac{5}{16}$" d. x 4¼" h.
Batteries: NEDA #910,220.

Triplett Model 310—Complete with 42" leads, batteries and instruction manual. Shpg. Wt., 2 lbs. Net Each........**$53.00**



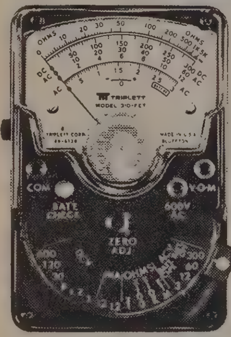
Model 310-C

MODEL 310-C

1. Hand-size V-O-M with diode overload-protected suspension movement.
2. 20,000 ohms per volt DC and 15,000 ohms per volt AC.
3. Single, enclosed range switch minimizes error; DC polarity-reversing switch.

Same as 310 above, except 600-volt ranges replace 1200-volt ranges; plus, suspension meter and polarity reversing switch for DC ranges.

Triplett Model 310-C—Shpg. Wt., 2 lbs. Net Each........**$68.00**



Model 310-FET

MODEL 310-FET

1. Hand-size FET V-O-M with 10-megohm DC input resistance and diode overload-protected suspension movement.
2. Low voltage range of 300 mVDC; x1 megohm range.
3. Single range switch; DC polarity-reversing switch.

RANGES

DC Volts: 0–0.3–1.2–6–30–120–600. Input resistance, 10 megohms.
AC Volts: 0–3–12–60–300–600 (5,000 ohms per volt).
Ohms: 0–5K–500K–50 Meg–5,000 Meg (50-ohm center scale on low range).
DC Milliamperes: 0–0.12–1.2 at 300 mV.
Accuracy: ±3% DC; ±4% AC. Diode protected suspension meter.
Scale Length: 2⅛". Battery check on selector switch.
Case: Molded, black, 2¾" w. x 1⅛" d. x 4¼" h.
Batteries: NEDA #1501, 1½ V ASA Type N.

Triplett Model 310-FET—Complete with 42" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 2 lbs. Net Each........**$88.00**

Model 10

Model 101

ACCESSORIES FOR 310'S

Model 10 Clamp-on AC Ammeter—For 310 and 310-FET. Ranges, 0–6–12–30–120–300. Net Each........**$25.00**

Model 10-C Clamp-on AC Ammeter—For 310-C. Ranges, 0–6–12–30–120–300. Net Each........**$25.00**

Model 101 Line Separator—Divides two conductor cords direct or increases Model 10 sensitivity 10x and 20x. Net Each........**$11.00**

Model 311 Lead—42" long lead to separate Model 10 from 310 unit for easy reading in awkward spots. Net Each........**$4.90**

Model 369 Carrying Case—For Model 310's. Net Each...**$6.40**

Model 369-S Carrying Case—For Model 310's; front opens permitting use of tester in case. Net Each........**$15.00**

Model 379 Carrying Case—For Model 310 and Model 10 in combination, plus Model 101. Net Each........**$12.20**

Model 79-153 Needle Tip Replacement Lead—For Model 310 series. Net Each........**$4.90**

Model 79-296 Blunt Tip Replacement Lead—For Model 310 series. Net Each........**$7.70**

Model 100

HAND-SIZE V-O-M CLAMP-ON AMMETERS

1. Complete maintenance kit with V-O-M and clamp-on ammeter.
2. Diode overload protected; 20,000 ohms per volt on DC.
3. AC clamp-on will read up to 300 amps AC.

Model 100—Complete set includes Model 310, Model 10, Model 101, No. 311 lead and Model 379 case. Shpg. Wt., 7 lbs. Net Each........**$101.00**

Model 100-C—Complete set includes Model 310-C, Model 10-C, Model 101, No. 311 lead and Model 379 case. Shpg. Wt., 7 lbs. Net Each........**$115.00**

Model 100-FET—Complete set includes Model 310-FET, Model 10, Model 101. No. 311 lead and Model 379 case. Shpg. Wt., 7 lbs. Net Each........**$134.00**

TRIPLETT Test Instruments

MODEL 630 V-O-M

CAUTION ON HIGH VOLTS

1. Diode overload-protected suspension movement V-O-M; single range switch minimizes error.
2. 4 ohmmeter ranges with 4.4 ohms center scale.
3. Simplified scale—only 4 arcs for all 27 ranges.

RANGES

DC Volts: 0–3–12–60–300–1,200–6,000 (20,000 ohms per volt).
AC Volts: 0–3–12–60–300–1,200–6,000 (5,000 ohms per volt).
Ohms: 0–1K–10K–1 Meg–100 Meg (4.4-ohm center scale on low range).
DC Microamperes: 0–60 at 250 mV.
DC Milliamperes: 0–1.2–12–120 at 250 mV.
DC Amperes: 0–12.
Decibels: –20 to +51 ("0" dB at 1 mW on 600-ohm line).
Output Volts (AC): 0–3–12–60–300 (5,000 ohms per volt).
Accuracy: ±2% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4⅜".
Case: Molded, black, 5½" w. x 3¹¹⁄₃₂" d. x 7½" h.
Batteries: NEDA #210, 13F.

Triplett Model 630—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each..**$82.00**

Triplett Model 630-A—Similar to 630 with accuracy of ±1½% DC, ±3% AC. Net Each..**$94.00**

MODEL 666-R V-O-M

CAUTION ON HIGH VOLTS

1. Rugged 16-range V-O-M; single range switch minimizes error.
2. 3 ohmmeter ranges reading to 3 megohms.
3. AC and DC voltage ranges from 10 to 5000 volts.

RANGES

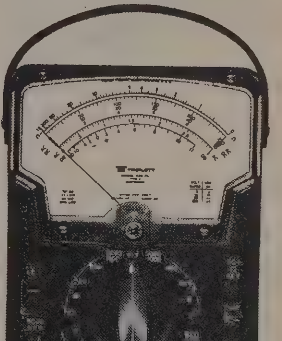
DC Volts: 0–10–50–250–1,000–5,000 (1,000 ohms per volt).
AC Volts: 0–10–50–250–1,000–5,000 (1,000 ohms per volt).

RANGES (CONT'D)

Ohms: 0–3K–300K–3 Meg (20-ohm center scale on low range).
DC Milliamperes: 0–10–100 at 250 mV.
DC Amperes: 0–1 at 250 mV.
Accuracy: ±3% DC; ±4% AC.
Scale Length: 3".
Case: Molded, black, 3¹⁄₁₆" w. x 2⁹⁄₁₆" d. x 5⅞" h.
Batteries: NEDA #814, 13F.

Triplett Model 666-R—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 3 lbs. Net Each..**$59.00**

MODEL 630-PL V-O-M



1. 27-range V-O-M with single range switch minimizes error; DC polarity-reversing switch.
2. 5" suspension meter with diode overload protection.
3. 4 ohmmeter ranges with 4.4 ohms center scale.

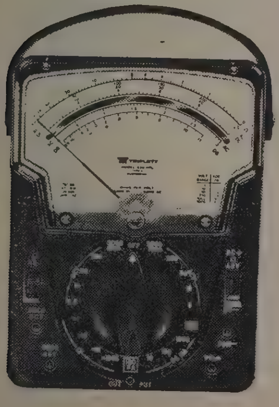
RANGES

DC Volts: 0–2.5–10–50–250–1,000–5,000 (20,000 ohms per volt); 0–0.25 at 100 μA.
AC Volts: 0–3–10–50–250–1,000–5,000 (5,000 ohms per volt).
Ohms: 0–1K–10K–1 Meg–100 Meg (4.4-ohm center scale on low range).
DC Microamperes: 0–100 at 250 mV.
DC Milliamperes: 0–10–100–1,000 at 250 mV.
DC Amperes: 0–10 at 250 mV.
Decibels: –20 to +49 ("0" dB at 1 mW on 600-ohm line).
Output Volts (AC): 0–3–10–50–250 (5,000 ohms per volt).
Accuracy: ±2% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4½".
Case: Molded, black, 5½" w. x 3¹¹⁄₃₂" d. x 7½" h.
Batteries: NEDA #210, 13F.

Triplett Model 630-PL—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each..**$86.00**

Triplett Model 630-APL—Similar to 630-PL with accuracy of ±1½% DC, ±3% AC. Net Each..**$94.00**

MODEL 630-PLK V-O-M



1. Burnout-proof solid state overload protection; suspension movement.
2. Single range switch minimizes error; DC polarity-reversing switch.
3. 4 ohmmeter ranges with 4.4 ohms center scale.

RANGES

DC Volts: 0–2.5–10–50–250–1,000–5,000 (20,000 ohms per volt); 0–0.25 at 100 μA.
AC Volts: 0–3–10–50–250–1,000–5,000 (5,000 ohms per volt).
Ohms: 0–1K–10K–1 Meg–100 Meg (4.4-ohm center scale on low range).
DC Microamperes: 0–100 at 250 mV.
DC Milliamperes: 0–10–100–1,000 at 250 mV.
DC Amperes: 0–10 at 250 mV.
Decibels: –20 to +49 ("0" dB at 1 mW on 600-ohm line).
Output Volts (AC): 0–3–10–50–250 (5,000 ohms per volt).
Accuracy: ±2% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4½". Transistorized electronic switching circuit protects tester against burn-out.
Case: Molded, black, 5½" w. x 3¹¹⁄₃₂" d. x 7½" h.
Batteries: NEDA #210, 13F.

Triplett Model 630-PLK—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each..**$128.00**

Triplett Model 630-APLK—Similar to 630-PLK with accuracy of ±1½% DC; ±3% AC. Net Each..**$136.00**

TRIPLETT Test Instruments

MODEL 630-NA V-O-M

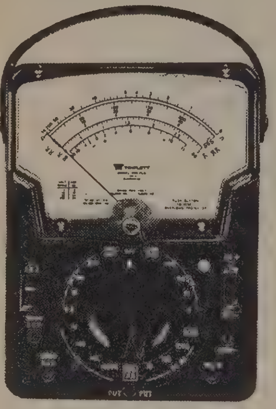
1. 70-range V-O-M with single range switch and DC polarity-reversing switch.
2. Accuracy 1½% DC and 3% AC; mirrored scale.
3. Diode overload-protected suspension movement; temperature compensation.

RANGES

DC Volts: 0–0.6–3–12–60–300–1,200–6,000 (10,000 ohms per volt). 0–0.3–1.5–6–30–150–600–3,000 (20,000 ohms per volt). 0–0.120 at 60 µA. 0–0.240 at 120 µA.
AC Volts: 0–3–12–60–300–1,200–6,000 (5,000 ohms per volt). 0–1.5–6–30–150–600–3,000 (10,000 ohms per volt).
Ohms: 0–1K–10K–100K–1 Meg–10 Megs–100 Megs (4.4 ohms center scale on low range).
DC Microamperes: 0–60–600 at 120 mV; 0–120 at 240 mV.
DC Milliamperes: 0–6–60–600 at 120 mV; 0–1.2–12–120–1,200 at 240 mV.
DC Amperes: 0–6 at 120 mV; 0–12 at 240 mV.
Decibels: −26 to +51 ("0" dB at 1 mW on 600 ohm line).
Output Volts (AC): 0–3–12–60–300 (5,000 ohms per volt). 0–1.5–6–30–150 (10,000 ohms per volt).
Accuracy: ±1½% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4½″.
Case: Molded, black, 5½″ w. x 3$\frac{11}{32}$″ d. x 7½″ h.
Batteries: NEDA #210, 13F.

Triplett Model 630-NA—Complete with 48″ leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each **$118.00**

Triplett Model 630-NS—Similar to 630-NA with 200,000 ohms per VDC and 20,000 ohms per VAC. Net Each **$142.00**



MODEL 630-APL V-O-M

1. Accuracy 1½% DC and 3% AC; mirrored scale; diode overload-protected suspension movement.
2. 27 range V-O-M with single range switch minimizes error; DC polarity reversing switch.
3. 4 ohmmeter ranges with 4.4 ohms center scale.

RANGES

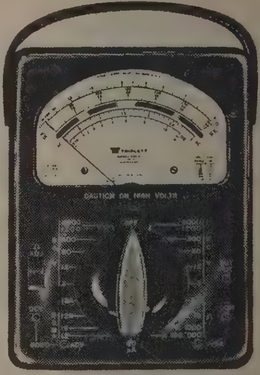
DC Volts: 0–2.5–10–50–250–1,000–5,000 (20,000 ohms per volt); 0–0.25 at 100 µA.
AC Volts: 0–3–10–50–250–1,000–5,000 (5,000 ohms per volt).
Ohms: 0–1K–10K–1 Meg–100 Megs (4.4 ohms center scale on low range).
DC Microamperes: 0–100 at 250 mV.
DC Milliamperes: 0–10–100–1,000 at 250 mV.
DC Amperes: 0–10 at 250 mV.
Decibels: −20 to +49 ("0" dB at 1 mW on 600 ohm line).
Output Volts (AC): 0–3–10–50–250 (5,000 ohms per volt).
Accuracy: ±1½% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4½″.
Case: Molded, black, 5½″ w. x 3$\frac{11}{32}$″ d. x 7½″ h.
Batteries: NEDA #210, 13F.

Triplett Model 630-APL—Complete with 48″ leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each **$94.00**

Triplett Model 630-APLK—Similar to 630-APL with burn-out proof solid state overload protection. Net Each **$136.00**

MODEL 630-A V-O-M

1. Diode overload-protected V-O-M with suspension movement; accuracy 1½% DC and 3% AC.
2. 4 ohmmeter ranges with 4.4 ohms center scale.
3. Simplified mirrored scale; only 4 arcs for all 27 ranges.



RANGES

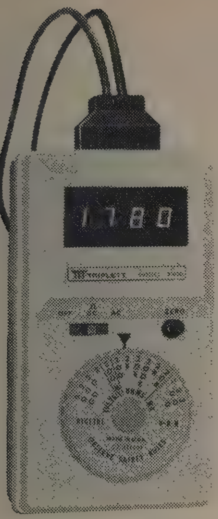
DC Volts: 0–3–12–60–300–1,200–6,000 (20,000 ohms per volt).
AC Volts: 0–3–12–60–300–1,200–6,000 (5,000 ohms per volt).
Ohms: 0–1K–10K–1 Meg–100 Megs (4.4 ohms center scale on low range).
DC Microamperes: 0–60 at 250 mV.
DC Milliamperes: 0–1.2–12–120 at 250 mV.
DC Amperes: 0–12 at 250 mV.
Decibels: −20 to +51 ("0" dB at 1 mW on 600 ohm line).
Output Volts (AC): 0–3–12–60–300 (5,000 ohms per volt).
Accuracy: ±1½% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4⅜″.
Case: Molded, black, 5½″ w. x 3$\frac{11}{32}$″ d. x 7½″ h.
Batteries: NEDA #210, 13F.

Triplett Model 630-A—Complete with 48″ leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each **$94.00**

Triplett Model 630—Similar to 630-A with accuracy of ±2% DC, ±3% AC. Net Each **$82.00**

WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR UNLISTED ITEMS. NO SPECIAL ORDER NUMBERS NECESSARY, JUST USE THE MANUFACTURER'S MODEL NUMBERS.

TRIPLETT Test Instruments



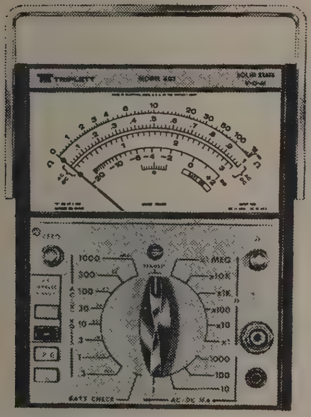
MODEL 3300 D-V-O-M

1. Hand-size, 3½ digit—Easy operation, 22 ranges with Hi and Low Power Ohms. Auto-polarity.
2. Overload Protected—Up to 600 volts on all ranges with special 2 A/600 V fuse arrangement.
3. Battery PAC™—Easily removed, snap-in battery PAC™ provides convenient field exchange for fully charged Pac.

RANGES

DC Volts: 0–0.2–2–20–200–600, ±0.5% of reading, ±1 digit; Input resistance 10 megohms all ranges; full scale step response 1 second typical.
AC Volts: 0–0.2–2–20–200, ±1% of reading, ±2 digits; Input resistance 10 megohms and 100 pF; full scale step response 3 seconds typical.
Ohms—Low Power: 0–200–20K–2 Meg, ±0.5% of reading, ±1 digit; Full scale voltage, 200 mV.
Ohms—Hi Power: 0–2K–200K, ±0.5% of reading, ±1 digit; Full scale voltage, 2 V.
DC Milliamperes: 0–2–20–200, ±1.25% of reading, ±1 digit; Full scale step response, 1 second typical.
AC Milliamperes: 0–2–20–200, 50–5000 Hertz, ±1.5% of reading, ±2 digits; 0.2 volt burden full scale; full scale step response, 3 seconds typical.
Overload Protection: 0–600 volts on all ranges.
Out-of-range Indication: Reading blinks.
DC Polarity: Automatic with reading.
Zero: Offset zero adjustment.
CMRR: 90 dB min. at 60 Hz. **NMRR:** 40 dB min. at 60 Hz.
Operating Temperature Range: 0° C to +50° C.
Batteries: Four 1.5 V, 15 A alkaline type AA. (AC adapter/charger optional).
Fuses: 1 A/250 V and 2 A/600 V.
Case: Gray, high-impact plastic, 3″ w. x 5⅜″ lg. x 1⅜″ d.

Triplett Model 3300—Complete with 42″ test leads, insulated alligator clips, alkaline batteries and instruction manual. Net Each..**$175.00**



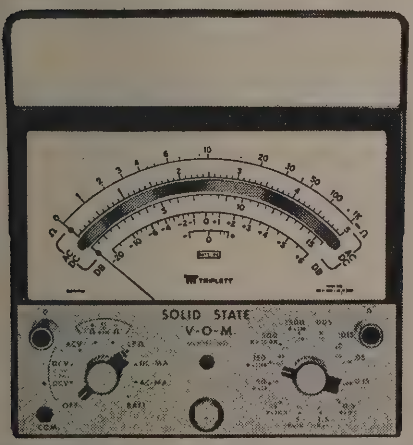
MODEL 603 V-O-M

1. FET V-O-M with Auto-Polarity—convenient and time saving.
2. Low-Power-Ohms—6 ranges with 70 mV power source for in-circuit measurements without component damage.
3. Exclusive Triplett Micro Power—Provides battery life in excess of a year for carbon batteries.

RANGES

DC Volts: 0–0.3–1–3–10–30–100–300–1,000. Input resistance, 11.12 megohms with 1.12 meg in probe.
AC Volts: 0–0.3–1–3–10–30–100–300–1,000. Input impedance, 10 megohms. Frequency range, 20 Hz to 10 kHz.
Ohms—Low Power: 0–1K–10K–100K–1 Meg–10 Megs–1000 Megs (70 mV open circuit voltage, 123 μW maximum power applied to device under test, 10 ohms center scale on low range).
Ohms: 0–1K–10K–100K–1 Meg–10 Megs–1,000 Megs (1.5 V open circuit voltage, 56 mW max. power applied to device under test, 10 ohms center scale on low range).
AC and DC Milliamperes: 0–1–10–100–1,000 at 316 mV.
Decibels: −30 to +62 ("0" dB is equal to .776 V).
Accuracy: ±3% all voltage ranges and ohms; ±4% all current ranges.
Meter: Diode overload protected suspension movement.
Scale Length: 4⅛″.
Case: Shielded molded, black, 5⅛″ w. x 3³⁄₁₆″ d. x 6½″ h.
Batteries: 2 NEDA 9 V 1604, 1½ V 13F cell.

Triplett Model 603—Complete with 48″ leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each....**$173.00**



MODEL 801 V-O-M

1. Low power ohms—8 ranges with 35 mV power source and 1 ohm center scale.
2. High sensitivity—5 mVAC full scale at 10 megohms input impedance; 50 mVDC at 11 megohms input resistance.
3. Simplified scale—8″ meter with only 4 arcs for all 73 ranges.

RANGES

DC Volts: 0–0.05–0.15–0.5–1.5–5–15–50–150–500–1,500. Input resistance, 11 megohms with 1 megohm series resistor in probe tip. Includes 40 dB, 60 Hz rejection.
AC Volts: 0–0.005–0.05–0.15–0.5–1.5–5–15–50–150–500–1,500. Input impedance, 10 megohms. Frequency range, 50 Hz to 50 kHz. Capacitance at input jack, 60 pF max.
Ohms—Low Power: 0–100–1K–10K–100K–1 Meg–10 Megs–100 Megs–1,000 Megs (35 mV and 1 ohm center scale on low range).
Ohms—Conventional: 0–1K–10K–100K–1 Meg–10 Megs–100 Megs–1,000 Megs (1.5 V and 10 ohms center scale on low range).
AC and DC Microamperes: 0–5–15–50–150–500 at 45 mV.
AC and DC Milliamperes: 0–1.5–5–15–50–150–500 at 45 mV.
AC and DC Amperes: 0–1.5 at 45 mV (optional external shunt for 0–15 A measurements).
Decibels: −70 to +66 ("0" dB is equal to .775 V).
Accuracy: DC ±2% Voltage, ±3% Current; AC ±3% Voltage, ±4% Current. Diode protected suspension meter.
Scale Length: 6¾″.
Case: Molded, black, 8″ w. x 5″ d. x 7″ h.
Batteries: NEDA #1604, 13F.

Triplett Model 801—Complete with 48″ shielded probe, 25″ grd. lead, alligator clips, batteries and instruction manual. Net....**$265.00**
Triplett Model 91-620 Shunt Adapter—15 amperes. Net Each..**$14.50**
Triplett Model 60-413 AC Current Leakage Adapter—Leakage readings, 7 ranges from 10 μA FS to 30 mA FS at 500 ohms impedance (type A medical) or 1500 ohms impedance (commercial appliances). Resolution, 0.2 μA lowest VOM range. Accuracy, ±4% FS. Net Each..**$41.20**

TRIPLETT Test Instruments

MAINTENANCE KIT

MODEL 60-K V-O-M

1. X'tra rugged—Will withstand an accidental drop up to a five-foot height.
2. Overload protected—All ranges protected by a diode and unusual three-fuse arrangement including ⅛ amp, 1 amp and 2 amp/1000 V fuses.
3. Safety designed for you—Designed to most rigid safety standards; completely insulated unit including newly designed safety leads.

RANGES

DC Volts: 0–.3–1–3–10–30–100–300–1000 (approx. 20,000 ohms per volt).

AC Volts: 0–3–10–30–100–300–1000 (approx. 5000 ohms per volt).

Ohms: 0–1K–10K–100K–1 meg–10 meg (12 ohms center scale on low range).

DC Milliamperes: 0–0.1–10–100–1000 (approx. 320 mV).

Decibels: −20 dB to +52 dB ("0" dB is equal to .775 ACV across 600 ohms).

Output Volts: (AC, requires external capacitor): 0–3–10–30–100–300 (approx. 5000 ohms per volt).

AC Amperes: (Model 10 Adaptor) 0–6–12–30–60–120–300.

Accuracy (Full Scale): ±2% DC; ±3% AC.

Scale Length: Approx. 4½".

Meter: Ruggedized suspension movement module, polarity reversing switch.

Overload Protection: Meter movement protected by a diode module, ⅛ amp/250 V. 1 amp/250 V and 2 amp/1000 V (20 KW) fuses.

Confidence Test: Switch position provides reassurance check of meter movement.

Case: Molded, black, 5¼" w. x 7¼" h. x 3¼" d.

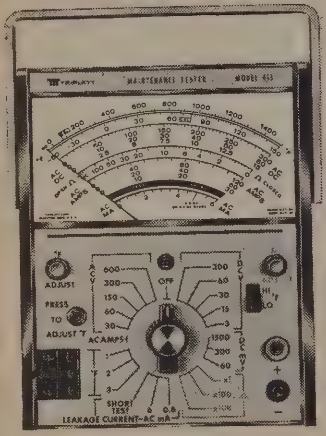
Batteries: Neda #1604, 1–1½V D cell.

Triplett Model 60-K—Includes complete Model 60 with Model 10 AC Adapter, Model 101 Line Separator, Model 10 attachment lead and leather case. Net Each...... **$162.00**

THE 3 IN 1 TESTER . . . MAINTENANCE, TEMPERATURE, AC LEAKAGE

MODEL 615 V-O-M

1. Maintenance tester measures AC/DC volts, ohms, temperature and AC current leakage.
2. Two electrically compensated temperature ranges with switch selection for up to three temperature probes; ideal for air-conditioning and refrigeration maintenance.
3. Low millivolt ranges for thermocouple circuit troubleshooting; special scale for direct reading of AC amps with clamp-on accessory adapter.



RANGES

DC Volts: 0–.06–.3–1.5–3–15–30–60–300 (20,000 ohms per volt).

AC Volts: 0–3–30–60–150–300–600 (5,000 ohms per volt).

Ohms: 0–1K–100K–1 meg (10 ohms center scale on low range).

AC Amperes (Requires accessory Model 20A adapter)**:** 0–6–12–30–60–120.

Temperature: −50° F to +150° F; −50° F to +1500° F.

AC Current Leakage: Short test and 0–0.6–6 mA AC for ANSI C101.1—1971 commercial appliance AC current leakage tests.

Accuracy (Full scale): ±2% DC volts and ohms; ±3% AC volts and temperature; ±4% AC current leakage; ±8% AC current (with adapter).

Scale Length: 4½".

Meter: Diode overload protected suspension movement.

Case: Molded, black, 5⅛" w. x 6½" h. x 3³⁄₁₆" d.

Batteries: Two Neda #1604, one 1½ volt D cell.

Triplett Model 615—Meter and leads. Net Each.......................... **$170.00**

Triplett Model 615-K—Complete with Model 615, Model 20A, Model 101, black molded case, 48" leads, 6' thermocouple probe, alligator clips, batteries and instruction manual. Net Each.. **$234.00**

POCKET SIZED MAINTENANCE METER

MODEL 390 V-O-M

1. Drop-resistant hand-size V-O-M with two temperature ranges and clamp-on AC ammeter.
2. High-impact thermoplastic case; 20,000 ohms per volt DC and 5,000 ohms per volt AC; diode overload protection with fused Rx1 ohms range.
3. Single range switch; direct reading AC amps range facilitates clamp-on AC ammeter usage, reads to 300 amps AC.

RANGES

DC Volts: 0–3, –12, –60, –300, –1200 (20,000 ohms per volt).

AC Volts: 0–3, –12, –60, –300, –1200 (5,000 ohms per volt).

Ohms: 0–20K, –200K, –2 meg, –20 meg (200 ohms center scale on low range).

DC Microamperes: 0–600 at 250 mV.

DC Milliamperes: 0–6, –60, –600 at 250 mV.

Temperature: −50° F to +150° F; +50° F to +300° F.

Accuracy: ±3% DC and temperature; ±4% AC.

Scale Length: 2⅛".

Meter: Diode overload protected suspension movement.

Case: Molded black plastic, 4¼" h. x 2¾" w. x 1⁵⁄₁₆" d.

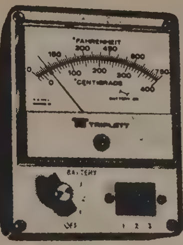
Batteries: One NEDA 220 (15V) and one NEDA 910F (1.5V).

Triplett Model 390—Complete with 42" leads, 31" temperature probe, alligator clips, batteries and manual. Net Each.. **$74.00**

Triplett Model 100-T—Maintenance Kit—Complete with Model 390 meter, Model 10 clamp-on ammeter, Model 101 line separator, Model 311 lead, Model 379 carrying case, temperature probe, 42" leads, alligator clips, batteries and manual. Net Each. . **$120.00**

PRICES LISTED ARE FOR GUIDANCE ONLY

TRIPLETT Test Instruments



G/P PORTABLE INSTRUMENTS

1. Wide clear view plastic meter, with Bar-Ring DC movements.
2. Overload protection on all models. (Diodes on DC, Fused AC.)
3. Unbreakable molded black plastic cases with aluminum panels.

- ±2% accuracy on DC and AC Iron Vane Types.
- ±3% accuracy on AC Rectifier Type and Ohms.
- ±3% or better accuracy on temperature.
- 3½" Model 320-G panel instrument.
- Five-way binding posts or three switched inputs.
- DC movements diode protected.
- AC movements fuse protected.
- Temperature unit electrically compensated.
- Case molded, black, 3⅜" w. x 4¼" d. x 4¼" h.

DC TYPE 320-G/P

Range	Net Each
0–1–5–25 V (1000 ohms/V)	$43.30
0–25–100–500 V (1000 ohms/V)	44.20
0–6–60–600 V (1000 ohms/V)	44.20
0–50 μA (2300 ohms resis.)	82.60
500–25–0–25–500 μA (6250 ohms resis.)	40.90
0–0.25–1–5 mA	45.60
0–25–100–500 mA	42.10
0–1–10–100 mA	42.60
0–1–5–25 A	42.60
0–50–100–250 mV*	43.30
0–3–15 A	42.60
0–10–50–250 μA (suspension)	39.10
40–0–40 μA (suspension) null meter (1700 ohms resis.)	56.80

*May be used with any of several standard switchboard shunts to extend range to higher currents.

AC IRON VANE TYPE 330-G/P

0–120–600 V (83 ohms/V) and 0–12 mA	$58.60
0–5–25 V (4 ohms/V) and 0–250 mA	43.70
0–30–120 V (17 ohms/V) and 0–60 mA	45.40
0–150 V (125 ohms/V)	34.80
0–1 A (3 ohms resis.)	32.90
0–5 A (.015 ohm resis.)	32.90
0–25 A (.002 ohm resis.)	32.90

AC RECTIFIER TYPE 350-G/P

Range	Net Each
0–6–60–600 V (1000 ohms/V)	$70.10

OHMMETERS TYPE 320-G/P

Includes battery and test leads.

0–1K–100K (10–1000 center scales) (1.5 V battery)	$47.90
0–1–100 meg (5K–500K ctr. scales) (30 V battery)	55.20

RF VOLTS TYPE 340-G/P AND WATTS TYPE 360-G/P

0–2.5 V (240 ohms/V)	$66.50
0–150 W (150 V, 2A max.)	70.60

TEMPERATURE TYPE 320-G/P

Suspension type; includes 5-ft. thermocouple probe, 1.5 volt C battery and instruction manual.

−150° F to +250° F; −100° C to +120° C	$77.20
−100° F to +300° F; −75° C to +150° C	77.20
0° F to +500° F; −20° C to +260° C	77.20
0° F to +750° F; −20° C to +400° C	77.20
0° F to +1000° F; −20° C to +540° C	77.20

ACCESSORIES

79-127 test leads for G/P series except temp. meters	$ 4.90
79-310 5-ft. thermocouple probe for temp. meters	11.70

ACCESSORIES

REPLACEMENT LEADS

No.	For Tester	Description	Net Each
79-160	Model 10 plus any 630 with 3 VAC scale at 5000 ohms/V	6-ft. lead using Model 10 as clamp-on ammeter with 630 series as noted	$ 4.90
79-153	Model 310 series	Needle nose test leads	4.90
79-296	Model 310 series	Blunt nose test leads	7.70
79-267	Model 601	Test lead	19.70
79-261	Models 601 & 603	Black ground lead	3.60
79-288	Model 603	Test lead	19.70

No.	For Tester	Description	Net Each
79-127	Model 630 series, 666-R, 990, 6028, G/P	Test leads	$ 4.90
79-290	Model 801	Probe only	13.80
79-291	Model 801	Shielded lead	8.10
79-311	Model 825	Thermocouple probe	16.40
79-192	Model 850	Test leads	11.20
79-214	Model 850	Black ground lead	2.20

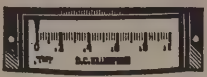
BLACK COWHIDE CASES

Model	For Tester	Description	Net Each
369	310, 310-C, 310-FET	Top opening with trouser loop on back	$ 6.40
369-S	310, 310-C, 310-FET	Front opening; tester usable in case	15.00
369-T	310, 310-C, 310-FET	Neck-strap style; tester usable in case	14.50
379	310-10-101	With storage for leads	12.20
639	630 Series	Top opening style	19.10
639-A	60 600 & 630 Series	Front opening; tester usable in case	25.20
639-N	630 Series	Front opening; tester usable in case	19.10
639-P	630 Series	Top opening style with foam padding	27.00
639-OS	630 & 600 Series, 6028	Front opening; tester usable in case	22.20
669	666-R	Top opening style	12.70
669-OS	666-R	Front opening; tester usable in case	13.80
859-OP	800 & 850	Front opening; with foam padding	35.10
10-2467	801	Front opening; with foam padding	44.60

PIONEER INSTRUMENT LABS ARE AUTHORIZED REPAIR AND MODIFICATION CENTERS FOR TRIPLETT

TRIPLETT Panel Meters

EDGEWISE METERS



Designed for strikingly clean appearance. Edgewise panel meters occupy minimum space and provide performance of conventional panel meters. Available in five different sizes. **Case and Composition:** Model .5-E, thermoplastic front and steel back; all others thermoplastic front and thermosetting plastic back. **Scale Length:** Model .5-E, .84″; Models 120 & 150, 1.15″; Model 220-E, 1.75″; Model 320-E, 2.75″; Model 420-E, 3.87″. **Panel Hole Required:** Model .5-E, 1.27″ x .516″; Models 120 & 150, 1.687″ x .531″; Model 220-E, 2.25″ x .531″; Model 320-E, 3.45″ x 1.30″; Model 420-E, 4.562″ x 1.531″. **Depth Behind Panel:** Model .5-E, 1.431″; Models 120 & 150, 1.066″; Model 220-E, 3.03″; Model 320-E, 2.583″; Model 420-E, 3.53″. Bezels available (optional) for 3½″ and 4½″ Models can be mounted from front or rear of the panel.

Triplett Number 11977A—Metal bezel for 3½″ models.
Net Each.......................................**$2.10**

Triplett Number 11967A—Metal bezel for 4½″ models.
Net Each.......................................**2.10**

To Order: Specify Model, range, type and Triplett number from the appropriate tables below. Example, .5-E, 0–1, DC Ammeter, 1020102.

DC MICROAMMETERS (PIVOT AND JEWEL)

Range	Resis., Ohms	.5-E No.	Net Each	120 No.	Net Each	220-E No.	Net Each	320-E No.	Net Each	320-EG No.	Net Each	420-E No.	Net Each
0–50	2300	52–3188	$41.90	152–0296	$30.90	52–6253	$41.90	152–1313	$45.10	52–6630	$50.70	152–1971	$46.30
0–100	825	152–1164	38.50	152–0298	27.10	52–6316	38.50	152–1314	42.90	52–6631	48.60	152–1972	44.20
0–200	360	152–1166	35.20	152–0300	23.60	52–6628	35.20	152–1315	39.30	52–6632	46.50	152–1973	42.40
0–500	156	152–1169	34.30	152–0303	23.10	52–6629	34.30	152–1316	38.30	52–6633	45.20	152–1974	40.80
50–0–50	825			152–1194	27.10								
100–0–100	360			152–1195	23.60								
500–0–500	55			152–1196	22.00								

DC MICROAMMETERS (SUSPENSION TYPE)

0–10	15000							152–1361	$64.60			152–1975	$66.10
0–20	7500							152–1983	57.80			152–1976	59.00
0–50	2300							152–1981	48.40			152–1977	50.10
0–100	825							152–1982	45.10			152–1978	46.30
0–200	360							152–1984	43.50			152–1979	45.10
0–500	56							152–1346	42.90			152–1980	44.20

DC MILLIAMMETERS

0–1	55	152–1176	$33.10	152–0305	$21.10	52–2238	$33.10	152–1300	$37.60	152–2433	$43.70	152–1950	$39.30
0–5	8.5	152–1181	33.10	152–0310	21.10	52–6576	33.10	152–1301	37.60	52–6581	43.70	152–1951	39.30
0–10	3.1	152–2399	33.10	152–0312	21.10	52–6577	33.10	152–1302	37.60	52–6582	43.70	152–1952	93.30
0–50	1.0	152–2400	33.70	152–0317	22.00	52–6578	33.70	152–1303	38.40	52–6583	44.50	152–1953	40.00
0–100	.5	152–2401	33.70	152–0319	22.00	52–6579	33.70	152–1304	38.40	52–6584	44.50	152–1954	40.00
0–200	.25	152–2402	33.70	152–0321	22.00	52–6279	33.70	152–1305	38.40	52–6585	44.50	152–1955	40.00
0–500	.1	152–2403	33.70	152–0324	22.00	52–6580	33.70	152–1307	38.40	52–6586	44.50	152–1957	40.00

DC AMMETERS

0–1		52–6588	$33.90	152–1343	$22.00	52–6589	$33.90	152–1350	$38.40	52–6590	$44.40	152–1959	$40.00
0–5								152–1353	38.40	52–6591	44.40	152–1960	40.00
0–10								152–1400	38.40	52–6592	44.40	152–1961	40.00
0–30								152–1404	38.40	52–6593	44.40	52–6657	40.00
0–50								152–1405	38.40	52–6594	44.40	152–1963	40.00

DC MILLIVOLTMETERS (PIVOT AND JEWEL)

0–50	6.7	52–3720	$33.90	152–0326	$21.70	52–6600	$33.90	152–1333	$37.60	52–6601	$44.40	152–1958	$40.00

DC VOLTMETERS (1000 OHMS/VOLT)

0–5		152–1221	$34.40	152–0336	$23.10	52–6604	$34.40	152–1410	$39.10	52–6609	$45.90	152–1964	$41.50
0–10		152–1254	34.40	152–0338	23.10	52–6605	34.40	152–1317	39.10	52–6610	45.90	152–1965	41.50
0–25		152–1257	34.40	152–0341	23.10	52–6280	34.40	152–1320	39.10	52–6611	45.90	152–1966	41.50
0–30		152–1258	34.40	152–0342	23.10	52–6606	34.40	152–1321	39.10	52–6612	45.90	152–2364	41.50
0–50		152–1259	34.40	152–0343	23.10	52–6607	34.40	152–1322	39.10	52–6613	45.90	152–1967	41.50
0–150		152–1286	34.40	152–0346	23.10	52–6608	34.40	152–1337	39.10	52–6614	45.90	152–1968	41.50
0–500								152–1341	39.10	52–6615	46.50	152–1970	42.10

VOLUME UNIT METERS

Scale	Resis., Ohms	.5-E No.	Net Each	150 No.	Net Each	220-E No.	Net Each	320-E No.	Net Each	320-EG No.	Net Each	420-E No.	Net Each
A	3900			52–3007	$40.80								
B	3900			52–3163	40.80								

WATTMETERS

Single phase wattmeters are available in 3½″ size only. Electrodynamometer type panel instruments come in three different styles. **Flange Size:** Model 360-G, 3.50″ w. x 2.99″ h.; Model 361, 3.50″ dia.; Model 367-A, 3.00″ w. x 3.00″ h. **Body Size:** Model 360-G, 2.75″ dia. x 1.75″ d.; Model 361, 2.75″ dia. x 1.937″ d.; Model 367-A, 2.75″ dia. x 2.047″ d. **Term. Extend:** Model 360-G, .687″ max.; Model 361, .687″ max.; Model 367-A, .687″ max.

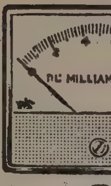
Range, Watts	Normal		360-G Number	Net Each, Lots of			361 Number	367-A Number	Net Each, Lots of		
	V	A		1-24	25-49	50 Up			1-24	25-49	50 Up
0–150	150	1.0	54–0064	$52.60	$42.08	$39.45	154–0009	154–0018	$47.40	$37.92	$35.55
0–300	150	2.0	54–0065	52.60	42.08	39.45	154–0010	154–0019	47.40	37.92	35.55
0–750	150	5.0	154–0002	52.60	42.08	39.45	154–0011	154–0020	47.40	37.92	35.55
0–300	300	1.0	154–0001	57.50	46.00	43.13	154–0013	154–0022	52.40	41.92	39.30
0–600	300	2.0	154–0005	57.50	46.00	43.13	154–0014	154–0023	52.40	41.92	39.30

CONTACT US FOR THE AVAILABILITY OF ADDITIONAL RATINGS

PRICES LISTED ARE FOR GUIDANCE ONLY

TRIPLETT Panel Meters

GENERAL PANEL METER INFORMATION



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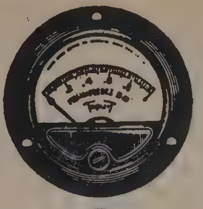

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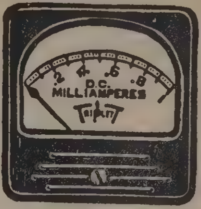


C

iplett meters offer ±2% accuracy, rugd construction, high overload capacity d long-term reliability. **DC meters** are Arsonval type with spring back, pivot d jewel construction except for certain icroammeters with high-sensitivity susnsion movement; linear scales; extra ht moving coil; self-shielded Bar-Ring® agnet; one-piece diecast frame. **AC meters** e moving iron vane type, viscous damped, th light moving parts. All have spring ck jewel bearings; specially treated vots; white enameled metal dials; ceramic inter stops; molded zero adjusters, case and base. **Accuracy:** 2% except AC rect. type, ±3%. **Repeatability:** Suspension pe, ±0.5%; pivot, ±2%. **Overload Capacity:** 1 second: current, 00% except AC rect. and RF, 150%; voltage, 0–100 V, 1000% cept RF thermocouple, AC rect., 150%. **Continuous Overload:** 0% except DC and AC (iron vane) current, 150%. **Damping ctor:** 2.5 min. **G-Series Meters (Fig. A):** Flexible and interchangeable design with optional mounting bezel for mounting behind panel. Large dial area for multiple scales. Natural aluminum insert. **Phenolic Series:** Model 221-T (Fig. B) come with glass window, thermosetting plastic case and three stud mountings. Optional illumination available for certain models. Model 227-T (Fig. C) comes with glass window, thermosetting plastic case and four stud mtgs. Optional illumination available for certain models.

2½″ PANEL INSTRUMENTS

C, DC or RF 2½″ meters come in three different styles. Table low indicates the dimensions of the meters. **To Order:** Specify th model and Triplett part number from the appropriate tables low. Example, model 220-G, number 10696 15 indicates DC icroammeter, pivot and jewel type with 0–50 μA range in series case. Bezel and illumination kit available for G-series.

Triplett Number 13-238—Metal bezel for G-series. Size, 3.09″ w. x 1.69″ h. Allow .5″ additional width for bezel mounting hardware. Net Each **$3.00**

Triplett Number 66-80—Illumination kit for G-series. Net Each **3.40**

Model	Meter Type	Nominal Size	Fig.	Scale Length	Flange Size, W. x H.	Body Size, Dia. x Depth	Term. Extend
220-G	DC	2½″	A	2.48″	2.77″ x 2.39″	2.2″ x 1.39″	.73″
230-G	AC	2½″	A	2.11″	2.77″ x 2.39″	2.2″ x 1.39″	.73″
240-G	RF	2½″	A	2.48″	2.77″ x 2.39″	2.2″ x 1.39″	.73″
221-T	DC	2½″	B	1.76″	2.687″ dia.	2.203″ x .937″	.75″
231-S	AC	2½″	B	1.58″	2.687″ dia.	2.203″ x 1.312″	.75″
241-T	RF	2½″	B	1.76″	2.687″ dia.	2.203″ x .937″	.75″
227-T	DC	2½″	C	1.76″	2.375″ x 2.375″	2.156″ x 1.00″	.75″
237-S	AC	2½″	C	1.58″	2.375″ x 2.375″	2.156″ x 1.375″	.75″
247-T	RF	2½″	C	1.76″	2.375″ x 2.375″	2.156″ x 1.00″	.75″

DC MICROAMMETERS (PIVOT AND JEWEL)

ange	Resis., Ohms	220-G Number	221-T Number	227-T Number	Net Each, Lots of 1-24	25-49	50 Up
-50	2300	**152-0143**	**152-1473**	**152-1542**	**$30.90**	**$24.72**	**$23.18**
-100	825	**152-0145**	**152-1474**	**152-1543**	**27.10**	**21.68**	**20.33**
-200	360	**152-0147**	**152-1475**	**152-1544**	**23.60**	**18.88**	**17.70**
-500	156	**152-0150**	**152-1476**	**152-1545**	**23.10**	**18.48**	**17.33**

DC MICROAMMETERS (SUSPENSION TYPE)

-5	15000	**152-1155**	**152-1477**	**152-1546**	**$58.30**	**$46.64**	**$43.73**
-10	7500	**152-0226**	**152-1478**	**152-1547**	**50.10**	**40.08**	**37.58**
-20	2500	**152-0228**	**152-1479**	**152-1548**	**42.90**	**34.32**	**32.18**
-50	825	**152-0231**	**152-1480**	**152-1549**	**33.80**	**27.04**	**25.35**
-100	360	**152-0247**	**152-1481**	**152-1550**	**30.30**	**24.24**	**22.73**
-200	156	**152-0249**	**152-1482**	**152-1551**	**27.70**	**22.16**	**20.78**
-500	40	**152-0252**	**152-1483**	**152-1552**	**26.90**	**21.52**	**20.18**
-1000†	12.5	**152-1270**	**152-1484**	**152-1576**	**25.40**	**20.32**	**19.05**
-50‡	360	**152-1236**	**152-1485**	**152-1553**	**30.30**	**24.24**	**22.73**
-100‡	156	**152-1237**	**152-1486**	**152-1554**	**27.70**	**22.16**	**20.78**
-500‡	12.5	**152-1238**	**152-1487**	**152-1555**	**25.40**	**20.32**	**19.05**

Reads 0–1 mA. ‡Zero center range.

DC MILLIAMMETERS

-1	55	**152-0152**	**152-1425**	**152-1494**	**$21.10**	**$16.88**	**$15.83**
-5	8.5	**152-0157**	**152-1428**	**152-1497**	**21.10**	**16.88**	**15.83**
-10	3.1	**152-0159**	**152-1429**	**152-1498**	**21.10**	**16.88**	**15.83**
-25	2.0	**152-0162**	**152-1431**	**152-1500**	**22.00**	**17.60**	**16.50**
-50	1.0	**152-0164**	**152-1432**	**152-1501**	**22.00**	**17.60**	**16.50**
-100	0.5	**152-0166**	**152-1434**	**152-1503**	**22.00**	**17.60**	**16.60**
-200	0.25	**152-0168**	**152-1436**	**152-1505**	**22.00**	**17.60**	**16.50**
-500	0.1	**152-0171**	**152-1440**	**152-1509**	**22.00**	**17.60**	**16.50**

DC AMMETERS

-1	. . . .	**152-0173**	**152-1443**	**152-1512**	**$22.00**	**$17.60**	**$16.50**
-5	. . . .	**152-0176**	**152-1445**	**152-1514**	**23.00**	**18.40**	**17.25**
-10	. . . .	**152-0177**	**152-1446**	**152-1515**	**23.00**	**18.40**	**17.25**
-30	. . . .	**152-0182**	**152-1449**	**152-1518**	**23.00**	**18.40**	**17.25**
-50	. . . .	. . . .	**152-1450**	**152-1519**	**23.00**	**18.40**	**17.25**

DC VOLTMETERS (1000 OHMS/VOLT)

-5	. . . .	**152-0193**	**152-1456**	**152-1525**	**$23.10**	**$18.48**	**$17.33**
-10	. . . .	**152-0195**	**152-1457**	**152-1526**	**23.10**	**18.48**	**17.33**
-25	. . . .	**152-0198**	**152-1459**	**152-1528**	**23.10**	**18.48**	**17.33**
-30	. . . .	**152-0199**	**152-1460**	**152-1529**	**23.10**	**18.48**	**17.33**
-50	. . . .	**152-0200**	**152-1461**	**152-1530**	**23.10**	**18.48**	**17.33**
-100	. . . .	**152-0202**	**152-1462**	**152-1531**	**23.10**	**18.48**	**17.33**
-150	. . . .	**152-0203**	**152-1463**	**152-1532**	**23.10**	**18.48**	**17.33**

2000 ohms/volt; external multiplier box furnished.

DC MILLIVOLTMETERS (PIVOT AND JEWEL)

Range	Resis., Ohms	220-G Number	221-T Number	227-T Number	Net Each, Lots of 1-24	25-49	50 Up
0–50	6.7	**152-0183**	**152-1451**	**152-1520**	**$21.70**	**$17.36**	**$16.28**

AC MILLIAMMETERS

Range	Resis., Ohms	220-G Number	231-S Number	237-S Number	Net Each, Lots of 1-24	25-49	50 Up
0–10	4000	**153-0142**	**153-0369**	**153-0398**	**$21.40**	**$17.12**	**$16.05**
0–50	120	**153-0147**	**153-0372**	**153-0401**	**21.40**	**17.12**	**16.05**
0–100	40	**153-0149**	**153-0373**	**153-0402**	**21.40**	**17.12**	**16.05**
0–250	5.9	**153-0152**	**153-0375**	**153-0404**	**21.40**	**17.12**	**16.05**
0–500	1.55	**153-0155**	**153-0376**	**153-0405**	**21.40**	**17.12**	**16.05**

AC AMMETERS

For ranges above 50, use AC ammeter current transformers.

0–1	.38	**153-0001**	**153-0348**	**153-0377**	**$21.40**	**$17.12**	**$16.05**
0–2	.092	**153-0003**	**153-0349**	**153-0378**	**21.40**	**17.12**	**16.05**
0–3	.039	**153-0005**	**153-0350**	**153-0379**	**21.40**	**17.12**	**16.05**
0–5	.014	**153-0006**	**153-0351**	**153-0380**	**21.40**	**17.12**	**16.05**
0–10	.004	**153-0065**	**153-0352**	**153-0381**	**21.40**	**17.12**	**16.05**
0–15	.003	**153-0066**	**153-0353**	**153-0382**	**21.40**	**17.12**	**16.05**
0–25	.002	**153-0068**	**153-0354**	**153-0383**	**21.40**	**17.12**	**16.05**
0–30	.001	**153-0069**	**153-0355**	**153-0384**	**21.40**	**17.12**	**16.05**
0–50	.00035	**153-0070**	**153-0356**	**153-0385**	**21.40**	**17.12**	**16.05**

AC VOLTMETERS

0–10	10	**153-0072**	**153-0360**	**153-0389**	**$21.40**	**$17.12**	**$16.05**
0–50	50	**153-0077**	**153-0363**	**153-0392**	**21.40**	**17.12**	**16.05**
0–100	91	**153-0022**	**153-0364**	**153-0393**	**21.40**	**17.12**	**16.05**
0–150	125	**153-0023**	**153-0365**	**153-0394**	**23.70**	**18.96**	**17.78**
0–250	144	**153-0025**	**153-0366**	**153-0395**	**23.90**	**19.12**	**17.93**
0–300	144	**153-0026**	**153-0367**	**153-0396**	**23.90**	**19.12**	**17.93**
0–500*	125	**153-0214**	**153-0368**	**153-0397**	**35.80**	**28.64**	**26.85**

*External multiplier box furnished.

RF THERMOAMMETERS

Range	Resis. Ohms	240-G Number	241-T Number	247-T Number	Net Each, Lots of 1-24	25-49	50 Up
0–1	.35	**52-3435**	**152-1489**	**152-1557**	**$26.60**	**$21.28**	**$19.95**
0–1.5	.21	**52-3531**	**152-1490**	**152-1558**	**26.60**	**21.28**	**19.95**
0–5	.06	**52-3169**	**152-1492**	**152-1560**	**26.60**	**21.28**	**19.95**
0–10	.03	**52-3422**	**152-1493**	**152-1561**	**26.60**	**21.28**	**19.95**

CONTACT US FOR AVAILABILITY OF ADDITIONAL RATINGS

TRIPLETT Panel Meters

DC MILLIAMPERES
2
4
6
8

A

50
100
150
200
D.C. MICROAMPERES

B

.2
.4
.6
.8
1
D.C. MILLIAMPERES

C

PANEL METERS—3.5" AND 4.5" SIZES

Similar to 2½" panel meters. Same specifications except the size. **G and T Series** are similar to 2½" size meters. **GL Series** comes with glass window, flat black thermosetting plastic case, two stud mounting and contoured base with sealed meter movement permitting utilization of lower part of front for mounting controls, switches, etc. **R Series** comes with thermoplastic front and thermosetting plastic back with flat scale arc. **GL/B Series** is similar to GL Series except includes integral bezel for behind the panel mounting. Bezel also available for 3½" and 4½" G Series (optional).

Triplett Number 13-239—Metal bezel for 320-G series. Panel cutout, 3.718" w. x 2.156" h. Bezel, 3.83" w. x 2.27" h. Net Each.............. **$3.00**

Triplett Number 13-236—Metal bezel for 420-G series. Panel cutout, 4.812" w. x 2.75" h. Bezel, 4.92" w. x 2.85" h. Net Each.............. **$3.00**

Triplett Number 66-80—Illumination kit for G Series. Net Each... **3.40**

To Order: When ordering specify Model, range, type and catalog number from the appropriate tables below. Example, 320-G, 0-1, DC Ammeter, 1029702.

DC MICROAMPERES

D

MILLIAMPERES DC
Triplett

E

.2
.4
.6
.8
D.C. MILLIAMPERES
Triplett

F

G

DIMENSIONS

Model	Nom. Size	Fig.	Scale Lgth.	Flange Size, W. x H.	Body Size, Dia. x Depth	Term. Extend
320-G*	3½"	A	3.16"	3.50" x 2.99"	2.75" x 1.39"	.73"
330-G	3½"	A	2.68"	3.50" x 2.99"	2.75" x 1.39"	.73"
320-GL†	3½"	B	3.16"	3.743" x 3.233"	2.156" x 1.105"	.367"
330-GL	3½"	B	2.62"	3.743" x 3.233"	2.156" x 1.105"	.367"
320-GL/B‡	3½"	C	3.16"	3.86" x 2.911"	2.156" x 1.105"	.367"
330-GL/B	3½"	C	2.62"	3.86" x 2.911"	2.156" x 1.105"	.367"
320-R	3½"	D	2.96"	3.954" x 2.673"	2.156" x 1.311"	.75"
330-R	3½"	D	2.50"	3.954" x 2.673"	2.156" x 1.311"	.75"
321-T§	3½"	E	2.44"	3.50" dia.	2.75" x .92"	.75"
331-S	3½"	E	2.22"	3.50" dia.	2.75" x 1.312"	.75"
327-T♯	3½"	F	2.49"	3.00" x 3.00"	2.75" x .987"	.75"
337-S	3½"	F	2.22"	3.00" x 3.00"	2.75" x 1.375"	.75"
420•	4½"	G	4.04"	4.625" x 4.187"	2.75" x .843"	.75"
430	4½"	G	3.60"	4.625" x 4.187"	2.75" x .968"	.75"
420-G▴	4½"	A	4.03"	4.55" x 4.068"	2.75" x 1.39"	.73"
430-G	4½"	A	3.43"	4.55" x 4.068"	2.75" x 1.39"	.73"
420-GL▪	4½"	B	4.03"	4.718" x 4.218"	2.203" x 1.105"	.73"
430-GL	4½"	B	3.36"	4.718" x 4.218"	2.203" x 1.105"	.73"
420-GL/B♦	4½"	C	4.03"	4.96" x 3.749"	2.203" x 1.105"	.73"
430-GL/B	4½"	C	3.36"	4.96" x 3.749"	2.203" x 1.105"	.73"
420-R	4½"	D	3.45"	4.50" x 2.97"	2.203" x 1.311"	.75"
430-R	4½"	D	2.87"	4.50" x 2.97"	2.203" x 1.311"	.75"

*Same size for 340-G and 350-G. †Same size for 340-GL and 350-GL. ‡Same size for 340-GL/B and 350-GL/B. §Same size for 341-T and 351-T. ♯Same size for 347-T and 357-T. •Same size for 440 and 450. ▴Same size for 440-G and 450-G. ▪Same size for 440-GL and 450-GL. ♦Same size for 440-GL/B and 450-GL/B.

3.5" PANEL METERS

DC MICROAMMETERS (PIVOT AND JEWEL)

Range	Resis., Ohms	320-G Number	320-GL Number	320-GL/B Number	320-R Number	321-T Number	327-T Number	Net Each, Lots of		
								1-24	25-49	50 Up
0-50	2300	152-0072	152-2135	152-2148	152-0578	152-1642	152-1730	$31.60	$25.28	$23.70
0-100	825	152-0074	152-2136	152-2149	152-0580	152-1643	152-1731	28.50	22.80	21.38
0-200	360	152-0076	152-2137	152-2150	152-0582	152-1644	152-1732	24.90	19.92	18.68
0-500	156	152-0079	152-2138	152-2151	152-0585	152-1645	152-1733	23.60	18.88	17.70

DC MICROAMMETERS (SUSPENSION TYPE)

0-5	15000	52-3071	152-2054	152-2088	152-0591	152-1650	152-1738	$59.60	$47.68	$44.70
0-10	7500	152-0233	152-2055	152-2089	152-0592	152-1651	152-1739	51.20	40.96	38.40
0-20	2500	152-0235	152-2056	152-2090	152-0594	152-1652	152-1740	44.20	35.36	33.15
0-50	825	152-0238	152-2057	152-2091	152-0597	152-1653	152-1741	35.20	28.16	26.40
0-100	360	152-0254	152-2058	152-2092	152-0599	152-1654	152-1742	31.60	25.28	23.70
0-200	156	152-0256	152-2059	152-2093	152-0601	152-1655	152-1743	29.20	23.36	21.90
0-500	40	152-0259	152-2060	152-2094	152-0604	152-1656	152-1744	28.10	22.48	21.08
0-1000*	12.5	152-1290	152-2061	152-2222	...	152-1657	152-1745	26.90	21.52	20.18
50-0-50	360	152-0357	152-2182	152-2357	...	152-1658	152-1746	31.60	25.28	23.70
100-0-100	156	152-0358	152-2183	152-2358	...	152-1659	152-1747	29.20	23.36	21.90
500-0-500	12.5	152-0359	152-2184	152-2359	...	152-1660	152-1748	26.90	21.52	20.18
40-0-40	1700	52-3744	52-6178	52-6642	...	...	...	55.00	44.00	41.25

*Reads 0-1 mA.

DC MILLIAMMETERS

0-1	55	152-0081	152-2047	152-2196	152-0557	152-1594	152-1682	$22.60	$18.08	$16.95
0-5	8.5	152-0086	152-2050	152-2199	152-0562	152-1597	152-1685	22.60	18.08	16.95
0-10	3.1	152-0088	152-2051	152-2200	152-0563	152-1598	152-1686	22.60	18.08	16.95
0-25	2.0	152-0091	152-2053	152-2202	...	152-1600	152-1688	23.30	18.64	17.48
0-50	1.0	152-0093	152-2121	152-2283	152-0568	152-1601	152-1689	23.30	18.64	17.48
0-100	.50	152-0095	152-2123	152-2285	152-0570	152-1603	152-1691	23.30	18.64	17.48
0-200	.25	152-0097	152-2125	152-2287	152-0572	152-1605	152-1693	23.30	18.64	17.48
0-500	.10	152-0100	152-2129	152-2291	152-0575	152-1609	152-1697	23.30	18.64	17.48

DC AMMETERS*

0-1	...	152-0102	152-2230	152-2262	152-0533	152-1612	152-1700	$23.60	$18.88	$17.70
0-5	...	152-0105	152-2232	152-2264	152-0538	152-1614	152-1702	23.80	19.04	17.85
0-10	...	152-0106	152-2233	152-2265	152-0539	152-1615	152-1703	23.80	19.04	17.85
0-30	...	152-0110	152-2236	152-2268	...	152-1618	152-1706	23.80	19.04	17.85
0-50	...	...	152-2237	152-2269	152-0544	152-1619	152-1707	23.80	19.04	17.85

*For ranges above 50 amps, see DC Ammeter Shunts.

DC VOLTMETERS (1000 OHMS/VOLT)

0-5	...	152-0122	152-2134	152-2360	152-0500	152-1625	152-1713	$24.40	$19.52	$18.30
0-10	...	152-0124	152-2077	152-2361	152-0501	152-1626	152-1714	24.40	19.52	18.30
0-25	...	152-0127	152-2079	152-2362	152-0504	152-1628	152-1716	24.40	19.52	18.30
0-30	...	152-0128	152-2080	152-2363	...	152-1629	152-1717	24.40	19.52	18.30
0-50	...	152-0129	152-2223	152-2185	152-0506	152-1630	152-1718	24.40	19.52	18.30
0-100	...	152-0131	152-2224	152-2186	...	152-1631	152-1719	24.40	19.52	18.30
0-150	...	152-0132	152-2225	152-2187	152-0509	152-1632	152-1720	24.40	19.52	18.30
0-200	...	152-0133	152-2226	152-2188	...	152-1633	152-1721	24.40	19.52	18.30
0-250	...	152-0134	152-2227	152-2189	...	152-1634	152-1722	24.40	19.52	18.30
0-300	...	152-0135	152-2228	152-2190	152-0512	152-1635	152-1723	24.40	19.52	18.30
0-500	...	152-0136	152-2229	152-2191	152-0513	152-1636	152-1724	25.40	20.32	19.05
0-1000*	...	152-0138	152-2254	52-6656	...	152-1638	152-1726	37.70	30.16	28.28
0-5000*	...	152-0142	152-2257	52-6655	...	152-1641	152-1729	46.50	37.20	34.88

*2000 Ohms/Volt; external multiplier box furnished.

CONTACT US FOR AVAILABILITY FOR ADDITIONAL RATINGS

TRIPLETT Panel Meters

3.5″ PANEL METERS (CONTINUED)

DC MILLIVOLTMETERS (PIVOT AND JEWEL)

Range	Resis., Ohms	320-G Number	320-GL Number	320-GL/B Number	320-R Number	321-T Number	327-T Number	Net Each, Lots of 1-24	25-49	50 Up
0-50	6.7	152-0112	152-2258	152-2331	152-0522	152-1620	152-1708	$23.10	$18.48	$17.33
0-100	13.5	152-0113	152-2259	152-2332		152-1621	152-1709	23.10	18.48	17.33
0-150	20.2	152-0114	152-2260	152-2333		152-1622	152-1710	23.10	18.48	17.33

DC MILLIVOLTMETERS (SUSPENSION TYPE)

Range	Resis., Ohms	320-G Number	320-GL Number	320-GL/B Number	320-R Number	321-T Number	327-T Number	Net Each, Lots of 1-24	25-49	50 Up
0-5	10	152-1412	152-2424			152-1646	152-1734	$45.70	$36.56	$34.28
0-10	23	152-1413	152-2425			152-1647	152-1735	41.30	33.04	30.98
0-15	35	152-1414	152-2426			152-1648	152-1736	41.30	33.04	30.98
0-25	48	152-1415	152-2427			152-1649	152-1737	35.60	28.48	26.70

AC MILLIAMMETERS

Range	Resis., Ohms	330-G Number	330-GL Number	330-GL/B Number	330-R Number	331-S Number	337-S Number	Net Each, Lots of 1-24	25-49	50 Up
0-10	4000	153-0107	153-0614	153-0628	153-0345	153-0486	153-0515	$23.10	$18.48	$17.33
0-50	120	153-0112	153-0617			153-0489	153-0518	23.10	18.48	17.33
0-100	40	153-0128	153-0618	153-0632	153-0272	153-0490	153-0519	23.10	18.48	17.33
0-250	5.9	153-0131	153-0620			153-0492	153-0521	23.10	18.48	17.33
0-500	1.55	153-0133	153-0621	153-0635	153-0277	153-0493	153-0522	23.10	18.48	17.33

AC AMMETERS

Range	Resis., Ohms	330-G Number	330-GL Number	330-GL/B Number	330-R Number	331-S Number	337-S Number	Net Each, Lots of 1-24	25-49	50 Up
0-1	.38	153-0008	153-0605	153-0636	153-0265	153-0465	153-0494	$23.10	$18.48	$17.33
0-2	.092	153-0010	153-0606	153-0637		153-0466	153-0495	23.10	18.48	17.33
0-3	.039	153-0012	153-0607	153-0638		153-0467	153-0496	23.10	18.48	17.33
0-5	.014	153-0013	153-0608	153-0639	153-0270	153-0468	153-0497	23.10	18.48	17.33
0-10	.004	153-0058	153-0609		153-0240	153-0469	153-0498	23.10	18.48	17.33
0-15	.003	153-0059	153-0610		153-0241	153-0470	153-0499	23.10	18.48	17.33
0-25	.002	153-0061	153-0611		153-0243	153-0471	153-0500	23.10	18.48	17.33
0-30	.001	153-0062	153-0612		153-0244	153-0472	153-0501	23.10	18.48	17.33
0-50	.00035	153-0063	153-0613		153-0245	153-0473	153-0502	23.10	18.48	17.33

AC VOLTMETERS

Range	Resis., Ohms	330-G Number	330-GL Number	330-GL/B Number	330-R Number	331-S Number	337-S Number	Net Each, Lots of 1-24	25-49	50 Up
0-10	10	153-0051	153-0583			153-0477	153-0506	$23.10	$18.48	$17.33
0-50	50	153-0056	153-0586			153-0480	153-0509	23.10	18.48	17.33
0-100	91	153-0027	153-0528			153-0481	153-0510	23.10	18.48	17.33
0-150	125	153-0028	153-0529	153-0534	153-0292	152-0482	153-0511	25.00	20.00	18.75
0-250	144	153-0030	153-0531	153-0536		153-0483	153-0512	25.40	20.32	19.05
0-300	144	153-0031	153-0532	153-0537	153-0295	153-0484	153-0513	25.40	20.32	19.05
0-500*	125	153-0213	153-0680	153-0681		153-0485	153-0514	40.80	32.64	30.60
90-130	45	153-0212	153-0627	53-1539	153-0346			42.60	34.08	31.95

*External multiplier box furnished.

AC VOLTMETERS (RECTIFIER TYPE)

Range	Ohms/Volt	350-G Number	350-GL Number	350-GL/B Number	350-R Number	351-T Number	357-T Number	Net Each, Lots of 1-24	25-49	50 Up
0-5	1000	152-1283	152-2141			152-1675	152-1763	$35.20	$28.16	$26.40
0-10	1000	152-1271	152-2142			152-1676	152-1764	35.20	28.16	26.40
0-50	1000	152-1276	152-2144			152-1678	152-1766	35.20	28.16	26.40
0-150	1000	152-1158	152-2146			152-1680	152-1768	35.20	28.16	26.40
0-300	1000	152-1161	152-2147			152-1681	152-1769	35.20	28.16	26.40

*0-100 V range.

DECIBEL METERS

Range	Ohms/Volt	350-G Number	350-GL Number	350-GL/B Number	350-R Number	351-T Number	357-T Number	Net Each, Lots of 1-24	25-49	50 Up
dB		152-1110	152-2411	152-2365		152-1667	152-1755	$36.50	$29.20	$27.38
dB Illum.						152-1668	152-1756	40.50	32.40	30.38

VOLUME UNIT METERS

Range	Ohms/Volt	350-G Number	350-GL Number	350-GL/B Number	350-R Number	351-T Number	357-T Number	Net Each, Lots of 1-24	25-49	50 Up
A Scale		52-3016	152-2417			152-1669	152-1757	$41.20	$32.96	$30.90
A Scale Illum.						152-1670	152-1758	45.30	36.24	33.98
B Scale		152-1112	152-2352			152-1671	152-1759	41.20	32.96	30.90
B Scale Illum.						152-1672	152-1760	45.30	36.24	33.98

RF THERMOAMMETERS

Range	Resis., Ohms	340-G Number	340-GL Number	340-GL/B Number	340-R Number	341-T Number	347-T Number	Net Each, Lots of 1-24	25-49	50 Up
0-1	.35	152-0351	152-2295			152-1662	152-1750	$27.60	$22.08	$20.70
0-1.5	.21	152-0352	152-2296			152-1663	152-1751	27.60	22.08	20.70
0-5	.06	152-0354	152-2298			152-1665	152-1753	27.60	22.08	20.70
0-10	.03	152-0355	152-2299			152-1666	152-1754	27.60	22.08	20.70

4.5″ PANEL METERS

DC MICROAMMETERS (PIVOT AND JEWEL)

Range	Resis., Ohms	420 Number	420-G Number	420-GL Number	420-GL/B Number	420-R Number	Net Each, Lots of 1-24	25-49	50 Up
0-50	2300	152-1822	152-0001	152-2084	152-2315	152-0462	$33.00	$26.40	$24.75
0-100	825	152-1823	152-0003	152-2085	152-2316	152-0464	30.70	24.56	23.03
0-200	360	152-1824	152-0005	152-2086	152-2317	152-0466	26.80	21.44	20.10
0-500	156	152-1825	152-0008	152-2087	152-2318	152-0469	25.90	20.72	19.43

DC MICROAMMETERS (SUSPENSION TYPE)

Range	Resis., Ohms	420 Number	420-G Number	420-GL Number	420-GL/B Number	420-R Number	Net Each, Lots of 1-24	25-49	50 Up
0-5	15000	152-1826	52-3072	152-2039	152-2214	152-0475	$60.90	$48.72	$45.68
0-10	7500	152-1827	152-0240	152-2040	152-2215	152-0476	52.80	42.24	39.60
0-20	2500	152-1828	152-0242	152-2041	152-2216	152-0478	45.50	36.40	34.13
0-50	825	152-1829	152-0245	152-2042	152-2217	152-0481	36.50	29.20	27.38
0-100	360	152-1830	152-0261	152-2043	152-2218	152-0483	33.00	26.40	24.75
0-200	156	152-1831	152-0263	152-2044	152-2219	152-0485	31.60	25.28	23.70
0-500	40	152-1832	152-0266	152-2045	152-2220	152-0488	30.70	24.56	23.03
0-1000†	12.5	152-1833	152-1344	152-2046	152-2383		29.00	23.20	21.75
50-0-50	360	152-1834	152-1239	152-2250	152-2280		33.00	26.40	24.75
100-0-100	156	152-1835	152-1240	152-2251	152-2281		31.60	25.28	23.70
500-0-500	12.5	152-1836	152-1241	152-2252	152-2282		29.00	23.20	21.75
40-0-40	1700		52-3748	52-6111	52-6643		56.70	45.36	42.53

†Reads 0-1 mA.

CONTACT US FOR AVAILABILITY OF ADDITIONAL RATINGS

TRIPLETT Panel Meters

4.5" PANEL METERS (CONTINUED)

DC MILLIAMMETERS

Range	Resis., Ohms	420 Number	420-G Number	420-GL Number	420-GL/B Number	420-R Number	Net Each, Lots of		
							1-24	25-49	50 Up
0-1	55	152-1770	152-0010	152-2032	152-2152	152-0441	$24.90	$19.92	$18.68
0-5	8.5	152-1773	152-0015	152-2035	152-2155	152-0446	24.90	19.92	18.68
0-10	3.1	152-1774	152-0017	152-2036	152-2156	152-0447	24.90	19.92	18.68
0-25	2.0	152-1776	152-0020	152-2038	152-2158	....	25.60	20.48	19.20
0-50	1.0	152-1777	152-0022	152-2110	152-2159	152-0452	25.60	20.48	19.20
0-100	.5	152-1779	152-0024	152-2112	152-2161	152-0454	25.60	20.48	19.20
0-200	.25	152-1781	152-0026	152-2114	152-2163	152-0456	25.60	20.48	19.20
0-500	.1	152-1785	152-0029	152-2118	152-2167	152-0459	25.60	20.48	19.20

DC AMMETERS

0-1	....	152-1788	152-0031	152-2242	152-2170	152-0417	$25.60	$20.48	$19.20
0-5	....	152-1790	152-0034	152-2244	152-2172	152-0422	26.20	20.96	19.65
0-10	....	152-1791	152-0035	152-2245	152-2173	152-0423	26.20	20.96	19.65
0-30	....	152-1794	152-0039	152-2248	152-2176	....	26.20	20.96	19.65
0-50	....	152-1795	....	152-2249	152-2177	152-0428	26.20	20.96	19.65

DC MILLIVOLTMETERS (PIVOT AND JEWEL)

0-50	6.7	152-1800	152-0041	152-2076	152-2354	152-0406	$24.90	$19.92	$18.68
0-100	13.5	152-1801	152-0042	152-2240	152-2355	....	24.90	19.92	18.68
0-150	20.2	152-1802	152-0043	152-2241	152-2356	....	24.90	19.92	18.68

DC MILLIVOLTMETERS (SUSPENSION TYPE)

0-5	10	152-1796	152-1416	152-2192	....	....	$48.20	$38.56	$36.15
0-10	23	152-1797	152-1417	152-2193	....	....	44.00	35.20	33.00
0-15	35	152-1798	152-1418	152-2194	....	....	44.00	35.20	33.00
0-25	48	152-1799	152-1419	152-2195	....	....	37.00	29.60	27.75

DC VOLTMETERS (1000 OHMS/VOLT)

0-5	....	152-1805	152-0051	152-2097	152-2370	152-0384	$26.20	$20.96	$19.65
0-10	....	152-1806	152-0053	152-2098	152-2371	152-0385	26.20	20.96	19.65
0-25	....	152-1808	152-0056	152-2100	152-2372	152-0388	26.20	20.96	19.65
0-30	....	152-1809	152-0057	152-2101	152-2373	....	26.20	20.96	19.65
0-50	....	152-1810	152-0058	152-2102	152-2374	152-0390	26.20	20.96	19.65
0-100	....	152-1811	152-0060	152-2103	152-2375	....	26.20	20.96	19.65
0-150	....	152-1812	152-0061	152-2104	152-2376	152-0393	26.20	20.96	19.65
0-200	....	152-1813	152-0062	152-2105	152-2377	....	26 20	20.96	19.65
0-250	....	152-1814	152-0063	152-2106	152-2378	....	26.20	20.96	19.65
0-300	....	152-1815	152-0064	152-2107	52-6616	152-0396	26.20	20.96	19.65
0-500	....	152-1816	152-0065	152-2108	152-2379	152-0397	27.50	22.00	20.63
0-1000*	....	152-1818	152-0067	152-2434	152-2380	....	40.50	32.40	30.38
0-5000*	....	152-1821	152-0071	152-2437	152-2381	....	49.10	39.28	36.83

*2000 Ohms/Volt; external multiplier box furnished.

AC MILLIAMMETERS

Range	Resis., Ohms	430 Number	430-G Number	430-GL Number	430-GL/B Number	430-R Number	Net Each, Lots of		
							1-24	25-49	50 Up
0-10	4000	153-0419	153-0114	153-0550	153-0674	153-0296	$24.20	$19.36	$18.15
0-50	120	153-0422	153-0119	153-0553	....	....	24.20	19.36	18.15
0-100	40	153-0423	153-0135	153-0554	153-0676	153-0205	24.20	19.36	18.15
0-250	5.9	153-0425	153-0138	153-0556	....	....	24.20	19.36	18.15
0-500	1.55	153-0426	153-0140	153-0557	153-0678	153-0210	24.20	19.36	18.15

AC AMMETERS*

0-1	.38	153-0427	153-0015	153-0587	153-0623	153-0215	$24.20	$19.36	$18.15
0-2	.092	153-0428	153-0017	153-0588	153-0624	153-0217	24.20	19.36	18.15
0-3	.039	153-0429	153-0019	153-0589	153-0625	153-0219	24.20	19.36	18.15
0-5	.014	153-0430	153-0020	153-0590	153-0626	153-0220	24.20	19.36	18.15
0-10	.004	153-0523	153-0044	153-0591	....	153-0199	24.20	19.36	18.15
0-15	.003	153-0524	153-0045	153-0592	....	153-0200	24.20	19.36	18.15
0-25	.002	153-0525	153-0047	153-0593	....	153-0202	24.20	19.36	18.15
0-30	.001	153-0526	153-0048	153-0594	....	153-0203	24.20	19.36	18.15
0-50	.00035	153-0527	153-0049	153-0595	....	153-0204	24.20	19.36	18.15

*For standard ranges above 50 amps; see AC Ammeter Current Transformers.

AC VOLTMETERS

0-10	10	153-0409	153-0037	153-0541	....	....	$24.20	$19.36	$18.15
0-50	50	153-0412	153-0042	153-0544	....	....	24.20	19.36	18.15
0-100	91	153-0413	153-0032	153-0545	....	....	24.20	19.36	18.15
0-150	125	153-0414	153-0033	153-0546	153-0576	153-0195	26.40	21.12	19.80
0-250	144	153-0415	153-0035	153-0547	153-0577	....	26.80	21.44	20.10
0-300	144	153-0416	153-0036	153-0548	153-0578	153-0198	26.80	21.44	20.10
0-500†	125	153-0417	153-0166	153-0549	153-0579	....	42.10	33.68	31.58
90-130	45	153-0418	153-0165	53-1756	153-0622	153-0347	44.00	35.20	33.00

†External multiplier box furnished.

AC VOLTMETERS (RECTIFIER TYPE)

Range	Ohms/ Volt	450 Number	450-G Number	450-GL Number	450-GL/B Number	450-R Number	Net Each, Lots of		
							1-24	25-49	50 Up
0-5	1000	152-1845	152-1133	152-2272	....	....	$36.50	$29.20	$27.38
0-10	1000	152-1846	152-1113	152-2273	....	....	36.50	29.20	27.38
0-50	1000	152-1848	152-1118	152-2275	....	....	36.50	29.20	27.38
0-150	1000	152-1850	152-1121	152-2277	....	....	36.50	29.20	27.38
0-300	1000	152-1851	152-1124	152-2278	....	....	36.50	29.20	27.38

DECIBEL METERS

dB	....	152-1852	152-1284	52-6634	152-2391	....	$38.00	$30.40	$28.50
dB Illum.	....	152-1853	....	....	....	....	41.50	33.20	31.13

VOLUME UNIT METERS

A Scale	....	152-1854	152-1205	152-2382	....	....	$43.60	$34.88	$32.70
A Scale Illum.	....	152-1855	....	....	....	....	47.20	37.76	35.40
B Scale	....	152-1856	152-1111	52-6635	....	....	43.60	34.88	32.70
B Scale Illum.	....	152-1857	....	....	....	....	47.20	37.76	35.40

RF THERMOAMMETERS

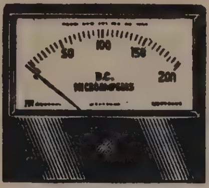
Range	Resis., Ohms	440 Number	440-G Number	440-GL Number	440-GL/B Number	440-R Number	Net Each, Lots of		
							1-24	25-49	50 Up
0-1	.35	152-1838	52-3436	152-2334	....	....	$28.70	$22.96	$21.53
0-1.5	.21	152-1839	52-3195	152-2335	....	....	28.70	22.96	21.53
0-5	.06	152-1841	52-3423	152-2336	....	....	28.70	22.96	21.53
0-10	.03	152-1842	52-3340	152-2337	....	....	28.70	22.96	21.53

CONTACT US FOR AVAILABILITY OF ADDITIONAL RATINGS

TRIPLETT Panel Meters

DC MILLIAMPERES

A



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D.C. MILLIAMPERES

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D.C. MILLIAMPERES
Triplett

D

5½″ AND 6½″ PANEL METERS

Similar to panel meters shown on previous pages, but for different size. Same specifications. Bezels and illumination kit available for 5½″ G-Series.

To Order: Specify model, type range and Triplett number from the tables below. Example, 520-G, 0–5, DC Voltmeter, 1049908.

DIMENSIONS

Model	Nom. Size	Fig.	Scale Lgth.	Flange Size, In., W. x H.	Body Size, In. Dia. x Depth	Term. Extend
520-G	5½″	A	5.0″	5.611 x 4.484	2.75 x 1.39	.73″
530-G	5½″	A	4.25″	5.611 x 4.484	2.75 x 1.39	.73″
520-GL	5½″	B	5.0″	5.852 x 4.727	2.75 x 1.105	.73″
530-GL	5½″	B	4.25″	5.852 x 4.727	2.75 x 1.105	.73″
520-GL/B	5½″	C	5.0″	6.06 x 4.532	2.75 x 1.105	.73″
530-GL/B	5½″	C	4.25″	6.06 x 4.532	2.75 x 1.105	.73″
626	6½″	D	5.60″	6.00 x 5.375	3.125 x 1.031	.75″
636	6½″	D	5.10″	6.00 x 5.375	3.125 x 1.031	.75″

Triplett Number 13-240—Metal bezels for 5½″ models. Size, 6.06″ x 3.30″. For panel cutout, 5.875″ x 3.156″. Net Each. . **$3.00**

Triplett Number 66-83—Illumination kit for 5½″ G-series. Net Each. **$4.00**

DC MICROAMMETERS (PIVOT AND JEWEL)

Range	Resis., Ohms	520-G Number	520-GL Number	520-GL/B Number	626 Number	Net Each, Lots of 1-24	25-49	50 Up
0–50	2300	152-1085	152-2178	152-2366	152-1873	$39.40	$31.52	$29.55
0–100	825	152-1087	152-2179	152-2367	152-1874	36.40	29.12	27.30
0–200	360	152-1089	152-2180	152-2368	152-1875	34.50	27.60	25.88
0–500	156	152-1092	152-2181	152-2369	152-1876	33.20	26.56	24.90

DC MICROAMMETERS (SUSPENSION TYPE)

0–10	7500	152-1096	152-2070	....	152-1883	$61.80	$49.44	$46.35
0–20	2500	152-1098	152-2071	52-6644	152-1884	55.00	44.00	41.25
0–50	825	152-1101	152-2072	52-6254	152-1885	44.10	35.28	33.08
0–100	360	152-1103	152-2073	52-6645	152-1886	40.10	32.08	30.08
0–200	156	152-1104	152-2074	....	152-1887	37.10	29.68	27.83
0–500	40	152-1105	152-2075	52-6646	152-1888	36.50	29.20	27.38

DC MILLIAMMETERS

0–1	55	152-1064	152-2062	152-2203	152-1865	$32.60	$26.08	$24.45
0–5	8.5	152-1069	152-2063	152-2204	152-1866	32.60	26.08	24.45
0–10	3.1	152-1070	152-2064	152-2205	152-1867	32.60	26.08	24.45
0–50	1.0	152-1075	152-2065	152-2206	152-1868	33.20	26.56	24.90
0–100	.50	152-1077	152-2066	152-2207	152-1869	33.20	26.56	24.90
0–200	.25	152-1079	152-2067	152-2208	152-1870	33.20	26.56	24.90
0–500	.10	152-1082	152-2069	52-6587	152-1872	33.20	26.56	24.90

DC MILLIVOLTMETERS (PIVOT AND JEWEL)

0–50	6.7	152-1029	152-2221	52-6602	152-1877	$32.60	$26.08	$24.45

DC VOLTMETERS (1000 OHMS/VOLT)

Range	Resis., Ohms	520-G Number	520-GL Number	520-GL/B Number	626 Number	Net Each, Lots of 1-24	25-49	50 Up
0–5	....	152-1007	152-2307	52-6617	152-1858	$33.80	$27.04	$25.35
0–10	....	152-1008	152-2308	52-6618	152-1859	33.80	27.04	25.35
0–25	....	152-1011	152-2309	52-6619	152-1860	33.80	27.04	25.35
0–30	....	152-1012	152-2310	52-6620	52-6624	33.80	27.04	25.35
0–50	....	152-1013	152-2311	52-6621	152-1861	33.80	27.04	25.35
0–150	....	152-1016	152-2312	52-6622	152-1862	33.80	27.04	25.35
0–500	....	152-1020	152-2313	52-6623	152-1864	34.50	27.60	25.88

DC AMMETERS

0–1	....	152-1040	152-2412	52-6595	152-1878	$32.60	$26.08	$24.45
0–5	....	152-1045	152-2413	52-6596	152-1879	33.20	26.56	24.90
0–10	....	152-1046	152-2414	52-6597	152-1880	33.20	26.56	24.90
0–30	....	152-1050	152-2415	52-6598	152-2314	33.20	26.56	24.90
0–50	....	....	152-2416	52-6599	152-1882	33.20	26.56	24.90

AC MILLIAMMETERS

Range	Resis., Ohms	530-G Number	530-GL Number	530-GL/B Number	636 Number	Net Each, Lots of 1-24	25-49	50 Up
0–10	4000	153-0342	153-0656	153-0671	153-0438	$31.40	$25.12	$23.55
0–100	40	153-0258	153-0657	153-0672	153-0439	31.40	25.12	23.55
0–500	1.55	153-0263	153-0658	153-0673	153-0440	31.40	25.12	23.55

AC AMMETERS

0–1	.38	153-0246	153-0649	153-0664	153-0431	$31.40	$25.12	$23.55
0–5	.014	153-0251	153-0650	153-0665	153-0432	31.40	25.12	23.55
0–10	.004	153-0229			153-0433	31.40	25.12	23.55
0–15	.003	153-0230	....	....	153-0434	31.40	25.12	23.55
0–25	.002	153-0231	....	....	153-0435	31.40	25.12	23.55
0–30	.001	153-0232	....	....	153-0436	31.40	25.12	23.55
0–50	.00035	153-0233	....	....	153-0437	31.40	25.12	23.55

AC VOLTMETERS

Range	Resis., Ohms	530-G Number	530-GL Number	530-GL/B Number	636 Number	Net Each, Lots of 1-24	25-49	50 Up
0–10	10	153-0343	153-0644	....	153-0441	$31.30	$25.04	$23.48
0–50	50	153-0344	153-0645	....	153-0442	31.30	25.04	23.48
0–150	125	153-0254	153-0646	153-0661	153-0443	32.60	26.08	24.45
0–300	144	153-0257	153-0647	153-0662	153-0444	33.10	26.48	24.83
0–500*	125	153-0341	153-0648	153-0663	153-0445	48.80	39.04	36.60

*External multiplier box furnished.

CONTACT US FOR AVAILABILITY OF ADDITIONAL RATINGS

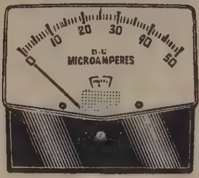
TRIPLETT Panel Meters

D.C. MILLIAMPERES

A

50
100
150
200
D.C. MICROAMPERES

B



C

7½" AND 8½" PANEL METERS

Similar to panel meters shown on previous pages, but for size. 7½" **Models** are available with glass window, thermosetting plastic case and four stud mounting. Optional illumination is available on certain models; write for information. **GL Series** comes with glass window, flat back thermosetting plastic case and four stud mounting. **M Series** includes thermoplastic front and back. Thermosetting plastic accessory case is available for 8½" models; write for information. **To Order:** Specify model, range, type and Triplett number. Example, model 736, 0–1, AC Ammeter, 1108902.

DIMENSIONS

Model	Nom. Size	Fig.	Scale Lgth.	Flange Size, In., W. x H.	Body Size, In. Dia. x Depth	Term. Extend
726	7½"	A	6.11"	7.531 x 6.906	3.50 x 1.062	.75"
736	7½"	A	5.47"	7.531 x 6.906	3.50 x 1.125	.75"
820-GL	8½"	B	6.25"	7.75 x 6.50	2.781 x 1.105	.781"
830-GL	8½"	B	6.25"	7.75 x 6.50	2.781 x 1.105	.781"
820-M	8½"	C	7.00"	7.64 x 6.40	3.27 x 1.18	.781"

DC MICROAMMETERS (PIVOT AND JEWEL)

Range	Resis., Ohms	726 Number	Net Each, Lots of 1-24	25-49	50 Up	820-GL Number	820-M Number	Net Each, Lots of 1-24	25-49	50 Up
0–50	2300	152-1904	$41.00	$32.80	$30.75	152-1590	152-1935	$49.10	$39.28	$36.83
0–100	825	152-1905	39.00	31.20	29.25	152-1591	152-1936	47.20	37.76	35.40
0–200	360	152-1906	37.10	29.68	27.83	152-1592	152-1937	45.10	36.08	33.83
0–500	156	152-1907	35.80	28.64	26.85	152-1593	152-1938	43.60	34.88	32.70

DC MICROAMMETERS (SUSPENSION TYPE)

Range	Resis., Ohms	726 Number	Net Each, Lots of 1-24	25-49	50 Up	820-GL Number	820-M Number	Net Each, Lots of 1-24	25-49	50 Up
0–10	7500	152-1909	$58.70	$46.96	$44.03	152-2338	152-1944	$68.90	$55.12	$51.68
0–20	2500	152-1910	52.50	42.00	39.38	152-2339	152-1945	61.80	49.44	46.35
0–50	825	152-1911	44.00	35.20	33.00	152-2340	152-1946	52.80	42.24	39.60
0–100	360	152-1912	41.00	32.80	30.75	152-2341	152-1947	49.10	39.28	36.83
0–200	156	152-1913	39.60	31.68	29.70	152-2342	152-1948	47.90	38.32	35.93
0–500	40	152-1914	39.00	31.20	29.25	152-2343	152-1949	47.20	37.76	35.40

DC MILLIAMMETERS

Range	Resis., Ohms	726 Number	Net Each, Lots of 1-24	25-49	50 Up	820-GL Number	820-M Number	Net Each, Lots of 1-24	25-49	50 Up
0–1	55	152-1896	$34.50	$27.60	$25.88	152-2404	152-1927	$42.90	$34.32	$32.18
0–5	8.5	152-1897	34.50	27.60	25.88	152-2405	152-1928	42.90	34.32	32.18
0–10	3.1	152-1898	34.50	27.60	25.88	152-2406	152-1929	42.90	34.32	32.18
0–50	1.0	152-1899	34.50	27.60	25.88	152-2407	152-1930	43.60	34.88	32.70
0–100	.5	152-1900	34.50	27.60	25.88	152-2408	152-1931	43.60	34.88	32.70
0–200	.25	152-1901	34.50	27.60	25.88	152-2409	152-1932	43.60	34.88	32.70
0–500	.1	152-1903	34.50	27.60	25.88	152-2410	152-1934	43.60	34.88	32.70

DC AMMETERS

Range	Resis., Ohms	726 Number	Net Each, Lots of 1-24	25-49	50 Up	820-GL Number	820-M Number	Net Each, Lots of 1-24	25-49	50 Up
0–1	....	152-1915	$35.20	$28.16	$26.40	152-2428	152-1940	$42.90	$34.32	$32.18
0–5	....	152-1916	35.20	28.16	26.40	152-2429	152-1941	43.60	34.88	32.70
0–10	....	152-1917	35.20	28.16	26.40	152-2430	152-1942	43.60	34.88	32.70
0–50	....	152-1919	35.20	28.16	26.40	152-2432	....	43.60	34.88	32.70

DC MILLIVOLTMETERS (PIVOT AND JEWEL)

Range	Resis., Ohms	726 Number	Net Each, Lots of 1-24	25-49	50 Up	820-GL Number	820-M Number	Net Each, Lots of 1-24	25-49	50 Up
0–50	....	152-1908	$36.70	$29.36	$27.53	152-2351	152-1939	$42.90	$34.32	$32.18

DC VOLTMETERS (1000 OHMS/VOLT)

Range	Resis., Ohms	726 Number	Net Each, Lots of 1-24	25-49	50 Up	820-GL Number	820-M Number	Net Each, Lots of 1-24	25-49	50 Up
0–5	....	152-1889	$36.40	$29.12	$27.30	152-2344	152-1920	$44.20	$35.36	$33.15
0–10	....	152-1890	36.40	29.12	27.30	152-2345	152-1921	44.20	35.36	33.15
0–25	....	152-1891	36.40	29.12	27.30	152-2346	152-1922	44.20	35.36	33.15
0–30	....	52-6625	36.40	29.12	27.30	152-2347	52-6626	44.20	35.36	33.15
0–50	....	152-1892	36.40	29.12	27.30	152-2348	152-1923	44.20	35.36	33.15
0–150	....	152-1893	36.40	29.12	27.30	152-2349	152-1924	44.20	35.36	33.15
0–500	....	152-1895	37.10	29.68	27.83	152-2350	152-1926	45.10	36.08	33.83

AC MILLIAMMETERS

Range	Resis., Ohms	736 Number	Net Each, Lots of 1-24	25-49	50 Up	830-GL Number	830-M Net Available	Net Each, Lots of 1-24	25-49	50 Up
0–10	4000	153-0453	$35.80	$28.64	$26.85	53-1757	....	$41.50	$33.20	$31.13
0–100	40	153-0454	35.80	28.64	26.85	....	....	....	....	....
0–500	1.55	153-0455	35.80	28.64	26.85	....	....	....	....	....

AC AMMETERS

Range	Resis., Ohms	736 Number	Net Each, Lots of 1-24	25-49	50 Up	830-GL Number	830-M Net Available	Net Each, Lots of 1-24	25-49	50 Up
0–1	.38	153-0446	$35.80	$28.64	$26.85	153-0640	....	$41.50	$33.20	$31.13
0–5	.014	153-0447	35.80	28.64	26.85	153-0641	....	41.50	33.20	31.13

AC VOLTMETERS

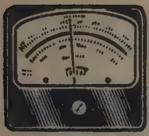
Range	Resis., Ohms	736 Number	Net Each, Lots of 1-24	25-49	50 Up	830-GL Number	830-M Net Available	Net Each, Lots of 1-24	25-49	50 Up
0–10	10	153-0456	$35.80	$28.64	$26.85	....	....	....	....	....
0–50	50	153-0457	35.80	28.64	26.85	....	....	....	....	....
0–150	125	153-0458	37.80	30.24	28.35	153-0642	....	$44.20	$35.36	$33.15
0–300	144	153-0459	38.90	31.12	29.18	....	....	....	....	....
0–500*	125	153-0460	54.00	43.20	40.50	....	....	....	....	....

*External multiplier box furnished.

CONTACT US FOR AVAILABILITY OF ADDITIONAL RATINGS

TRIPLETT Panel, Lab Meters

3½" AND 4½" PYROMETERS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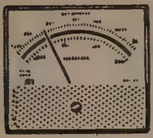

420-G

All styles incorporate cold junction and copper (resistance) compensation. Calibrated for use with Triplett, iron constantan (J) or chromel alumel (K) thermocouples. Thermocouples not included. **Standard DC Input Accuracy:** Specifications are ±2% of full scale. **Minimum Span:** 300° F for full scale deflection. Mirror scales are furnished as standard on all pyrometers. **To Order:** Specify model, range, type, Triplett number.

DIMENSIONS

Model	Nom. Size	Scale Lgth.	Flange Size, W. x H.	Body Size, Dia. x Depth
320-G	3½"	3.16"	3.5" x 2.99"	2.75" x 1.39"
320-GL	3½"	3.16"	3.743" x 3.233"	2.156" x 1.105"
320-GL/B	3½"	3.16"	3.86" x 2.911"	2.156" x 1.105"
420	4½"	4.04"	4.625" x 4.187"	2.75" x .843"
420-G	4½"	4.03"	4.55" x 4.068"	2.75" x 1.39"
420-GL	4½"	4.03"	4.718" x 4.218"	2.203" x 1.105"
420-GL/B	4½"	4.03"	4.96" x 3.749"	2.203" x 1.105"

320-GL

320-GL/B

3½" PYROMETERS

Temperature Range		Thermocouple Type	Ext. Resis., Ohms	320-G Number	320-GL Number	320-GL/B Number	Net Each, Lots of		
°F	°C						1-24	25-49	50 Up
−100 to +300	−75 to +150	J	10	52-6412	52-6411	52-6307	$48.20	$38.56	$36.15
−150 to +250	−100 to +120	J	10	152-2384	152-2319	152-2392	48.20	38.56	36.15
0 to +300	−20 to +150	J	5	152-2385	152-2320	152-2393	48.20	38.56	36.15
0 to +500	−20 to +260	J	10	152-2386	152-2321	152-2394	48.20	38.56	36.15
0 to +750	−20 to +400	J	10	152-2387	152-2322	152-2395	48.20	38.56	36.15
0 to +1000	−20 to +540	J	10	152-2388	152-2323	152-2396	45.50	36.40	34.13
0 to +1500	−20 to +820	K	10	152-2389	152-2324	152-2397	45.50	36.40	34.13
0 to +2000	−20 to +1200	K	10	152-2390	152-2325	152-2398	45.50	36.40	34.13

4½" PYROMETERS

Temperature Range		Thermocouple Type	420 Number	420-G Number	420-GL Number	420-GL/B Number	Net Each, Lots of		
°F	°C						1-24	25-49	50 Up
−100 to +300	−75 to +150	J	152-2422	52-6641	52-6636	52-6637	$49.70	$39.76	$37.28
−150 to +250	−100 to +120	J	152-1562	152-1565	152-2300	52-6638	49.70	39.76	37.28
0 to +300	−20 to +150	J	152-1564	152-1563	152-2301	152-2423	49.70	39.76	37.28
0 to +500	−20 to +260	J	152-1566	152-1567	152-2302	52-6373	49.70	39.76	37.28
0 to +750	−20 to +400	J	152-1568	152-1569	152-2303	52-6338	46.80	37.44	35.10
0 to +1000	−20 to +540	J	152-1570	152-1571	152-2304	52-6242	46.80	37.44	35.10
0 to +1500	−20 to +820	K	152-1572	152-1573	152-2305	52-6639	46.80	37.44	35.10
0 to +2000	−20 to +1200	K	152-1574	152-1575	152-2306	52-6640	46.80	37.44	35.10

*Ext. Resis., 5 ohms; all others, 10 ohms.

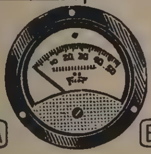
THERMOCOUPLES

Feature stainless steel overbraid (SS) or glass cloth (GC), in protected sheaths. Provide continuous operation to 900° F or a single reading to 1400° F. Resistance tolerance, ±1%. **To Order:** Specify Triplett number.

Triplett Number	Type	Approx. Length, In.	AWG	Overbraid Type	Resis., Ohms	Net Each, Lots of		
						1-24	25-49	50 Up
72-99	J	137	24	GC	10	$ 8.50	$ 6.80	$ 6.38
72-100	J	162	20	GC	5	11.50	9.20	8.63
72-101	J	137	24	SS	10	14.30	11.44	10.73
72-102	J	54	28	GC	10	6.50	5.20	4.88
72-103	K	205	20	GC	10	17.20	13.76	12.90
72-104	K	206	20	SS	10	25.80	20.64	19.35
72-105	K	50	26	GC	10	6.50	5.20	4.88
72-106	K	50	26	SS	10	10.20	8.16	7.65

RUGGEDIZED 1½", 2½" AND 3½" METERS

A


B

Model 127-HR (Fig. A): Rugged, modern construction with meter front designed for maximum readability. Meets government specifications. Scale: 1.5" lg. Flange, 1.75" sq. Body, 1.51" dia. x 1.5" deep.

Model 221-HR (Fig. B): 2½" meter meets MIL-M-10604-C specifications. Heavy diecast window bezel seals window to case with gasket and screws for easy servicing. Gasket-sealed studs provide additional protection. Scale Length: 1.76". Flange, 2.695" dia. Body, 2.21" dia. x 1.281" deep.
Model 321-HR (Fig. B): Same as 221-HR, but 3½" size. Scale Length: 2.38". Flange, 3.51" dia. Body, 2.8" dia. x 1.281" deep.
To Order: Specify both model and Triplett part number.

DC MICROAMMETERS (PIVOT AND JEWEL)

Range	Resis., Ohms	127-HR Number	Net Each, Lots of			221-HR Number	Net Each, Lots of			321-HR Number	Net Each, Lots of		
			1-24	25-49	50 Up		1-24	25-49	50 Up		1-24	25-49	50 Up
0-50	2500*	152-1393	$43.60	$34.88	$32.70	152-2006	$45.10	$36.08	$33.83	152-2028	$46.30	$37.04	$34.73
0-100	1170	152-1395	39.80	31.84	29.85	152-2007	43.10	34.48	32.33	152-2029	44.10	35.28	33.08
0-200	400	152-1397	35.80	28.64	26.85	152-2008	39.20	31.36	29.40	152-2030	40.20	32.16	30.15
0-500	210	52-6627	34.90	27.92	26.18	152-2009	37.90	30.32	28.43	152-2031	39.20	31.36	29.40

*4000 ohms for 127-HR.

DC MICROAMMETERS (SUSPENSION TYPE)

Range	Resis., Ohms	127-HR Number	1-24	25-49	50 Up	221-HR Number	1-24	25-49	50 Up	321-HR Number	1-24	25-49	50 Up
0-20	7500	152-1246	$56.10	$44.88	$42.08	....	....	....	....	....	....	....	....
0-50	2300	152-1249	47.20	37.76	35.40	....	....	....	....	....	....	....	....

DC MILLIAMMETERS

Range	Resis., Ohms	127-HR Number	1-24	25-49	50 Up	221-HR Number	1-24	25-49	50 Up	321-HR Number	1-24	25-49	50 Up
0-1	55	152-1373	$34.30	$27.44	$25.73	152-1988	$37.50	$30.00	$28.13	152-2010	$38.90	$31.12	$29.18
0-5	8.5	152-1378	34.30	27.44	25.73	152-1989	37.50	30.00	28.13	152-2011	38.90	31.12	29.18
0-10	3.1	152-1379	34.30	27.44	25.73	152-1990	37.50	30.00	28.13	152-2012	38.90	31.12	29.18
0-50	1.0	152-1420	34.90	27.92	26.18	152-1991	38.20	30.56	28.65	152-2013	39.60	31.68	29.70
0-100	.5	152-1421	34.90	27.92	26.18	152-1992	38.20	30.56	28.65	152-2014	39.60	31.68	29.70
0-200	.25	152-1422	34.90	27.92	26.18	152-1993	38.20	30.56	28.65	152-2015	39.60	31.68	29.70
0-500	.10	152-1424	34.90	27.92	26.18	152-1995	38.20	30.56	28.65	152-2017	39.60	31.68	29.70

DC AMMETERS

Range	Resis., Ohms	127-HR Number	1-24	25-49	50 Up	221-HR Number	1-24	25-49	50 Up	321-HR Number	1-24	25-49	50 Up
0-1	....	152-1986	$34.30	$27.44	$25.73	152-1997	$37.50	$30.00	$28.13	152-2019	$38.90	$31.12	$29.18
0-5	....	....	....	....	....	152-1998	39.30	31.44	29.48	152-2020	40.20	32.16	30.15
0-10	....	....	....	....	....	152-1999	39.30	31.44	29.48	152-2021	40.20	32.16	30.15

DC MILLIVOLTMETERS (PIVOT AND JEWEL)

Range	Resis., Ohms	127-HR Number	1-24	25-49	50 Up	221-HR Number	1-24	25-49	50 Up	321-HR Number	1-24	25-49	50 Up
0-50	6.7	152-1985	$34.30	$27.44	$25.73	152-1996	$37.50	$30.00	$28.13	152-2018	$38.90	$31.12	$29.18

DC VOLTMETERS (1000 OHMS/VOLT)

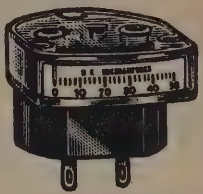
Range	Resis., Ohms	127-HR Number	1-24	25-49	50 Up	221-HR Number	1-24	25-49	50 Up	321-HR Number	1-24	25-49	50 Up
0-5	....	152-1987	$35.80	$28.64	$26.85	152-2000	$39.30	$31.44	$29.48	152-2022	$40.20	$32.16	$30.15
0-10	....	152-1380	35.80	28.64	26.85	152-2001	39.30	31.44	29.48	152-2023	40.20	32.16	30.15
0-25	....	152-1381	35.80	28.64	26.85	152-2002	39.30	31.44	29.48	152-2024	40.20	32.16	30.15
0-30	....	52-4541	35.80	28.64	26.85	52-6603	39.30	31.44	29.48	52-6317	40.20	32.16	30.15
0-50	....	152-1382	35.80	28.64	26.85	152-2003	39.30	31.44	29.48	152-2025	40.20	32.16	30.15
0-150	....	152-1383	35.80	28.64	26.85	152-2004	39.30	31.44	29.48	152-2026	40.20	32.16	30.15

CONTACT US FOR AVAILABILITY OF ADDITIONAL RATINGS

TRIPLETT PANEL METERS AND ACCESSORIES

MINIATURE 1½" PANEL METERS

Model 120: Edgewise meter for horizontal mounting. Scale length, 1.15". Panel hole required, 1.605" x .516". Self-shielded, dustproof case. Solder terminals. **Model 120-G:** Panel meter with large dial area, aluminum insert panel. Scale length, 1.48". Flange, 1.75" sq. Body, 1.5" dia. x 1.3" deep. Solder terminals. **Model 150:** VU meter, same size as Model 120.


Model 120, 150

Model 120-G

DC VOLTMETERS (1000 OHMS/VOLT)

Range	120-G Number	Net Each, Lots of		
		1-24	25-49	50 Up
0–5	152-0905	$23.10	$18.48	$17.33
0–10	152-0906	23.10	18.48	17.33
0–25	152-0909	23.10	18.48	17.33
0–30	152-0910	23.10	18.48	17.33
0–50	152-0911	23.10	18.48	17.33
0–100	152-0913	23.10	18.48	17.33
0–150	152-0914	23.10	18.48	17.33

DC AMMETERS

Range	Resis. Ohms	120-G Number	Net Each, Lots of		
			1-24	25-49	50 Up
0–1	10	152-0938	$22.00	$17.60	$16.50

DC MICROAMMETERS (PIVOT AND JEWEL)

Range	Model 120-G		Net 1-24*	Range	Model 120-G		Net 1-24*
	Ohms	Number			Ohms	Number	
0–50	4000	152-0977	$30.90	0–200	400	152-0981	$23.60
0–100	1170	152-0979	27.10	0–500	210	152-0984	23.10

*Lots of: 25–49, −20%; 50 Up, −25%.

DC MICROAMMETERS (SUSPENSION TYPE)

Range	Resis., Ohms	120-G Number	Net Each, Lots of		
			1-24	25-49	50 Up
0–50	2300	152-0992	$33.80	$27.04	$25.35
0–100	825	152-0994	30.30	24.24	22.73

DC MILLIAMMETERS

Range	Resis. Ohms	120-G Number	Net Each, Lots of		
			1-24	25-49	50 Up
0–1	55	152-0956	$22.00	$17.60	$16.50
0–5	8.5	152-0961	22.00	17.60	16.50
0–10	3.1	152-0962	22.00	17.60	16.50
0–25	2.0	152-0965	22.00	17.60	16.50
0–50	1.0	152-0967	22.00	17.60	16.50
0–100	0.50	152-0969	22.00	17.60	16.50
0–200	0.25	152-0971	22.00	17.60	16.50
0–500	0.10	152-0974	22.00	17.60	16.50

DC MILLIVOLTMETERS (PIVOT AND JEWEL)

0–50	6.7	152-0927	$21.70	$17.36	$16.28

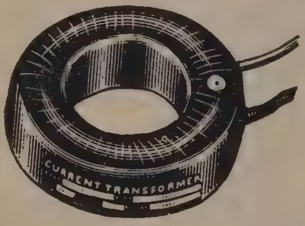
DC AMMETER SHUNTS

DC Shunt

DC Ammeter Shunt requires a basic 0–50 millivolt DC instrument of desired size and style. Dial reads "DC AMPERES". Package includes 5 foot leads.

Triplett Number	Range, Amps	Size, Inches			Net Each, Lots of		
		W.	D.	H.	1-24	25-49	50 Up
91-604	0–50	6.00	1.25	1.55	$ 19.10	$15.28	$14.33
91-605	0–100	6.00	1.25	1.55	19.10	15.28	14.33
91-606	0–150	6.00	1.25	1.55	18.40	14.72	13.80
91-607	0–200	6.00	1.25	1.55	18.40	14.72	13.80
91-593	0–250	5.50	1.50	1.25	21.00	16.80	15.75
91-594	0–300	5.50	1.50	1.25	23.10	18.48	17.33
91-608	0–500	7.25	1.25	1.20	33.40	26.72	25.05
91-610	0–750	7.25	2.00	1.20	45.90	36.72	34.43
91-585	0–1000	9.062	3.00	1.70	101.20	80.96	75.90

AC AMMETER CURRENT TRANSFORMERS



AC Transformer

For use with 0–5 amp AC instruments. Dial reads "AC AMPERES". All ratios are defined with one primary turn. **Frequency:** 25–400 Hz. **Leads:** 24" long.

Triplett Number	Range, Amps	VA	Ratio	Size, Inches			Net Each, Lots of		
				I.D.	O.D.	Thick	1-24	25-49	50 Up
23-66	0–75	2	75:5	1.25	3.50	1.00	$22.20	$17.76	$16.65
7099	0–100	2	100:5	1.625	3.125	1.00	22.20	17.76	16.65
2446-20	0–150	2	150:5	1.625	3.125	1.00	22.20	17.76	16.65
7100	0–200	2	200:5	1.625	3.125	1.00	22.20	17.76	16.65
2446-16	0–250	2	250:5	1.625	3.125	1.00	22.20	17.76	16.65
7093	0–300	2	300:5	1.625	3.125	1.00	22.20	17.76	16.65
7092	0–500	2	500:5	1.50	3.50	1.00	29.20	23.36	21.90

EXTERNAL HIGH VOLTAGE MULTIPLIER BOXES

Multiplier Box

For use with 500 VDC or higher Voltmeters 1½" and 2½" sizes; 750 VDC or higher Voltmeters 3½" size; 1000 VDC or higher Voltmeters 4½" size; and all 500 VAC or higher Voltmeters. **Ohms/Volt:** 2000 for all DC Voltmeter multiplier boxes; 125 for all AC Voltmeter multiplier boxes.

Triplett Number	Range, Volts	Max. Size, Inches			Net Each, Lots of		
		W.	D.	H.	1-24	25-49	50 Up
2543-01-01	0–500 DC	4.75	1.50	3.50	$11.90	$ 9.52	$ 8.93
2543-01-02	0–750 DC	4.75	1.50	3.50	12.00	9.60	9.00
2543-01-03	0–1000 DC	4.75	1.50	3.50	12.70	10.16	9.53
2543-01-06	0–5000 DC	4.75	1.50	3.50	20.30	16.24	15.23
2543-01-07	0–500 AC	4.75	1.50	3.50	16.50	13.20	12.38

CONTACT US FOR AVAILABILITY OF ADDITIONAL RATINGS

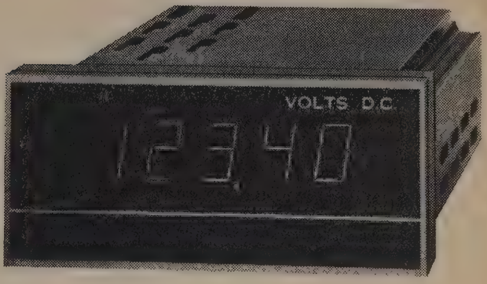
SANGAMO WESTON
Schlumberger
WESTON®

Digital Panel Instruments

Model 1234
Digital Panel Meter

A 4½ digit panel meter with 0.55″ high, seven segment gas plasma characters. Utilizes the Weston dual-slope A/D conversion technique for long-term stability and inherent rejection of AC noise in the input signal. Reliable transistor-transistor micrologic provides optimum applications versatility. BCD coded parallel data outputs may be included for use with a broad range of peripheral devices.

Accuracy: ±0.01% reading ±0.025% f.s. at 23° C.
AC Rejection: 40 dB minimum at 60 Hz.
Common Mode Rejection: 80 dB minimum, 60 Hz and 1000 ohm unbalance.
Reading Rate: 7.5 per sec. (15/sec. or 30/sec. optional).
Step Input Response: 2 sec. max. for full-scale step.
Operating Temperature: 0° to 50° C.
Storage Temperature: −40° to +70° C.
Temp. Coefficient: less than (50 ppm reading ±0.3 digit)/°C.
Outrange Indication: Display blanked except MSD "1" and polarity.
Control Outputs: Hold—Logic "O" retains most recent data; Convert (Optional)—A 1 µsec TTL pulse causes conversion within 10 msec.


Model 1234

Status Outputs: Print Command—Logic "O" signifies valid output data; Polarity—Logic "1" signifies positive input signal; Overrange—Logic "1" signifies signal beyond 19999 counts.
BCD Output (Optional): 1-2 4-8 parallel. TTL/DTL (2 u.l.). Buffered BCD is 3-state for wired-OR base.
Decimal Selection: External, by grounding appropriate terminal.
Power Required: 117 VAC ±10%, 50—60 Hz, 6 Watts (options of 100, 220, or 240 volts available).
Size: 1.75″ h. x 4.0″ w. x 4.25″ d. behind panel.
Weight: Approx. 2 pounds.

DC Voltmeters Without BCD

Weston Model 1234-	0276493*	0276494*	0276495*	0276496	0276497
Full Scale Range	0—199.99 mV	0—1.9999 V	0—19.999 V	0—199.99 V	0—1000.0 V
Input Ohms	10 meg	100 meg	5 meg	5 meg	5 meg
Net Price	$245.00	$245.00	$245.00	$255.00	$255.00

DC Current Meters Without BCD

Weston Model 1234-	0276498	0276499	0276500	0276501	0276502
Full Scale Range	0—19.999 µA	0—199.99 µA	0—1.9999 mA	0—19.999 mA	0—199.99 mA
Input Ohms	10K	1K	100	10	1
Net Price	$255.00	$255.00	$255.00	$255.00	$255.00

DC Voltmeters With BCD

Weston Model 1234-	0276513*	0276514*	0276515*	0276516	0276517
Full Scale Range	0—199.99 mV	0—1.9999 V	0—19.999 V	0—199.99 V	0—1000.0 V
Input Ohms	10 meg	100 meg	5 meg	5 meg	5 meg
Net Price	$255.00	$255.00	$255.00	$265.00	$265.00

DC Current Meters With BCD

Weston Model 1234-	0276518	0276519	0276520	0276521	0276522
Full Scale Range	0—19.999 µA	0—199.9 µA	0—1.9999 mA	0—19.999 mA	0—199.99 mA
Input Ohms	10K	1K	100	10	1
Net Price	$265.00	$265.00	$265.00	$265.00	$265.00

DC Voltmeters With Buffered BCD

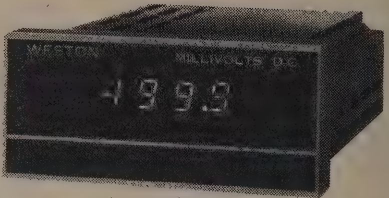
Weston Model 1234-	0277698*	0277699	0277700
Full Scale Range	0—199.99 mV	0—1.9999 V	0—19.999 V
Input Ohms	10 meg	100 meg	5 meg
Net Price	$290.00	$300.00	$300.00

*Stock item.

QUANTITY DISCOUNTS: LOTS OF 1-4, LIST; 5-9, −10%; 10-24, −15%; 25 UP, −20%.

SANGAMO WESTON
Schlumberger

WESTON® Digital Panel Meters


Model 1295

Model 1295 Bi-Polar Digital Panel Meter

Bi-polar 3½ digit panel meter features dual slope A/D conversion technique for long term stability. All digital logic on a single 24-pin LSI MOS chip. Non-blinking display and 100% overrange (except 1000 V range). Automatic bi-polar operation and utilizes only 7 sq. in. of panel space. **Accuracy:** ±0.1% of reading, ±1 digit. **Overrange:** 100% (reads 1999). **Readout:** 7 segment LED's. **Operating Temperature Range:** 0°—60° C (32°—140° F). **Common Mode Rejection:** 100 dB with 1000 ohm unbalance at 60 Hz. **Normal Mode Rejection:** 30 dB at 60 Hz. **Sampling Rate:** More than 3 per second. **Response Time:** Less than 1.5 sec. **Power Required:** 117 VAC, 50—400 Hz; 230 VAC optional. **Size:** Front, 4.00″ w. x 0.56″ d. x 1.75″ h.; behind panel, 4.25″ d.; panel cut-out, 3.924″ w. x 1.682″ h. Weight, 13 oz. approx.

DC Voltmeters

Weston Model 1295-	**0273561***	**0273562***	**0273563***	**0273564**	**0273565**
Full Scale Range	0—100 mV	1 V	10 V	100 V	1000 V
Input Ohms	100 meg	100 meg	5 meg	5 meg	5 meg
Net Price	**$175.00**	**$175.00**	**$175.00**	**$185.00**	**$185.00**

DC Current Meters

Weston Model 1295-	**0273556**	**0273557**	**0273558**	**0273559**	**0273560**
Full Scale Range	0—10 μA	0—100 μA	0—1 mA	0—10 mA	0—100 mA
Input Ohms	10K	1K	100	10	1
Net Price	**$185.00**	**$185.00**	**$185.00**	**$185.00**	**$185.00**

Model 2460

Series 2460 Isolated I/O Bipolar DPM's

Bi-polar, 3½ digit, AC line powered digital panel meters feature dual-slope A/D conversion technique, LSI circuitry and 0.6″ high LED display. **Accuracy:** ±0.05% of reading ±1 count. **Operating Ambient:** 0 to +50°C. **Common Mode Rejection:** 80 dB min. with 1000 ohm unbalance. **Series Mode Rejection:** 30 dB min. **Sampling Rate:** 2 per sec. internal; up to 25 per sec. external. **Power Required:** 5 VDC, 2 watts (Models 2465 and 2466); 117/234 or 220/240 VAC, 50—400 Hz, 3½ watts (Models 2461, 2463 and 2464). **Size:** Front, 400″ w. x 0.56″ d. x 1.75″ h.; behind panel, 4.00″ d. panel cut-out 3.924″ w. x 1.682″ h. **Weight:** 13 oz. approx. Models 2461 and 2462 feature floating, single-ended inputs; Models 2463, 2464, 2465 and 2466 feature floating differential inputs. Models 2461, 2463 and 2465 have low power TTL parallel BCD. Models 2462, 2464 and 2466 have full TTL compatible parallel BCD. Units powered by 220/240 VAC are available on special order; prices on request.

Model 2461

Range	Input Impedance	Maximum Overload	Weston Number	Net Each
100 mV	100 meg	60 V	0278383*	$127.50
1 V	100 meg	60 V	0278384*	127.50
10 V	5 meg	600 V	0278385*	127.50
100 V	5 meg	1000 V	0278386*	127.50

Model 2462

100 mV	100 meg	60 V	0278387*	$137.50
1 V	100 meg	60 V	0278388*	137.50
10 V	5 meg	600 V	0278389*	137.50
100 V	5 meg	1000 V	0278390*	137.50

Model 2463

100 mV	15 meg	60 V	0278375*	$130.00
1 V	150 meg	60 V	0278376*	130.00
10 V	5 meg	600 V	0278377	140.00
100 V	5 meg	1000 V	0278378	140.00

Model 2464

Range	Input Impedance	Maximum Overload	Weston Number	Net Each
100 mV	15 meg	60 V	0278379*	$140.00
1 V	150 meg	60 V	0278380*	140.00
10 V	5 meg	600 V	0278381	150.00
100 V	5 meg	1000 V	0278382	150.00

Model 2465

100 mV	100 meg	60 V	0278603*	$120.00
1 V	100 meg	60 V	0278604*	120.00
10 V	5 meg	600 V	0278605*	120.00
100 V	5 meg	1000 V	0278606*	120.00

Model 2466

100 mV	100 meg	60 V	0278607*	$130.00
1 V	100 meg	60 V	0278608*	130.00
10 V	5 meg	600 V	0278609*	130.00
100 V	5 meg	1000 V	0278610*	130.00

Weston Model 9790-0267253 — Input connector for Models 2461, 2462, 2463, 2464, 2465 and 2466. List Price $4.50

*Stock item.

QUANTITY DISCOUNTS: LOTS OF 1-4, LIST; 5-9, —10%; 10-24, —15%; 25 UP, —20%.

SANGAMO WESTON
Schlumberger

WESTON® Digital Panel Meters

Model 1230
Digital Panel Meter
General Specifications

TTL Logic: 0 to +5 volt output. Parallel BCD output except during conversion which is identified by print command output, is available, when specified. BCD to drive 2 loads TTL (sink 3.2 mA).
Operating Temperature: 0—50° C.
Storage Temperature: —40° C to +70° C.
Temperature Coefficient: 100 ppm/° C, full scale.
Input Bias Current: 2 nA max.
Ratio Operation: External reference 1.0 nominal or 0.1 V ±20%. Automatic zero setting.
Display: ±1999 Sperry gas discharge; 7 segment 0.55″ high; 7.5 readings/sec standard; amber Polaroid filter with sockets.

WESTON
VOLTS DC
-1230

Model 1230

Common Mode Rejection: Greater than 80 dB at line frequency with 1K ohm unbalanced.
Power Required: 117/234 VAC ±10%, 4.7 watts, 50—60 Hz.
Size: Front, 4.00″ w. x 0.56″ d. x 1.75″ h.; behind panel, 4.25″ d.; panel cutout, 3.924″ w. x 1.682″ h. Weight, 1 lb.

DC Voltmeters Without BCD

Weston Model 1230-	**0274871**	**0274872**	**0274873**	**0274874**	**0274875**
Full Scale Range	0 ±199.9 mV	0 ±1.999 V	0 ±19.99 V	0 ±199.9 V	0 ±1000 V
Input Ohms	100 meg	100 meg	5 meg	5 meg	5 meg
Net Price	**$150.00**	**$150.00**	**$150.00**	**$150.00**	**$160.00**

DC Voltmeters With BCD

Weston Model 1230-	**0274876**	**0274877**	**0274878**	**0274879**	**0274880**
Full Scale Range	0 ±19.99 μA	0 ±199.9 μA	0 ±1.999 mA	0 ±19.99 mA	0 ±199.9 mA
Input Ohms	10K	1K	100	10	1
Net Price	**$160.00**	**$160.00**	**$160.00**	**$160.00**	**$160.00**

DC Current Meters Without BCD

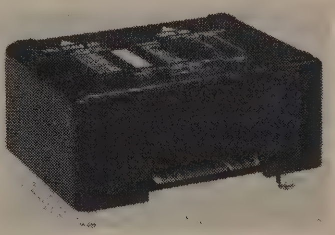
Weston Model 1230-	**0274900**	**0274901**	**0274902**	**0274903**	**0274904**
Full Scale Range	0 ±199.9 mV	0 ±1.999 V	0 ±19.99 V	0 ±199.9 V	0 ±1000 V
Input Ohms	100 meg	100 meg	5 meg	5 meg	5 meg
Net Price	**$155.00**	**$155.00**	**$155.00**	**$165.00**	**$165.00**

DC Current Meters With BCD

Weston Model 1230-	**0274905**	**$274906**	**0274907**	**0274908**	**0274909**
Full Scale Range	0 ±19.99 μA	0 ±199.9 μA	0 ±1.999 mA	0 ±19.99 mA	0 ±199.9 mA
Input Ohms	10K	1K	100	10	1
Net Price	**$165.00**	**$165.00**	**$165.00**	**$165.00**	**$165.00**

Model 9744
rms Transducer

Low cost, all solid state single range device providing DC output signal proportional to rms of input signal. Five voltage ranges. Input impedance of 1 megohm on all voltage ranges makes it suitable for signal or power circuit applications. 0—1 VDC output is suitable for use with digital or analog indicating instruments and a wide range of control instrumentation. Less than 0.5% error on frequency range 40—10 kHz; less than 0.35% on power frequencies (50—400Hz); no more than 1.5% on frequencies in the 30-20,000 Hz range is experienced on any kind of waveform applied. Generous 4:1 crest factor (peak/rms) assures accurate measurements on large signal peaks. **Size:** 4″ w. x 2.88″ d. x 1.94″ h. overall. Weight, less than 9 oz.
Weston Model 9744 rms Transducer—
List Price $150.00



Weston Model	**Full Scale Range**	**List Price**
9744-0274785	0—100 mV	**$180.00**
9744-0274786	0—1 V	**180.00**
9744-0274787	0—10 V	**180.00**
9744-0274788	0—100 V	**195.00**
9744-0274789	0—700 V	**195.00**

QUANTITY DISCOUNTS: LOTS OF 1-4, LIST; 5-9, —10%; 10-24, —15%; 25 UP, —20%.

SANGAMO WESTON
Schlumberger

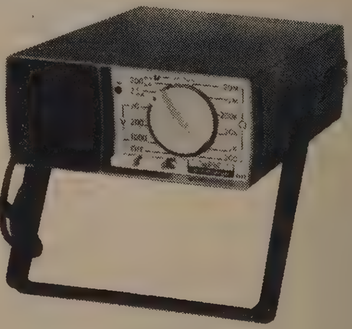
WESTON® Digital Test Instruments

Model 4440 Portable Digital Multimeter

RANGES

DC Volts: 0—199.9 mV; 0—1.999—19.99—199.9—999 volts.
AC Volts: 0—199.9 mV; 0—1.999—19.99—199.9—999 volts.
DC Current: 0—199.9 µA.
AC Current: 0—199.9 µA.
Resistance: 0—199.9—1.999K—19.99K—199.9K—1.999M ohms.
Display: 1999 non-blinking; 0.19″ character size.
Conversion Rate: Approx. 4 per second.
Common Mode Rejection: 80 dB.
Normal Mode Rejection: 35 dB.
Temperature: 15° C to 35° C (10° C to 50° C with derated accuracy).
Power Required: Rechargeable or standard "C" batteries or 115 VAC, 50—400 Hz.
Size: 5.45″ w. x 7.25″ d. x 2.25″ h. Weight, less than 2½ lbs.
Weston Model 4440 Digital Multimeter—Comes with four Nicad "C" cells and battery charger. High impact molded plastic case. Net Price **$325.00**

Model 4442 Digital Multimeter



RANGES

DC Volts: 0—199.9 mV; 0—1.999—19.99—199.9—1000 volts.
AC Volts: 0—199.9 mV; 0—1.999—19.99—199.9—1000 volts.
DC Current: 0—1.99 µA; 0—1.999 mA.
AC Current: 0—199.9 µA; 0—1.999 mA.
Resistance: 0—199.9—1.999K—19.99K—199.9K—1.999M—19.99M ohms.
Conversion Rate: Approx. four per second.
Common Mode Rejection Ratio: 80 dB (approaches infinity on battery).
Normal Mode Rejection Ratio: 38 dB.
Temperature: 25° C ±3° C with guaranteed accuracy (operable from 0° to 50° C—derate accuracy).
Power Required: Four "C" size nickel cadmium cells (supplied); 115 VAC, 50—400 Hz.
Size: 5.45″ w. x 7″ d. x 2.25″ h. Weight, less than 2½ lbs.
Weston Model 4442 Digital Multimeter—Includes test probes and 117 VAC battery charger/AC converter. Net Price **$355.00**
Weston Model 4443 Digital Multimeter—Similar to Model 4442, but reads only DC current and voltage, and resistance. Ranges same as Model 4442. Net Price **$295.00**

QUANTITY DISCOUNTS: LOTS OF 1-4, LIST; 5-9, —5%; 10-24, —10%; 25 UP, —25%

SANGAMO WESTON
Schlumberger

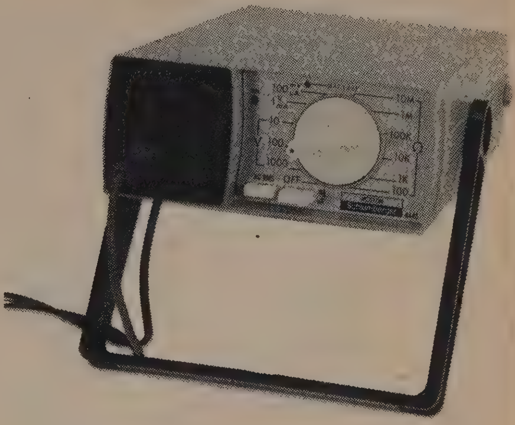
WESTON® Digital Test Instruments

Model 4445 True RMS DMM AC/DC Multimeter

1. Handles odd wave shapes anywhere/anytime.
2. True RMS AC measurements.
3. Fully overload protected—fuse externally replaceable. Shock-proofed.

RANGES

DC Volts: 0—100 mV; 0—1—10—100—1000 volts.
AC Volts: 0—100 mV; 0—1—10—100—1000 volts.
DC Current: 0—100 μA; 0—1 mA.
AC Current: 0—100 μA; 0—1 mA.
Ohms: 0—100—1K—10K—100K—1M—10M ohms.
Display: 1999, -1999 (non-blinking), 0.19″ character size; leading zero blanking—LSD never blanked; automatic polarity.
Conversion Rate: Approx. 4/sec.
Crest Factor (Peak/rms) Value: 4:1 at FS (except where limited by maximum input).
Overrange: 100% (reads 1999) except on 1000 volt range.
Common Mode Rejection Ratio: 80 dB (approaches infinity on battery).
Normal Mode Rejection Ratio: 38 dB.
Temperature: 25° C ±3° C with guaranteed accuracy (operable from 0° C to 50° C—derate accuracy).
Power Required: 4 "C" size nickel cadmium cells or 115 VAC, 50—400 Hz.



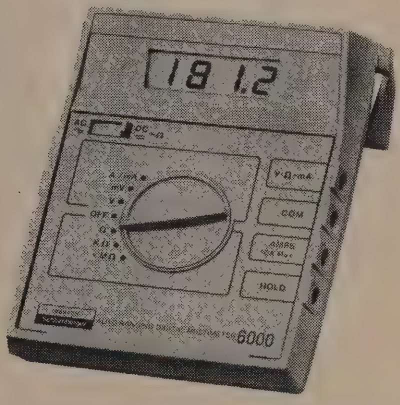
Size: 5.45″ w. x 7″ d. x 2.25″ h. Shipping Weight, less than 2½ lbs.
Weston Model 4445 Digital Multimeter—Comes with test probes, Ni-Cad batteries and 117 VAC battery charger. Optional input shunts available.
Net Price **$520.00**

Autoranging Weston Model 6000 Digital Multimeter

The Weston Model 6000 combines the accuracy and convenience of automatic digital measurements and the economy and broad range coverage of conventional VOM's in a precision meter designed for rugged field service. Two 9-volt batteries provide more than 200 hours of operation, and automatic circuitry provides low battery warning during the last 10 hours of useful operation. Autopolarity, autozeroing and unique autoranging eliminate most user adjustments. Accuracy and low cost have been achieved by the use of laser-trimmed resistor networks and custom LSI circuitry. The 0.5″ liquid crystal display allows reading in ambient light from 1 foot candle to direct sunlight. A "Display Hold" feature allows measurements to be made with the operator's attention concentrated on probe placement and not divided between the probe and the reading. A jack accepts an optional probe or a use-supplied SPST switch for the "Display Hold" function. The Model 6000 has a carrying handle which folds forward to cover and protect the display or folds back and under to serve as a stand. Extended current measurement to a full 10 amps. Many accessories are available to extend the measurement functions.

RANGES

DC Volts: 0 to 1000 maximum, at an accuracy of ±0.35% ± 2 digits.
AC Volts: 0 to 1000 maximum, at an accuracy of ±0.5% ± 5 digits.
DC Current: 0 to 10 amperes, at an accuracy of ±0.75% ± 3 digits.



AC Current: 0 to 10 amperes, at an accuracy of ±1.5% ± 5 digits.
Resistance: 0 to 20 megohms, at an accuracy of ±0.5% ± 1 digit.
Low Battery Warning: Reading blinks during final 10 hours of operation.
Over-range Indication: "1" and "888" alternate in a blinking display.
Size: 7″ w. x 5.75″ h. x 2.25″ d.
Weight: 22 ozs. with batteries.
Weston Model 6000 Autoranging Digital Multimeter—Complete with test leads and batteries.
Net Price **$195.00**

QUANTITY DISCOUNTS: LOTS OF 1-4, LIST; 5-9, —5%; 10-24, —10%; 25 UP, —25%

SANGAMO WESTON
Schlumberger

WESTON® Precision Test Instruments

Model 931 DC Instrument

Compact, light weight and accurate within ½ of 1%. Hand calibrated mirror scales and knife-edge pointers eliminate parallax errors. Scale length 4.04″. Self-shielded permanent magnet moving coil. Size, 5¼″ x 5″ x 3¼″. Approx. Weight, 2 lbs.

DC Voltmeters 1000 ohms/volt

Weston No. 931-	Range	Scale Division	List Price
1901003	50	100	$173.80
1905003	30/7.5/3	150	202.40
1905002	75/30/7.5	150	202.40
1905001	150/15/3	150	202.40
1905005	300/150/3	150	202.40
1905006	750/300/150	150	202.40

5000 ohms/volt

Weston No. 931-	Range	Scale Division	List Price
1906002	75/30/7.5	150	$225.50
1906003	30/7.5/3	150	225.50
1906004	150/15/3	150	225.50
1906006	300/150/3	150	225.50
1906001	750/300/150	150	225.50

DC Milliammeters

4904005	3/0.3/0.03	150	$221.65
4904004	15/1.5/0.15	150	221.65
4904003	150/15/1.5	150	198.55
4904002	1500/150/15	150	198.55
4904001	3000/300/30	150	198.55

DC Microammeters

5902002	30	150	$225.50
5902001	200	100	198.50

DC Ammeters (Self-Contained to 50 Amps)

Scale Division: 100 (150 for ranges of 1.5, 3 A and their multiples).

Weston No. 931-	Range, Amps	List Price	Weston No. 931-	Range, Amps	List Price
2902007	5/0.5/0.05	$210.65	2902012	25/10/2.5	$210.65
2902008	5/2.5/0.5	210.65	2902013	50/5/0.5	210.65
2902006	10/1/0.1	210.65	2902002	50/10/2	210.65
2902009	10/5/1	210.65	2902001	50/20/5	210.65
2902003	15/3/1.5	210.65	2902004	50/25/10	210.65

Model 432 DC and Single-Phase AC Wattmeters

Electrodynamometer accurate within ½ of 1%. Power consumption: Potential circuit at 115 volts, 60 Hz, 1.2 watts, 1.2 volt-amperes; current circuit at 5 amperes, 60 Hz, 0.65 watt, 0.68 volt-ampere. Scale 4.04″ l. Scale Division: 75, unless otherwise noted. Size, 5¼″ x 5″ x 3¼″. Weight, 3¼ lbs., approx.

DC and Single Phase 25-125 Hz

Weston	Volts		Amps		Watts		Price
No. 432-	Nor.	Max.	Nor.	Max.	High	Low	List
9901001	150/75	200/100	1	1.5	150	75	$376.95
9901005	150/75	200/100	5	7.5	750	375	376.95
9901002	300/150	400/200	1	1.5	300	150	376.95
9901006	300/150	400/200	5	7.5	1.5 kw	.75 kw	376.95
9901008	300/150	400/200	10	15	3 kw	1.5 kw	376.95
9901010†	300/150	400/200	20	30	6 kw	3 kw	376.95
9901011	300/150	400/200	50	75	15 kw	7.5 kw	376.95
9902005	150/75	200/100	10/5	15/7.5	1500/750	750/375	376.95
9902003*	200/100	260/130	5/2.5	7.5/3.75	1000/500	500/250	376.95
9902004	300/150	400/200	5/2.5	7.5/3.75	1500/750	750/375	376.95
9902007	300/150	400/200	10/5	15/7.5	3/1.5 kw	1.5/.75 kw	376.95

DC and Single Phase 25-1000 Hz

Weston	Volts		Amps		Watts		List
No. 432-	Nor.	Max.	Nor.	Max.	High	Low	Price
9902013	300/150	400/200	5/2.5	7.5/3.75	1500/750	750/375	$409.00
9901015	300/150	400/200	5	7.5	1.5 kw	.75 kw	409.00

Scale Div.: *100; †60

QUANTITY DISCOUNTS: LOTS OF 1-5, LIST; 6-14, –5%; 15-24, –10%; 25 UP, –15%.

Model 432 DC and Single-Phase AC Wattmeters (Continued)

For Low Power Factor 25-125 Hz

9902009	—	300/150	—	5/25	300/150	150/75	$434.20
9902010	—	—	—	10/5	600/300	300/150	434.20

Model 433 AC Instruments

Movable iron type, horizontal operation, shielded from external magnetic fields. Well compensated for temperature changes. **Power Consumption:** 150 V range at 115 volts, 60 Hz, 2.5 watts, 2.5 VA. **Rated Accuracy:** .75%. **Frequency Coverage:** Alternating current at frequencies from 25 to 1000 Hz available. **Self-Contained Ranges:** Single, double and triple up to 750 volts. **Range Extension:** Higher ranges obtained with multipliers or by using Model 311 Potential Transformer in connection with a 150 volt range. **Size:** 3¼" x 5" x 5¼". Weight, 2½ lbs., approx.

AC Voltmeters 25-125 Hz

Weston No. 433-	Range	Approximate Resis., Ohms	Scale Div.	List Price
1901005	150	5300	150	$187.80
1901008	250	18,200	125	187.80
1903001	20/10	116/58	100	191.00
1903002	30/15	336/168	150	191.00
1903004	60/30	850/425	150	191.00
1903007	150/75	5300/2680	150	191.00
1903009	300/150	22,000/11,000	150	191.00
1905001	450/300/150	33,000/22,000/11,000	150	225.25
1906002†	600/300/150	44,000/22,000/11,000	150	225.25
1906003†	750/300/150	55,000/22,000/11,000	150	225.25

†Has extension on case for additional resistance.

25-1000 Hz

Weston No. 433-	Range	Approximate Resis., Ohms	Scale Div.	List Price
1903008	150/75	....	150	$224.40
1903010	300/150	....	150	224.40
1906001	600/300/150	....	150	257.40
1907001‡	750/300/150	....	150	316.80

‡Includes necessary external Model 9990, Type 52 resistance box.

AC Milliammeters

Double ranges cover 25—1000 Hz. Double range instruments have range selector switch. Frequency span to 2500 Hz within ¼% accuracy possible.

25-500 Hz

Weston No. 433-	Range	Approximate Resis., Ohms	Scale Div.	List Price
4903005	150/75	30/120	150	$207.35
4903002	300/150	6.4/26	150	207.35
4903006	500/250	1.6/6.6	100	207.35

25-1000 Hz

Weston No. 433-	Range	Approximate Resis., Ohms	Scale Div.	List Price
4903001	100/50	......	100	$217.80
4903003	500/250	......	100	217.80

AC Ammeters

Power Consumption: 5 amps range at 5 amps, 60 Hz, 0.50 watt 0.52 VA. Single, double and triple ranges cover frequencies 25—500 Hz. Higher frequency coverage available. Triple range instruments have internal current transformer.

All have two binding posts, double and triple range instruments have range selector switch. For ranges above 50 amps, Model 461 Current Transformer, Type 1 with 5 amps instrument is recommended.

25-500 Hz

Weston No. 433-	Range	Approximate Resistance, Ohms	Scale Div.	List Price
2901001	1	0.48	100	$178.20
2901002	5	0.020	100	178.20
2903004	2/1	0.12/0.48	100	205.75
2903001	5/2.5	0.02/0.08	100	205.75
2903005	10/5	0.0083/0.028	100	205.75
2906002	3/1.5/0.75	0.18/0.43/0.59	150	283.00
2906001	5/2.5/1	0.13/0.26/0.37	100	283.00
2906005	10/5/1	0.030/0.070/0.37	100	283.00
2906006	10/5/2.5	0.030/0.060/0.075	100	283.00
2906007	15/7.5/1.5	0.023/0.044/0.19	150	283.00
2907001	20/5/2	0.040/0.19/0.30	100	283.00
2908001	30/7.5/3	0.0090/0.036/0.040	150	283.00
2909001	50/20/5	0.0084/0.0011/0.020	100	283.00
2909002	50/20/10	0.0073/0.0080/0.010	100	283.00

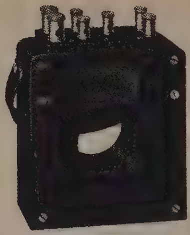
25-1000 Hz

Weston No. 433-	Range	Approximate Resistance, Ohms	Scale Div.	List Price
2906003	5/2.5/1	—	100	$297.00

QUANTITY DISCOUNTS: LOTS OF 1-5, LIST; 6-14, —5%; 15-24, —10%; 25 UP, —15%

SANGAMO WESTON
Schlumberger

WESTON® Precision Current Transformers



Model 327 Current Transformers

Units employ special nickel-alloy cores, making them ideal for laboratory as well as industrial usage. Type 2 differs from Type 1 in that it provides maximum precision. **Size:** 9.93″ x 8.38″ x 3″. Inserted primary opening, 2.85″ dia. Weight (approx.), 12.5 lbs.
Typical accuracy: Type 1, 0.2%, Type 2, 0.5%.

Ranges in Amperes	Type	Weston No.	List Price
1200/600/400/300/200/100/50/20/10 Pri. to 5 Sec.	1	327-9901001	$516.25
1200/600/400/300/200/100/50/20/10 Pri. to 5 Sec.	2	327-9902001	609.25

Model 461 Current Transformers

Used with AC instruments. Four self-contained primary ranges are brought out to binding posts. A secondary short circuiting switch is provided. Black molded case. **Core Opening:** 2.12″ dia. **Size:** 7.97″ x 6.63″ x 2.75″. **Weight:** Type 1, 8 lbs. Type 2, 8.4 lbs.
Type 1: Primarily used for ammeter applications.
Type 2: Primarily used for wattmeter applications.
Type 5: Similar to Type 2 except for additional ranges.

Ranges in Amperes	Typical Accuracy	Type	Weston No.	List Price
800/400/200/100/50/20/10 Pri. to 5 Sec.	.8%	1	461-9901001	$304.35
800/400/200/100/50/20/10 Pri. to 5 Sec.	.3%	2	461-9902001	382.55
1000/500/250/100/50/25/10 Pri. to 5 Sec.	.7%	1	461-9901002	304.35
1000/500/250/100/50/25/10 Pri. to 5 Sec.	.3%	2	461-9902002	382.55
500/250/100/50/25/10/5/2.5/1/0.5 Pri. to 5 Sec.	.2%	5	461-9902003	405.35

Models 901 and 904 Instruments

Scale, 5½″. Size, 7½″ x 7¼″ x 3⅝″.

Model 901 DC Instruments: Self-shielded, permanent magnet, moving coil operation. Rated accuracy, 0.25% F.S. Weight, 3¾ lbs. approx.

Model 904 AC Instruments: Movable iron type. Accuracy, 0.5% F.S. Weight, 4¾ lbs. approx.

Model 901 DC Instruments

Weston No. 901-	Meter	Range	Scale Divisions	List Price
2904001	DC Amps	50 mV/20/5/2 amps	100	$380.25
1905001	DC Volts†	750/300/150/75/30/15/3	150	419.60
4905001	DC Milliam.	1K/500/200/100/50/20/10	100	394.70
4905002	DC Milliam.	100/50/20/10/5/2/1	100	394.70

†5000 ohms/volt.

Model 904 AC Instruments

Weston No. 904-	Meter	Range	Scale Divisions	List Price
2905001	AC Amps	200/100/50/20/10/5/2	100	$510.10
2905002	AC Amps	50/20/10/5/2/1	100	495.90
2901001	AC Amps	5 amps	100	352.60
1906001	AC Volts	750/300/150/75/30/15/7.5/3	150	568.50
1903001	AC Volts	300/150	150	357.55
1904003	AC Volts	600/300/150*	150	362.90
1904005	AC Volts	750/300/150*	150	362.90
4902001	AC Milliam.	150/75	150	407.30
4902003	AC Milliam.	300/150	150	407.30

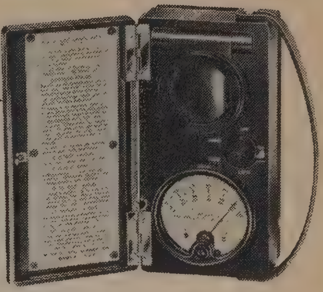
*Non-locking key on high range, which is for intermittent duty only.

QUANTITY DISCOUNTS: LOTS OF 1-9, LIST; 10-24, –10%; 25-49, –15%.

SANGAMO WESTON
Schlumberger

WESTON® Illumination Test Instruments

Model 614 Foot-Candle Meters



Ideal for general commercial lighting surveys where wide ranges of light values exist. Fully self-contained, no outside power or batteries required. **Scale Length:** 2.37". **Size:** 7⅝" x 3⅜" x 2¼". Weight, 1 lb., 13 oz.

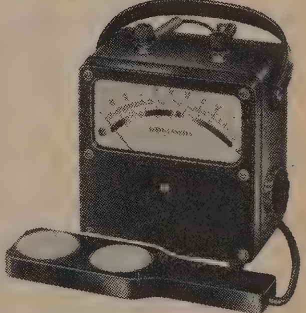
Weston No. 614-9960001—Viscor filtered 0—60/120/600 foot-candles; for visual correction for color. List Price **$352.75**

Weston No. 614-9960002—Viscor and cosine correction filtered 0—100/250/500 foot-candles; for visual correction for color and direction. List Price **$362.40**

Model 615 Broad Range Light Meter

General purpose standard for business, industry and government agencies where monitoring over wide ranges of illumination is necessary. The Photronic cell is corrected by visual and cosine filters, and the built-in battery-operated amplifier allows seven ranges of light measurement. The Photronic cell is hermetically sealed for long life and is hinged for convenience in making directional measurements. The selector switch has a provision for battery test and an interlock to insure the switch is off when the case is closed. Ranges: 0—1.2, 3, 12, 30, 120, 300, 120 Foot Candles. Viscor and Cosine correction supplied. More than one year of operation from one 9 volt battery. Size: 7" x 3½" x 2½". Weight: 2 lbs. List Price **$417.45**

Model 756 Illumination Meter



A portable instrument for light measurements requiring a high degree of accuracy over a very broad range of light values. Ideal for research and routine work as a master instrument for checking other light measuring instruments and devices.

Model 756 including the separable light target is supplied in a sturdy leather carrying case with a compartment for the light target.

Model 756-9901002 0-20/100/500 foot-candles (with Viscor and Cosine correction filters). List Price **$951.05**

Model 756-9901004 0-6/12/60/120/600 Footcandles (with Viscor filter)
Approximate Size: 3.5 (89mm) x 5.25 (133mm) x 6.12 (155mm)
Weight: 45.8 oz (1.3 Kg)
Accuracy: ±5%. List Price **$1003.70**

Model 703 Sightmeters

A light measuring instrument for checking lighting in offices, etc. Indicate instantly the true foot-candle rating of lighting when equipped with Viscor® color filters since they have the same color-response as the human eye. These units are pocket-size and anyone may use them. Place them on a table, desk, chair, etc., or hold them in your hand in whatever position desired. Indicates instantly whether or not the light is adequate for a particular seeing task. They are invaluable aids for the promotion of better sight through the use of better light. Ideal tools in the sale of home lighting equipment and fixtures such as lamps and reflectors. Range may be extended by a factor of 10 through the use of the special multiplier disc over the sensitive cell. Scale length, 1.43". **Size:** 4⅝" x 2⅝" x 1 5/16". Weight, 10 oz.

Weston Model 703 Type 3A Sightmeter—Measures 0-75 foot-candles. Less filters. 703-9960010 List Price **$110.50**

Weston Model 703 Type 7 Sightmeter—Sightmeter described, with a range of 0-100 foot-candles, including the Viscor and cosine correction filters for accurate readings. 703-9960007 List Price **$146.50**

Weston Model 703 Type 8 Sightmeter—Measures 0-30 foot-candles and comes with Viscor filter. 703-9960009 List Price **$142.25**

Weston Model 703 Type 51 Sightmeter—Measures 0-150 foot-candles. With ultraviolet-transparent quartz filter, black background scale with fluorescent characters and pointer. 703-9960051 List Price **$202.70**

Weston Model 9924 Multiplier Disc—For use with Type 3A and Type 6A Sightmeters. Merely snaps in place and reduces light reaching cell to 1/10. 9924-PN92108 List Price **$7.30**

Weston Model 9959 (No. 74472) Carrying Case—Carrying case of fine leather for use with above meters. List Price **$7.65**

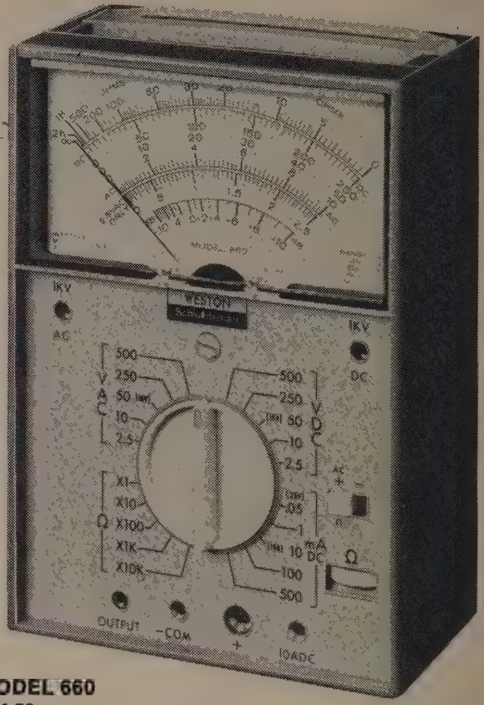
QUANTITY DISCOUNTS: LOTS OF 1-5, LIST; 6-14, —5%; 15-24, —10%; 25 UP, —15%

SANGAMO WESTON
Schlumberger

WESTON® Precision Test Instruments

General Features

- Completely drop-proofed
- Custom ruggedized self-shielded taut-band mechanism
- Diode-protected meter movement
- Temperature compensated
- Unique pluggable circuit board assemblies
- Special calibrated scales for dB measurement
- Circuit recalibration without case disassembly
- Quality components used throughout
- External fuse replacement
- All controls flush with edge of case
- Single range switch
- Self-storing handle
- Input terminals spaced for use with double banana jacks



MODEL 660
$94.50

Specifications

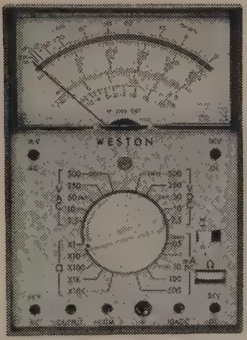
	MODEL 660	MODEL 661	MODEL 662
Accuracy	2% DC (1.5% on 50 ua range) 3% AC	1% DC 2% AC	2% DC (1.5% on 50 ua range) 3% AC With Overload Relay
Sensitivity	20,000 ohms/volt DC 5,000 ohms/volt AC	20,000 ohms/volt DC 5,000 ohms/volt AC	20,000 ohms/volt DC 5,000 ohms/volt AC
Dimensions	7″H x 5″W x 2¼″D	7″H x 5″W x 2¼″D	7″H x 5″W x 2¼″D
Weight	Less than 2 lbs. (Batteries included)	Less than 2 lbs. (Batteries included)	Less than 2 lbs. (Batteries included)
Ranges	DC Millivolts 0-250 DC Volts 0-2.5/0-10/0-50/0-250/0-500/0-1000/ AC Volts 0-2.5/0-10/0-50/0-250/0-500/0-1000/ VAC Output 0-2.5/0-10/0-50/0-250 DC Microamps 0-50 DC Milliamps 0-1/0-10/0-100/0-500 DC Amps 0-10 Ohms RX1(0-2K)20Ωcenter/ RX10(0-20K)200Ωcenter/ RX100(0-200K)2000Ωcenter/ RX1000(0-2Meg)20KΩcenter/ RX10K(0-20Meg)200KΩcenter db Scales (1 mw on 600 ohm line) −10 to +10/+2 to +22/+16 to +36/+30 to +50/+36 to +56	DC Millivolts 0-250 DC Volts 0-2.5/0-10/0-50/0-250/0-500/0-1000/ AC Volts 0-2.5/0-10/0-50/0-250/0-500/0-1000/ VAC Output 0-2.5/0-10/0-50/0-250 DC Microamps 0-50 DC Milliamps 0-1/0-10/0-100/0-500 DC Amps 0-10 Ohms RX1(0-2K)20Ωcenter/ RX10(0-20K)200Ωcenter/ RX100(0-200K)2000Ωcenter/ RX1000(0-2Meg)20KΩcenter/ RX10K(0-20Meg)200KΩcenter db Scales (1 mw on 600 ohm line) −10 to +10/+2 to +22/+16 to +36/+30 to +50/+36 to +56	DC Millivolts 0-250 DC Volts 0-2.5/0-10/0-50/0-250/0-500/0-1000/ AC Volts 0-2.5/0-10/0-50/0-250/0-500/0-1000/ VAC Output 0-2.5/0-10/0-50/0-250 DC Microamps 050 DC Milliamps 0-1/0-10/0-100/0-500 DC Amps 0-10 Ohms RX1(0-2K)20Ωcenter/ RX10(0-20K)200Ωcenter/ RX100(0-200K)2000Ωcenter/ RX1000(0-2Meg)20KΩcenter/ RX10K(0-20Meg)200KΩcenter dB Scales (1 mw on 600 ohm line) −10 to +10/+2 to +22/+16 to +36/+30 to +50/+36 to +56

QUANTITY DISCOUNTS: LOTS OF 1-4, LIST; 5-9, −5%; 10-24, −15%; 25 UP, −20%.

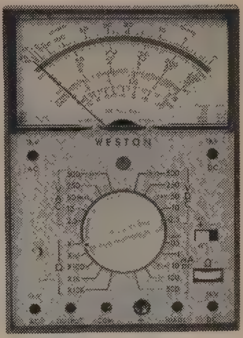
SANGAMO WESTON
Schlumberger

WESTON® Precision Test Instruments

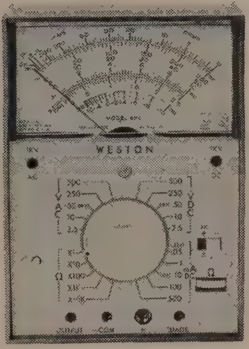
MODEL 661
$102.65



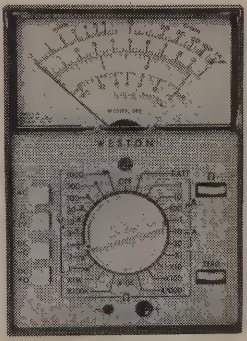
MODEL 663
$152.40



MODEL 662
$138.25



MODEL 666
$189.00



Specifications (Cont.)

	MODEL 663	MODEL 666
Accuracy	1% DC 2% AC With Overload Relay	2% DC volts, 3% AC Volts 3% DC current, 4% AC current
Sensitvity	20,000 ohms/volt DC 5,000 ohms/volt AC	10 megohm DC, 10 megohm (100 pfd) AC, current circuit 100 millivolt drop
Dimensions	7″H x 5″W x 2¼″D	7″H x 5″W x 2¼″D
Weight	Less than 2 lbs. (Batteries included)	Less than 2 lbs. (Batteries included)
Ranges	DC Millivolts 0-250 DC Volts 0-2.5/0-10/0-50/0-250/0-500/0-1000/ AC Volts 0-2.5/0-10/0-50/0-250/0-500/0-1000/ VAC Output 0-2.5/0-10/0-50/0-250 DC Microamps 0-50 DC Milliamps 0-1/0-10/0-100/0-500 DC Amps 0-10 Ohms RX1(0-2K)20Ωcenter/RX10(0-20K)200Ωcenter/RX100(0-200K)2000Ωcenter/RX1000(0-2Meg)20KΩcenter/RX10K(0-20Meg)200KΩcenter db Scales (1 mw on 600 ohm line) −10 to +10/+2 to +22/+16 to +36/+30 to +50/+36 to +56	DC Millivolts 0-100/0-300 DC Volts 0-1/0-3/0-10/0-30/0-100/0-300/0-1000 AC Millivolts 0-100/0-300 AC Volts 0-1/0-3/0-10/0-30/0-100/0-300/0-1000 DC Microamps 0-1/0-10/0-100 DC Milliamps 0-1/0-10/0-30 AC Microamps 0-1/0-10/0-100 AC Milliamps 0-1/0-10/0-30 Ohms (7 normal and 7 low power ranges) RX1/RX10/RX100/RX1K/RX10K/RX100K/RX1Meg dB Scales −40 to −18/−30 to −8/−20 to +2/−10 to +12/0 to +22/+10 to +32/+20 to +42/+30 to +52/+40 to +62

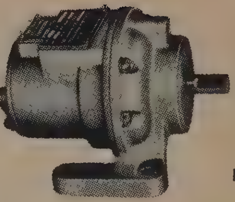
QUANTITY DISCOUNTS: LOTS OF 1-4, LIST; 5-9, −5%; 10-24, −15%; 25 UP, −20%.

INSTRUMENT SECTION

SANGAMO WESTON
Schlumberger

WESTON® Tachometers

Model 750
DC Generator—Type A

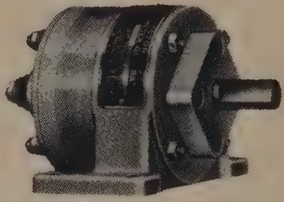


Model 750 Type A

Commutator segments are made from specially hardened, non-corrosive alloy for exceptional long life. Self-lubricating brushes are carried in a self-aligning holder. No lubrication required, under normal operation, for 15,000 hours running time or approximately three years. Rigid die-cast dustproof aluminum mounting base and housing. Has ⅜″ dia. shaft extension for direct coupling drive, pulley or spur gear and two binding posts. Recommended for general light duty applications. **Max. Speed:** 5,000 rpm. **Torque:** Starting, 1.0 oz.-in.; Running 1.0 oz.-in. at 1,000 rpm. **Voltage Output:** 6 V, ±1% at 1,000 rpm. **Current Drain:** 50 mA, max. **Internal Resistance:** 20 ohms. **Size:** 3″ w. x 4.66″ d. x 2.87″ h. **Weight:** 1.7 lbs. **Mounting:** Base. **Shaft:** ⅜″ dia. x .71″ lg .

Weston Model 750-9901000 Type A—
List Price **$211.65**

Model 758
AC Generator—Type AB



Model 758 Type AB

Temperature compensated output is proportional to the speed. No lubrication required under normal operation for 15,000 hours running time or about three years. Max. speed is 5,000 rpm, but may be used up to 10,000 rpm under special conditions. Rigid cast bronze base mounting. Light weight dustproof aluminum alloy housing. Has ½″ dia. shaft extension for spur gear, chain and sprocket, pulley or direct coupling drive, and two binding posts. Recommended for general light duty applications. **Torque:** Starting, 2.5 oz.-in.; running, 2.5 oz.-in. at 1,000 rpm. **Weight:** 2.89 lbs.

Weston Model 758-9901000 Type AB—
List Price **$152.40**

Binding Post Cover Boxes

Weston Model 9933-0143156—For Model 750 Type A Generator. Has ½″ N.P.T. opening suitable for flexible conduit connection. List Price **$10.00**

Weston Model 9933-0143157—For Model 758 Type AB Generator. Has ½″ N.P.T. opening suitable for flexible conduit connection. List Price **$10.00**

Models 271 and 273 AC/DC Tachometer Indicators

DC or Rectifier type AC voltmeters calibrated in terms of various units such as rpm, minutes baking time, miles/hr., gallons/min., Hz, etc. No specially calibrated connecting leads are required for connection of normal length. One, two or up to 25 indicators may be operated from the same generator with all giving direct indication simultaneously. Supplied with single range zero left indication. Available in zero right, suppressed zero or with multiple ranges. DC indicators also available in zero center indication. All indicators are equipped with zero correctors and are temperature compensated. Dust and moisture resistant. Enclosed in steel cases except Models 961, 961-RD and 961-FD. Suffix **"DC"** indicates DC type; **"RD"**, AC; **"FD"**, frequency responsive. **Accuracy:** 1% FS, 271-DC, 273-DC, 271-RD, 273-RD, 961-DC; 2½%, 961-RD.

SWITCHBOARD (FAN SHAPED) INDICATORS
Available in three models: 269, 271 and 273. DC, AC or frequency responsive. Enclosed in drawn steel cases with long easily read scales and are similar in construction, varying only in size and scale length.

Model 961 or 961 RD
4″ Panel Indicators

Models 961 (DC), 961-RD (AC) and 961-FD (Frequency Responsive). Flush type rectangular Bakelite* cases especially suitable for small panels. When ordering, specify panel material and thickness.

Model 271 or 273

200
400
600
800
R.P.M.

Model 961 or 961-RD

Tachometer Indicator Models

Case	Scale Lg.	Wt., Lbs.	DC Voltage Model	DC Voltage Price	AC Voltage Model	AC Voltage Price	AC Frequency Model	AC Frequency Price
Surf.	5.8″	3.8	271	Prices on Request	271-RD	Prices on Request	271-FD	Prices on Request
Surf.	7.3″	5.0	273		273-RD		273-FD	
Flush	3.17″	1.0	961		961-RD		961-FD	

Quantity Discount Schedule

Quantity	Tachometer Generators and Accessories	Tachometer Indicators Only
1—9	List Price	Prices and Discounts on Request
10—24	10% off	
25—49	15% off	
50—99	20% off	

*Registered Bakelite Corp. trademark.

SANGAMO WESTON
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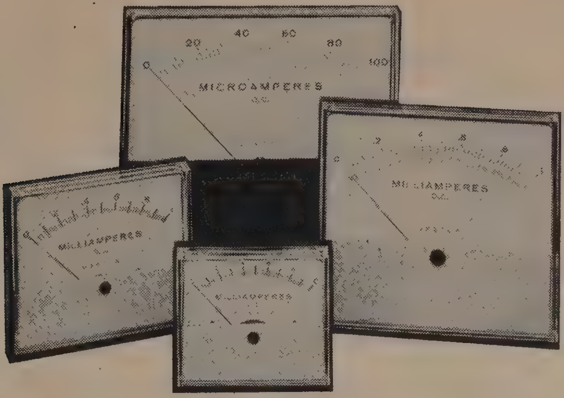
WESTON® Panel Instruments



Series 2000 Panel Meters

Attractive panel meters are styled to complement the appearance of equipment, rather than dominate it. Flattened scale arc gives excellent readability. Convenient snap-in covers permit easy scale replacement; use of a simple tool for replacement guards against finger snap-off of covers. Cormag® mechanism uses specially treated Alnico V magnet for full shielding from magnetic effects and long term stability. Offers the best combination of high torque with a minimum response time and minimum power consumption. Meets ANSI C39.1 standard. Features excellent dust sealing, plus the option of superior moisture-resistant sealing where required in critical environmental conditions. Easily adaptable to external illumination. Pivot and jewel types have spring back jewels. Half bezel is available for rear-of-panel mounting. Zero corrector is accessible from front of panel through bezel; no need to cut separate panel hole.

Specifications

All models have knife-edge pointer and plain scale; mirror scale available.

Model	Size	Function	Accuracy Full-Scale†	Scale Length
2021	2½″	DC	2%	2.13″
2022	2½″	AC Rect.	3% (60 Hz)	2.13″
2031	3½″	DC	2%	2.7″
2032	3½″	AC Rect.	3% (60 Hz)	2.7″
2041	4½″	DC	2%	3.7″
2042	4½″	AC Rect.	3% (60 Hz)	3.7″
2051	5½″	DC	2%	4.5″
2052	5½″	AC Rect.	3% (60 Hz)	4.5″

†Except 1% types listed below.

Dimensions

Depth behind panel, 1.140″ (1.725″ including terminal stud).

Model	Width	Height	Panel Hole Dia.	Mounting Centers‡ W.	Mounting Centers‡ H.
2021	2.800″	2.400″	2.200″	1.880″	1.880″
2022	2.800″	2.400″	2.200″	1.880″	1.880″
2031	3.500″	2.980″	2.820″	2.250″	2.250″
2032	3.500″	2.980″	2.820″	2.250″	2.250″
2041	4.530″	4.050″	2.820″	4.000″	3.562″
2042	4.530″	4.050″	2.820″	4.000″	3.562″
2051	5.630″	4.490″	2.820″	5.250″	3.000″
2052	5.630″	4.490″	2.820″	5.250″	3.000″

‡Four mounting studs, .500″ long.

Pivot and Jewel Meters

	Range	Resis., Ohms	Weston No.*	List Price Model 2021	List Price Model 2031	List Price Model 2041	List Price Model 2051
DC Microammeters	50	2500	5841050	$32.10	$32.85	$34.65	#
	100	2300	5841100	30.00	30.50	32.10	#
	200	850	5841200	#	#	30.90	$30.30
	50—0—50	2300	8888001	30.00	#	#	40.45
DC Milliammeters	1	85	4841001	$25.10	$26.00	$27.70	$34.25
	5	9	4841005	#	#	27.70	#
	10	2.2	4841010	25.10	26.00	#	#
	50	2.0	4841050	#	26.00	#	#
	100	1.0	4841100	25.10	26.00	#	#
	200	0.5	4841200	25.10	#	#	#
	300	0.33	4841300	25.10	#	27.70	#
	500	0.2	4841500	#	#	27.70	#

*Complete Weston No. consists of Model number (2021, 2032, etc.) followed by suffix indicated in table; e.g., 2021-4841001. #Non-stock item.

QUANTITY DISCOUNTS: LOTS OF 1-9, LIST; 10-24, —10%; 25-49, —15%

Pivot and Jewel Meters (Continued)

DC Ammeters

Range	Resis., Ohms	Weston No.*	List Price Model 2021	List Price Model 2031	List Price Model 2041	List Price Model 2051
1	50 mV	2841001	$25.10	$26.00	#	$35.30
5	50 mV	2841005	25.10	26.00	$27.70	35.30
10	50 mV	2841010	#	#	#	35.30
25	50 mV	2841025	25.10	26.00	27.70	#
50	50 mV	2841050	#	26.00	27.70	#
100†	......	8841100	25.10	26.00	#	#

†50 mV for use with external shunts.

DC Voltmeters

5	1000	1841005	$26.55	#	#	#
10	1000	1841010	26.55	$27.40	$29.15	#
25	1000	1841025	#	27.40	#	#
50	1000	1841050	26.55	27.40	29.15	#
150	1000	1841150	26.55	27.40	#	#
200	1000	1841200	26.55	#	#	#
300	1000	1841300	26.55	27.40	#	#

AC Voltmeters (Rectifier Type)

Range	Resis., Ohms	Weston No.*	List Price Model 2022	List Price Model 2032	List Price Model 2042	List Price Model 2052
150	1000	1841150	#	$35.35	#	#

*Complete Weston No. consists of Model number (2021, 2032, etc.) followed by suffix indicated in table; e.g., 2021-4841001. #Non-stock item.

Taut-Band Meters

DC Microammeters (2% Accuracy)

Range	Resis., Ohms	Weston No.*	List Price Model 2021	List Price Model 2031	List Price Model 2041	List Price Model 2051
50	950	5842050	$35.40	#	$37.90	#
100	845	5842100	32.85	$33.85	35.30	#
200	275	5842200	31.65	32.10	34.35	#
500	60	5842500	30.35	#	32.40	#
50—0—50	845	8888004	32.85	33.26	#	#
100—0—100	275	8888005	31.65	#	#	#

DC Microammeters (1% Accuracy)

100	845	5812100	.....	.....	$45.95	$50.35
200	275	5812200	.....	.....	45.20	48.50

DC Milliammeters (2% Accuracy)

1	16.5	4842001	$27.70	$28.50	$29.80	$37.50

DC Milliammeters (1% Accuracy)

1	16.5	4812001	.....	.....	$40.80	$43.35

DC Voltmeters (1% Accuracy)

50	1000	1812050	#	#	$42.25	#

QUANTITY DISCOUNTS: LOTS OF 1-9, LIST; 10-24, —10%; 25-49, —15%

Series 2000 Panel Meters (Continued)

vu Meters

Type A scale stresses the level in the "vu" units for monitoring wire lines.

Scale Type	Weston No.*	List Price Model 2022	 Model 2032	 Model 2042
Type 30 A	3841001	$43.80	$44.45	$46.35

Non-Stock Items

Series 2000 panel meters are available in a variety of ranges in addition to those listed above, as non-stock items. Pivot and jewel meters are available to read DC microamps, AC microamps and AC milliamps. Taut-band meters are available to read DC amps, DC milliamps, AC and DC volts, AC milliamps and AC microamps. Write for complete information and prices.

AC Iron Vane Meters

	Range	Weston No.	List Price Model 2024	 Model 2034	 Model 2044
AC Ammeters 2% Accuracy	1	2841001	$23.65	$23.90	#
	5	2841005	23.65	23.90	$25.35
	10	2841010	#	23.90	#
	20	2841020	23.65	23.90	25.35
	25	2841025	#	#	25.35
	30	2841030	23.65	23.90	25.35
	50	2841050	23.65	23.90	25.35
	100*	2841100	23.65	23.90	25.35

*Supplied with 5 amp range for use with Model 605 Current Transformer (not supplied).

	Range	Weston No.	Model 2024	Model 2034	Model 2044
AC Voltmeters 2% Accuracy	10	1841010	#	$25.35	$26.35
	15	1841015	#	#	26.35
	50	1841050	$24.75	25.35	26.35
	150	1841150	24.75	25.35	26.35
	300	1841300	24.75	25.35	26.35
	500	1841500	#	#	26.35
AC Milliammeters 2% Accuracy	50	4841050	$23.65	$23.90	$25.35
	100	4841100	23.65	23.90	25.35
	500	4841500	23.65	23.90	25.35
Motor Load Percent Indicator 2% Accuracy	5 (0-150%)	2841888	....	$23.90	$25.35

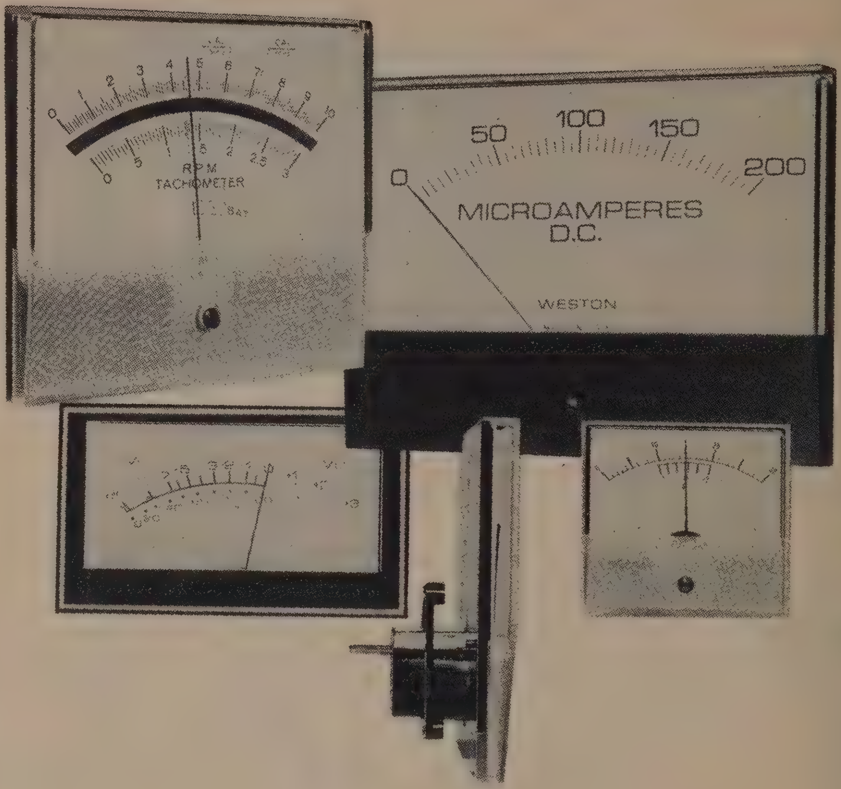
	Description	Weston No.	Used With Model	List Price
Series 2000 Accessories	Black Half Bezel	2009-0271495	2021, 2022 & 2024	$3.00
	Black Half Bezel	2009-0271922	2031, 2032 & 2034	3.00
	Black Half Bezel	2009-0271923	2041, 2042 & 2044	3.00
	Black Half Bezel	2009-0271924	2051	3.00
	Illumination Kit	2009-0271930	2031, 2032 & 2034	7.90
	Illumination Kit	2009-0271931	2041, 2042 & 2044	7.90
	Illumination Kit	2009-0271932	2051	8.80

#Non-stock item.

QUANTITY DISCOUNTS: LOTS OF 1-9, LIST; 10-24, —10%; 25-49, —15%.

SANGAMO WESTON
Schlumberger

WESTON® Mustang Panel Meters



Cormag® mechanism uses specially treated Alnico V magnets for full shielding from magnetic effects and long term stability. Meters are styled to enhance the appearance of equipment, rather than dominate it. Unique taut band caging design affords added protection against environmental shock and vibration. Flattened scale arc and knife-edge pointer give excellent readability. Convenient snap-lock cover permits easy scale changing. Features excellent dust-sealing. Available with either front-mounted Type 1 or flush rear-mounted Type 2 covers. Black painted covers available for front-mounted styles. Mounting styles available include the exclusive Ring-Lock mounting and the conventional stud mounting. Optional features such as painted covers in selective colors, special scales, clear plastic cases to facilitate backlighting of rear-mounted styles in 3½″ and 4½″ meters, special mounting-stud configurations, etc. are available on special order.

Specifications

All models have knife-edge pointers and plain scale.

Model	Size	Function	Accuracy Full Scale	Scale Length
7511	1½″	DC	2%	1.4″
7512	1½″	AC Rect.	3%	1.4″
7521	2½″	DC	2%	2.2″
7522	2½″	AC Rect.	3%	2.2″
7531	3½″	DC	2%	2.7″
7532	3½″	AC Rect.	3%	2.7″
7541	4½″	DC	2%	3.9″
7542	4½″	AC Rect.	3%	3.9″
7561	6″	DC	2%	4.6″

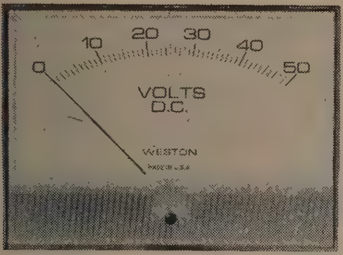
Dimensions

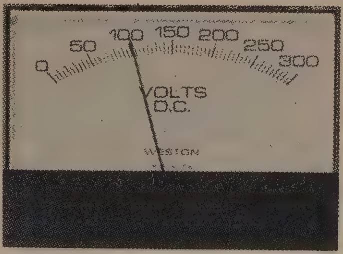
Max. depth behind panel 0.97″ (1.62″ including terminal stud).

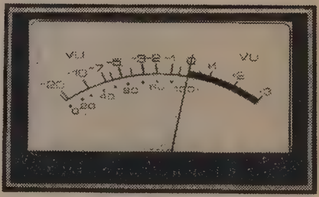
Model	Width	Height	Panel Hole Diam.	Mounting Centers W.	Mounting Centers D.
7511	1.75″	1.66″	1.5″	1.312″	....
7512	1.75″	1.66″	1.5″	1.312″	....
7521	2.56″	2.37″	2.125″	1.88″	1.88″
7522	2.56″	2.37″	2.125″	1.88″	1.88″
7531	3.43″	3.00″	2.125″	2.25″	2.25″
7532	3.43″	3.00″	2.125″	2.25″	2.25″
7541	4.68″	4.00″	2.125″	4.00″	3.56″
7542	4.68″	4.00″	2.125″	4.00″	3.56″
7561	6.00″	4.31″	2.125″	5.25″	3.00″

SANGAMO WESTON
Schlumberger

WESTON® Mustang Panel Meters







DC Microammeters

	Range µA	Resis. Ohms.	Scale Div.	Weston No. Ring-Lock Mounting	List Price	Weston No. Stud Mounting	List Price
1½″ Model 7511	50	1100	25	5841050	$26.25	5849050	$26.80
	100	650	20	5841100	23.70	5849100	24.20
	200	208	20	5841200	21.10	5849200	21.65
	500	45	25	5841500	20.60	5849500	21.10
2½″ Model 7521	50	1100	50	5841050	$27.05	5849050	$27.55
	100	650	50	5841100	23.95	5849100	24.45
	200	208	40	5841200	22.15	5849200	22.65
	500	45	50	5841500	21.10	5849500	21.65
3½″ Model 7531	50	1100	50	5841050	$28.60	5849050	$29.10
	100	650	50	5481100	25.25	5849100	25.75
	200	208	40	5841200	22.90	5849200	23.45
	500	45	50	5841500	22.65	5849500	23.20
4½″ Model 7541	50	1100	50	5841050	$27.80	5849050	$28.35
	100	650	50	5841100	26.80	5849100	27.30
	200	208	40	5841200	24.70	5849200	25.25
	500	45	50	5841500	23.70	5849500	24.20
6″ Model 7561	50	1100	50	....		5844050	$32.95
	100	650	50	....		5844100	30.65
	200	208	40	....		5844200	28.85
	500	45	50	....		5844500	27.30

DC Milliammeters

	Range mA	Resis. Ohms	Scale Div.	Weston No. Ring-Lock Mounting	List Price	Weston No. Stud Mounting	List Price
1½″ Model 7511	1	15	20	4841001	$20.60	4849001	$21.10
	5	10	25	4841005	20.60	4849005	21.10
	10	5	20	4841010	20.60	4849010	21.10
	20	2.5	20	4841020	20.60	4849020	21.10
	50	1.0	25	4841050	21.35	4849050	21.90
	100	0.5	20	4841100	21.35	4849100	21.90
	200	0.25	20	4841200	21.35	4849200	21.90
	500	0.1	25	4841500	21.35	4849500	21.90
2½″ Model 7521	1	15	50	4841001	$20.60	4849001	$21.10
	5	10	50	4841005	20.60	4849005	21.10
	10	5	50	4841010	20.60	4849010	21.10
	20	2.5	40	4841020	20.60	4849020	21.10
	50	1.0	50	4841050	20.85	4849050	21.35
	100	0.5	50	4841100	20.85	4849100	21.35
	200	0.25	40	4841200	20.85	4849200	21.35
	500	0.1	50	4841500	20.85	4849500	21.35

LISTING CONTINUED ON FACING PAGE

To order black painted cover, change the second digit of the number from 8 to 7 and add $1.50 to net price.

SANGAMO WESTON
Schlumberger

WESTON® Mustang Panel Meters

DC Milliammeters (Continued)

	Range µA	Resis. Ohms	Scale Div.	Weston No. Ring-Lock Mounting	List Price	Weston No. Stud Mounting	List Price
3½″ Model 7531	1	15	50	4841001	$21.65	4849001	$22.15
	2	10	40	4841002	21.65	4849002	22.15
	5	10	50	4841005	21.65	4849005	22.15
	10	5	50	4841010	21.65	4849010	22.15
	20	2.5	40	4841020	21.65	4849020	22.15
	50	1.0	50	4841050	21.65	4849050	22.15
	100	0.5	50	4841100	21.65	4849100	22.15
	200	0.25	40	4841200	21.65	4849200	22.15
	500	0.1	50	4841500	21.65	4849500	22.15
4½″ Model 7541	1	15	50	4841001	$22.65	4849001	$23.20
	2	10	40	4841002	22.65	4849002	23.20
	5	10	50	4841005	22.65	4849005	23.20
	10	5	50	4841010	22.65	4849010	23.20
	20	2.5	40	4841020	22.65	4849020	23.20
	50	1.0	50	4841050	23.20	4849050	23.70
	100	0.5	50	4841100	23.20	4849100	23.70
	200	0.25	40	4841200	23.20	4849200	23.70
	500	0.1	50	4841500	23.20	4849500	23.70
6″ Model 7561	1	15	50	....		4849001	$25.50
	2	10	40	....		4849002	25.50
	5	10	50	....		4849005	25.50
	10	5	50	....		4849010	25.50
	50	1.0	50	....		4849050	28.20
	100	0.5	50	....		4849100	28.20
	500	0.1	50	....		4849500	28.20

DC Ammeters

	Range A	Approx. Voltage Drop mV	Scale Div.	Weston No. Ring-Lock Mounting	List Price	Weston No. Stud Mounting	List Price
1½″ Model 7521	1	50	20	2841001	$21.35	2849001	$21.90
2½″ Model 7521	1	50	50	2841001	$21.65	2849001	$22.15
3½″ Model 7531	1	50	50	2841001	$22.15	2849001	$22.65
4½″ Model 7541	1	50	50	2841001	$23.20	2849001	$23.70
	2	50	40	2841002	23.20	2849002	23.70
6″ Model 7561	1	50	50	....		2849001	$28.85

AC Voltmeters, Rectifier Type

	Range VAC	Ohms/ Volt	Scale Div.	Weston No. Ring-Lock Mounting	List Price	Weston No. Stud Mounting	List Price
1½″ Model 7512	150	870	15	1841150	$27.80	1849150	$28.35
	300	870	30	1841300	27.80	1849300	28.35
2½″ Model 7522	150	870	60	1841150	$26.80	1849150	$27.30
	300	870	60	1841300	26.80	1849300	27.30
3½″ Model 7532	150	870	60	1841150	$25.75	1849150	$26.25
	300	870	60	1841300	25.75	1849300	26.25
4½″ Model 7542	150	870	60	1841150	$27.70	1849150	$28.20
	300	870	60	1841300	27.70	1849300	28.20

To order black painted cover, change the second digit of the number from 8 to 7 and add $1.50 to net price.

QUANTITY DISCOUNTS: LOTS OF 1-9, LIST; 10-24, –15%.

SANGAMO WESTON
Schlumberger

WESTON® Mustang Panel Meters

DC Voltmeters

Model	Range VDC	Ohms/ Volt	Scale Div.	Weston No. Ring-Lock Mounting	List Price	Weston No. Stud Mounting	List Price
1½″ Model 7511	2	1000	20	1841002	$21.35	1849002	$21.90
	5	1000	25	1841005	21.35	1849005	21.90
	50	1000	25	1841050	21.35	1849050	21.90
	150	10,000	15	1841150	21.35	1849150	21.90
	200	10,000	20	1841200	21.35	1849200	21.90
	300	10,000	30	1841300	22.65	1849300	23.20
2½″ Model 7521	1	1000	50	1841001	$21.65	1849001	$22.15
	5	1000	50	1841005	21.65	1849005	22.15
	15	1000	60	1841015	21.65	1849015	22.15
	25	1000	50	1841025	21.65	....	....
	30	1000	60	1841030	21.65	1849030	22.15
	50	1000	50	1841050	21.65	1849050	22.15
	100	1000	50	1841100	21.65	....	....
	150	10,000	60	1841150	21.65	1849150	22.15
	300	10,000	60	1841300	22.90	1849300	23.45
	.050	10,000	50	8841050	21.65	....	....
3½″ Model 7531	2	1000	40	1841002	$22.90	1849002	$23.45
	5	1000	50	1841005	22.90	1849005	23.45
	15	1000	65	1841015	22.90	....	....
	25	1000	50	1841025	22.90	....	....
	30	1000	60	1841030	22.90	1849030	23.45
	50	1000	50	1841050	23.70	....	....
	100	1000	50	1841100	23.70	....	....
	150	10,000	60	1841150	23.70	1849150	24.20
	200	10,000	40	1841200	23.70	1849200	24.20
	.050	10,000	50	8841050	22.25	....	....
4½″ Model 7541	1	1000	50	1841001	$24.20	1849001	$24.70
	2	1000	40	1841002	24.20	1849002	24.70
	5	1000	50	1841005	24.20	1849005	24.70
	10	1000	50	1841010	24.20	1849010	24.70
	15	1000	60	1841015	24.20	1849015	24.70
	25	1000	50	1841025	24.20	....	....
	30	1000	60	1841030	24.20	1849030	24.70
	50	1000	50	1841050	24.20	1849050	24.70
	100	1000	50	1841100	25.00	....	....
	150	10,000	60	1841150	25.00	1849150	25.50
	200	10,000	40	1841200	25.00	1849200	25.50
	300	10,000	60	1841300	25.00	1849300	25.50
	.050	10,000	50	8841050	24.20	....	....
6″ Model 7561	5	1000	50	....	....	1844005	$27.05
	15	1000	60	....	....	1844015	27.05
	30	1000	60	....	....	1844030	27.05
	50	1000	50	....	....	1844050	27.05
	150	10,000	60	....	....	1844150	27.05
	300	10,000	60	....	....	1844300	27.05

vu Meters—AC Rectifier Type; "A" Scale

(Furnished with black painted front and (2) stud mounting)				For rear illumination; Type 2 front for rear panel mounting (mounting hardware available).	
Model	Size	Cat. No.	List	Cat. No.	List
7522	2½″	3749600	33.20	—	—
7532	3½″	3749600	33.20	3242600	36.25
7542	4½″	3749600	33.20	3242600	36.25

DC Meters—With vu "A" scale

(Furnished with black painted front and (2) stud mounting)					For rear illumination; Type 2 front for rear panel mounting (mounting hardware available).	
Range	Model	Size	Cat. No.	List	Cat. No.	List
200uA	7521	2½″	3749200	22.40	—	—
1ma	7521	2½″	3749001	21.90	—	—
200uA	7531	3½″	3749200	22.40	3242200	25.40
1ma	7531	3½″	3749001	21.90	3242001	24.90
200uA	7541	4½″	3749200	22.40	3242200	25.40
1mA	7541	4½″	3749001	21.90	3242001	24.90

SANGAMO WESTON
Schlumberger

WESTON® Edgewise Panel Meters

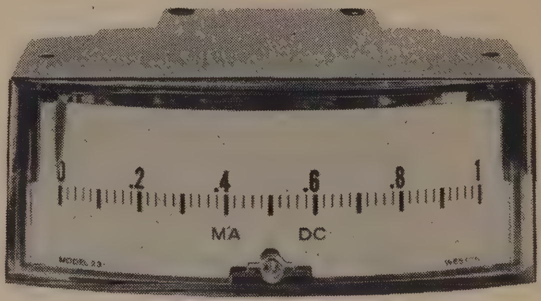
Models 131 and 231 Edgewise Panel Meters

100
200
300
400
500
UA
DC
MODEL 131
WESTON

Model 131

Features:

- COMPLETELY FLAT...CAN BE STACKED SIDE-BY-SIDE TO SAVE PANEL SPACE
- INLINE POINTER AND SCALE... PARALLAX ELIMINATED
- NEW SELF-SHIELDED MECHANISM
- ILLUMINATION (SELF-CONTAINED) ALSO AVAILABLE



Model 231

Model 131 is basically a 3½-inch flat edgewise meter offering many benefits not generally offered in this type of meter. To eliminate parallax normally associated with edgewise meters, an inline scale is standard; a red pointer increases readability. For those requiring lighting, self-contained illumination is available as an optional feature; bulbs are removable while meters are mounted in panel—even when stacked, side-by-side. Incorporates Cormag® mechanism design for shielding purposes. The magnet is inside the moving coil and the resulting inherent shielding allows mounting on magnetic or non-magnetic panels without need for adjustment, as well as the ability to stack meters side-by-side without any interaction. Mechanism also has a shock absorption jewel arrangement to assure long life. **Accuracy:** 2% of FS value for DC; 3% of FS value for AC rectifier type. **Scale Length:** 2.75"; anti-parallax inline scale. **Pointer:** Red lance type. **Movement:** Self shielded thin line Cormag mechanism. Shock mounted jewel arrangement. **Mounting:** Meter can be mounted either horizontally or vertically. Mounting clips fasten to meter behind panel — no screws show on front of panel. For stacking, thru holes are provided so stack can be bolted together.

Dielectric: 2600 V rms. **Illumination:** Self-contained on request. **Size:** 3.437" w. x 1.010" h. x 3.921" d. overall; panel cut out $2\frac{9}{16}$" w. x $\frac{11}{16}$" h.

Model 231 is identical to above, but with wide face for improved readability.

DC Instruments

Scale Divisions: 50

Weston Numbers			Resis.	Net
Horiz.	Vertical	Range	Approx.	Each
131-1621010	....	0—10 V	5000 Ω/V	$30.00
131-1621050	....	0—50 V	5000 Ω/V	30.00
131-1621100	....	0—100 V	5000 Ω/V	30.00
131-4621001	131-4622001	0—1 mA	28 ohms	25.00
131-5621050	....	0—50 μA	1680 ohms	30.00
131-5621100	131-5622100	0—100 μA	680 ohms	25.00
131-5621500	....	0—500 μA	68 ohms	25.00
131-5621750	131-5622750	50—0—50 μA	680 ohms	25.00

QUANTITY DISCOUNTS: LOTS OF 1-9, LIST; 10-24, —10%; 25-49, —15%.

SANGAMO WESTON
Schlumberger

WESTON® Edgewise Panel Meters

0
20
40
60
80
100
UA DC

Model 121

Model 121 Edgewise Panel Meters

Model 121 is a 2½″ flat edgewise meter utilizing a true flat Cormag mechanism design for shielding purposes. An inline scale is standard; eliminates parallax normally associated with edgewise meters. Red pointer increases readability. Front mounted zero corrector. **Accuracy:** 2% of FS value for DC; 3% of FS value for AC rectifier type. **Scale Length:** 1.9″; antiparallax inline scale. **Pointer:** Red lance type. **Movement:** Self shielded thin line Cormag mechanism. Shock mounted jewel arrangement. **Mounting:** Either horizontally or vertically. Mounting clips fasten to meter behind panel; no screws show on front of panel. For stacking, thru-holes are provided so stack can be bolted together. **Dielectric:** 1500 V rms. **Size:** 2.880″ w. x 1.010″ h. x 3.921″ d. overall; panel cut out, 2 9/16″ w. x 11/16″ h.

DC Instruments

Weston No. 121- Horiz.	Vertical	Range	Scale Div.	Approx. Resis.	List Price
1621010	....	0–10 V	50	5000 Ω/V	$24.00
4621001	4622001	0–1 mA	50	37 ohms	22.00
5621050	5622050	0–50 μA	50	1490 ohms	27.00
5621100	5622100	0–100 μA	50	600 ohms	22.00
5621200	....	0–200 μA	40	460 ohms	22.00
5621500	....	0–500 μA	50	113 ohms	22.00
5621750	....	50–0–50 μA	50	600 ohms	22.00

AC Instruments

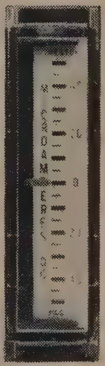
Weston No. 122- Horiz.	Vertical	Range	Scale Div.	Approx. Resis.	List Price
1631300	....	0–300 V	30	2000 Ω/V	$26.00

Model 111 Self-Shielded Panel Meters

Edgewise instrument using a flat Cormag mechanism for inherent shielding; permits mounting on magnetic or non-magnetic panels without adjustment. Can be stacked side-by-side without interaction. Shock absorption jewel arrangement assures long life. Mounts vertically or horizontally (specify) using mounting clips behind panel; no screws show on panel front; thru-holes provided for stacking. Red lance pointer. **Scale:** 1.25″ long. **Accuracy:** 2% FS, DC; 3% FS, AC rectifier type. **Size:** 1.810″ w. x .500″ h. x 2.440″ d. behind panel; fits 1.650″ x .500″ panel cutout.

MILLIAMPERES DC
0
.2
.4
.6
.8
1

Model 111



DC Instruments

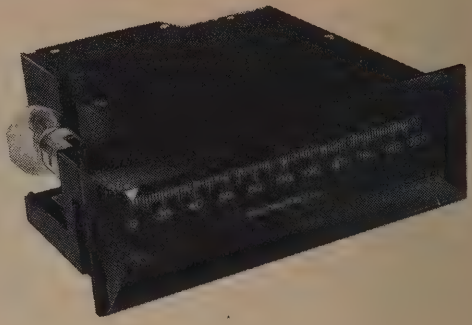
Weston No. 111- Horiz.	Vertical	Range	Scale Div.	Approx. Resis.	List Price
....	5622050	0–50 μA	25	1880 ohms	$25.00
5621100	5622100	0–100 μA	20	760 ohms	20.00
5621200	5622200	0–200 μA	20	580 ohms	20.00
5621500	....	0–500 μA	25	113 ohms	20.00
5621750	5622750	50–0–50 μA	20	760 ohms	20.00
4621001	4622001	0–1 mA	20	38 ohms	20.00
4621010	....	0–10 mA	20	2.2 ohms	20.00
4621025	....	0–25 mA	25	2 ohms	21.50
1621010	1622010	0–10 V	20	5000 Ω/V	21.50
1621050	....	0–50 V	25	5000 Ω/V	21.50
....	1622150	0–150 V	30	5000 Ω/V	21.50

QUANTITY DISCOUNTS: LOTS OF 1-9, LIST; 10-24, –10%; 25-49, –15%.

SANGAMO WESTON
Schlumberger

WESTON® Optical Panel Instruments

Model 1201 Flat-Scale Edgewise Projected Moving Pointer Meters



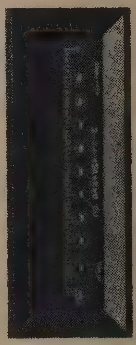
First true, flat scale, edgewise instrument priced comparably to mechanical pointer types. Pointer is projected on the same plane as the scale divisions to eliminate parallax; projection path arranged for an essentially linear scale. Basic mechanism is Cormag® design for inherent self-shielding; unaffected by panel material. All-glass optical system, thermosetting plastic case and 10,000 hour lamp assure trouble-free service. Designed to meet ANSI C39.1 specifications. Filters may be placed behind the scale so pointer will change color at a fixed point using up to two colors plus white on a single instrument; standard colors are red, green or amber. **Scale:** 4½″. **Accuracy:** 1% F.S. D.C. **Lamp:** GE No. 6 operating at 5 V, 2.86 amps; 10,000 hours min. expected life. **Size:** $5\frac{21}{32}$″ w. x $2\frac{1}{32}$″ h. x $5\frac{19}{32}$″ d., overall.

DC Instruments

Weston Model	Range	Scale Div.	Approx. Resis.	List Price
1201-4911001	1 mA	100	18.8 Ω	$157.55
1201-5911050	50 μA	100	2300 Ω	172.05
1201-5911750	50—0—50 μA	100	640 Ω	167.95

Model 1316 Optical Ribbon Indicator

Vertical Mounting



First ribbon indicator for use with electronic systems. Ideal wherever simultaneous readoff of multiple parameters is necessary, as for temperature profiles, medical patient-station monitoring, inspection histograms, gauging liquid or material levels, or monitoring a roomful of machining operations. Optical projection eliminates parallax; scale can be changed freely without exposing mechanism. Flat design permits side-by-side mounting for group display; self-shielding (per ANSI C39.1) eliminates interaction of units. Scale: 4½″ long; white figures and divisions on black background, red ribbon. **Accuracy:** 2% F.S. **Lamp:** No. 561 operating at 11 V, .8 amp AC or DC; 8,000 hrs. min. expected life. **Size:** 1.84″ w. x 5.80″ d. x 5.43″ h. behind panel; removable bezel is 2.26″ w. x .25″ th. x 6.00 h. Wt., approx. 2 lbs. Panel cutout, 1.875″ w. x 5.50″ h.; for group display, allow 2.2″ of panel cutout width per meter for 2-4 meters, 2.25″ per meter for 5-10.

DC Voltmeters

Weston No.	Range	Approximate Resistance, Ohms/Volt	List Price
1316-1912001	0—1 V	1000	$187.45
1316-1912010	0—10 V	1000	187.45

DC Milli/ Microammeters

1316-5912100	0—100 μA	184.0	$186.50
1316-4912920	4—20 mA*	2.5	185.60
1316-4912950	10—50 mA*	1.0	185.60
1316-4912001	0—1 mA	13.8	185.60

*Suppressed zero.

QUANTITY DISCOUNTS: LOTS OF 1-9, LIST; 10-24, —10%; 25-49, —15%

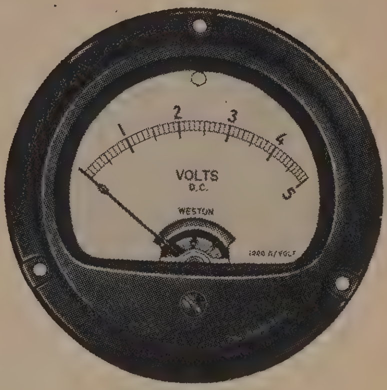
SANGAMO WESTON
Schlumberger

WESTON® Panel Instruments

Series 201/301 Round Panel Instruments

Pacesetter 2½″ and 3½″ panel instruments for longer, better performance. **Features:** Spring-back jewels with locking nuts for fine adjustments; Alnico 5 magnets; Cormag® mechanism fully shielded from electrostatic effects; Bakelite§ cases, sealed against dust. Diecast parts in critical structural members assure complete interchangeability and permanent alignment. Designed for minimum power consumption, minimum response time. Cormag mechanism permits mounting on magnetic or non-magnetic panels without special adjustments. Affords excellent shielding from external magnetic fields and eliminates the possibility of intereffect of instruments in close proximity.

§Bakelite Corp. Trademark



Models 201/301 DC Meters

Mechanism is DC Cormag self-shielded units and are suitable for use on most standard applications.

Model 201: Rated accuracy, 2% of full-scale value. Scale, 1.57″ (40 mm), core-magnet moving coil mechanism. Size: 2.68″ dia. (overall) x .31″ front of panel x 1.87″ back of panel. Mtg. hole, 2.20″ dia. **Model 301:** Rated accuracy, 2% of full-scale value. Scale, 2.46″ (60 mm), core-magnet moving coil mechanism. Size: 3.50″ dia. (overall) x .36″ front of panel x 1.81″ back of panel. Mtg. hole, 2.75″ dia.

DC Voltmeters
(1000 ohms/volt)

Range	Model 201 (2½″) Weston No. 201-	List Price	Model 301 (3½″) Weston No. 301-	List Price
3	....	.....	1301104	$29.60
15	1301104	$30.35	1301107	29.60
30	1301105	30.35	1301108	29.60
50	1301106	30.35	1301102	29.60
300			1301103	30.85

DC Ammeters

Self-contained shunts up through 50 amps; higher ranges require external shunting. MIL-S-61 shunts available on request.

3	....	.....	2301103	$28.80
5	2301104	$29.05	2301104	28.80
10	2301105	29.05	2301106	28.80
30	2301108	31.30	....	.....
50	2301110	31.30	....	.....
50 mV‡	2303101	31.30	....	.....
300	....	.....	2303103	28.80
500	....	.....	2303104	28.80

‡External shunt type, 100 A scale; price does not include 50 mV shunt.

DC Milliammeters

Ranges 40 mA and up are shunted; have approx. 100 mV drop.

1	....	.....	4301111*	$28.80
1	4301101	$28.55	4301101†	28.80
3	....	.....	4301106	28.80
5	....	.....	4301107	28.80
15	....	.....	4301102	28.80
50	4301107	29.95	4302101	28.80
100	....	.....	4302102	28.80
300	....	.....	4302108	28.80
500	....	.....	4302104	28.80
1—0—1	4301111	29.95	....	.....

Approx. ohm resistance: *27; †88.

DC Microammeters

Range	Model 201 (2½″) Weston No. 201-	List Price	Model 301 (3½″) Weston No. 301-	List Price
20	....	.....	5301107	$47.40
50	....	.....	5301104	40.20
100	5301102	$34.75	5301101	34.25
200	....	.....	5301105	29.60
500	5301104	29.80	5301106	29.60
10—0—10	....	.....	5301110	47.40
50—0—50	5301106	34.75	....	.....
100—0—100	....	.....	5301102	29.60
500—0—500	....	.....	5301103	28.80

Model 302 Rectifier Type AC Instruments

For most standard applications. Accuracy within 3% F.S. on waveforms approximating the sine wave at ordinary room temperatures.

AC Voltmeters (1000 ohms/volt)

Range	Scale Divisions	Weston No. 302-	List Price
10	50	1301103	$38.65

Model 306 DC Microammeters

DC type external magnet units, not shielded and are applicable for use where high sensitivities, special ballistic characteristics, etc., are needed. Same size and accuracy as Model 301.

Range	Scale Div.	Approx. Resis.	Weston No. 306-	List Price
50	50	1175 ohms	5301107	$44.00
100	50	660 ohms	5301102	40.45
200	40	55 ohms	5301101	40.45

QUANTITY DISCOUNTS: LOTS OF 1-9, LIST; 10-24, —10%; 25-49, —15%

SANGAMO WESTON
Schlumberger

WESTON® Panel Instruments

Models 204/304 AC Meters

Mechanism is moving iron AC type, not shielded. **Model 204:** Rated accuracy, ±2% of full-scale. Scale, 1.57″ l. (40 mm), movable iron vane mechanism. Size: 2.68″ dia. (overall) x .31″ front of panel x 2.24″ back of panel. Mtg. hole, 2.20″ dia. **Model 304:** Rated accuracy, ±2% of full-scale. Scale, 2.13″ l. (54 mm), movable iron vane mechanism. Size: 3.50″ dia. (overall) x .36″ front of panel x 2.30″ back of panel. Mtg. hole, 2.75″ dia.

AC Voltmeters 25-125 Hz

Power consumption, 150 VAC range at 115 VAC, 0.65 watt at 60 Hz, 0.65 volt-ampere. Units are normally adjusted for use on frequencies 25 to 125 Hz, however, they may be adjusted for use on 400, 800 or 1600 or any specified frequency up to 2500 Hz for a nominal surcharge.

	Model 204 (2½″)		Model 304 (3½″)	
Range	Weston No. 204-	List Price	Weston No. 304-	List Price
10	....	.....	1301106	$34.60
100	....	.....	1301111	34.60
150	1301101	$34.10	1301101	35.80
300	1301104	34.10	1301115	35.80
500	....	.....	1301117	43.65

AC Ammeters

Power consumption, 5 ampere range at 5 amps, 0.125 watt at 60 Hz, 0.125 volt-ampere. For use on frequencies as specified.

1	2301104	$31.40	2301102	$34.05
3	....	.....	2301105	34.05
5	2301101	31.40	2301101	34.05
10	2301107	31.40	2301107	34.05
15	....	.....	2301108	34.05
20	2301108	31.40	2301109	34.05
30	....	.....	2301110	34.05
50	2301103	31.40	2301111	34.05

25-500 Hz For use with Current Transformers

Prices shown do not include Model 605 or Model 607 transformer.

Range, Amps	Amps Scale	(3½″) Weston No.	List Price
5	0—100	304-2301112	$34.05
5	0—200	304-2301113	34.05
5	0—300	304-2301114	34.05

Model 308 Thermo-Ammeters

Model 308: Power consumption, 1—4 amps varies from 0.2—0.4 amp, approximately 5 amps and above 0.2 watt per amp. Frequency error less than 2% up to 65 megahertz. Rated accuracy 2% of full scale. Scale, 2.36″ (60 mm). Thermocouple type.

Range, Amps	Model 308 (3½″) Weston No.	List Price
3	308-2301104	$66.00
5	308-2301105	66.00
8	308-2301106	66.00
10	308-2301107	66.00

Model 308 Expanded Scale Thermo-Ammeters

Range, Amps	Model 308 (3½″) Weston No.	List Price
10	308-2302109	$83.10
15	308-2302110	83.10
20	308-2302111	83.10

Series 1900 Panel Instruments

MILLIAMPERES
WESTON
Plastic

MILLIAMPERES
Bakelite

Mounting styles: Semi-flush, flush (with bezel) or recessed. Instruments are available with Bakelite* front or plastic front if desired (same price). 7½″ sizes plastic only. All items listed are stock. Non-stock items available on special order; write for complete information and prices. Scale arcs for meters 100°.

*Bakelite Corp. trademark.

Series 1900T Taut Band Panel Meters

Same as 1900, but with taut band mechanism. Up to four times the sensitivity of conventional types; no pivots, jewels or springs needed. 1936T (3½″), 1946T (4½″) and 1956T (5½″) have external DC magnet. Accuracy, ±2% except as noted.

DC Microammeters (Ext. Mag.)

	Model 1936		Model 1946		Model 1956	
Range	Weston No.	List Price	Weston No.	List Price	Weston No.	List Price
5	....	.....	5629005	$74.80	....	.....
10	5629010	59.90	....	.....	5629010	$71.30
20	....	.....	....	.....	....	.....
50	....	.....	5619050	71.70	....	.....
100	....	.....	5619100	69.85	....	.....

Null Indicators

Model 1936T—(3½ inch) No. 5619069. List Price $75.80

Half-Frame Mounting Bezels

Half-frame bezels mount 1900 series meters so only the scale is visible. For use only with clear-plastic-front instruments. Flat black enamel finish; for panels ⅛″ thick max.

Weston No.	For Models	List Price
1909-0198487	1936, 2, 4, 6, 8 or T	$ 3.10
1909-0198488	1946, 2, 4, 6, 8 or T	3.10
1909-0198489	1956, 2, 4, 6, 8 or T	3.10
1909-0256375	1971, 6 or T	10.90

QUANTITY DISCOUNTS: LOTS OF 1-9, LIST; 10-24, —10%; 25-49, —15%

WESTON® Thermometers

MODELS 4303, 4313—3″ DIAMETER

Rugged, stainless steel, bimetal thermometers featuring in-line pointer and scale to eliminate parallax error. External recalibration adjustment permits meter to be recalibrated without removing cover. **Specifications:** 3″ dia. stainless steel cover; 18-8 stainless steel threaded ½″ N.P.T. connecting nut. All stainless steel welds used at plug and case ends, assuring high resistance to corrosion. Accurate within ±1% of range of entire scale. Scale length, 6″.

MODEL 4303 (FIG. A)

Range, Degrees	List Price* (Specify Stem Length) 2½″	4″, 6″	9″, 12″	15″, 18″	24″
−100 to 100 F	#	#	$19.50▪	#	#
−40 to 120 F	$18.00	$18.50	19.50▪	#	$26.50
25 to 125 F	18.00	18.50	19.50▪	#	#
0 to 200 F	18.00	18.50	19.50▪	$24.00▪	26.50
20 to 240 F	18.00	18.50	19.50▪	24.00▪	26.50
50 to 300 F	18.00	18.50	19.50▪	24.00▪	26.50
50 to 400 F	18.00	18.50	19.50▪	#	#
50 to 500 F	18.00	18.50	19.50▪	24.00▪	#
150 to 750 F	18.00	18.50	19.50▪	#	#
200 to 1000 F	18.00	18.50	19.50▪	24.00▪	26.50
−100 to 50 C	#	#	#	#	#
0 to 50 C	18.00	18.50*	#	#	#
−50 to 100 C	#	#	#	#	#
0 to 100 C	18.00	18.50	19.50▪	#	#
−10 to 110 C	18.00	18.50	#	#	#
0 to 150 C	18.00	18.50	#	#	#
0 to 200 C	18.00	18.50	#	#	#
0 to 300 C	18.00	18.50	#	#	#
100 to 400 C	#	18.50	#	#	#

MODEL 4313 (FIG. B)

−100 to 100 F	#	#	#	#	#
−40 to 120 F	$30.50	$31.00▪	#	#	#
25 to 125 F	30.50	31.00▪	#	#	#
0 to 200 F	30.50	31.00▪	#	#	#
20 to 240 F	30.50	31.00▪	#	#	#
50 to 300 F	30.50	31.00▪	#	#	#
50 to 400 F	30.50	31.00▪	#	#	#
50 to 500 F	30.50	31.00▪	$33.00▪	#	#
150 to 750 F	#	31.00▪	#	#	#
200 to 1000 F	#	31.00▪	#	#	#
−100 to 50 C	#	#	#	#	#
−50 to 100 C	#	#	#	#	#
0 to 100 C	#	31.00▪	#	#	#
−10 to 110 C	#	31.00▪	#	#	#
0 to 150 C	#	31.00▪	#	#	#
0 to 200 C	#	31.00▪	#	#	#
0 to 300 C	#	31.00▪	#	#	#
100 to 400 C	#	#	#	#	#

*Stocked in 4″ only. #Non-stock items; available on special order.
▪For the longer stem length, add **$0.50** to price shown.

MODELS 4503, 4513—5″ DIAMETER

Same as Models 4303 and 4313 except 5″ dia. head, 10″ scale length.

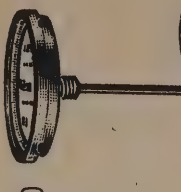
MODEL 4503 (FIG. A)

−100 to 100 F	#	#	#	#	#
−40 to 120 F	#	$27.50▪	$29.00§	#	#
25 to 125 F	#	27.50▪	29.00▪	#	#
0 to 200 F	$27.00	27.50▪	29.00▪	$32.50▪	#
20 to 240 F	27.00	27.50▪	29.00▪	32.50▪	$35.50
50 to 300 F	27.00	27.50▪	29.00▪	#	#
50 to 400 F	27.00	27.50▪	29.00▪	#	#
50 to 500 F	27.00	27.50▪	29.00▪	32.50▪	#
150 to 750 F	#	27.50▪	29.00▪	#	#
200 to 1000 F*	#	27.50▪	29.00§	#	#
−100 to 50 C	#	#	#	#	#
0 to 50 C	#	#	#	#	#
−50 to 100 C	#	27.50†	#	#	#
0 to 100 C	#	27.50▪	29.00▪	32.50▪	#
−10 to 110 C	#	27.50▪	29.00§	#	#
0 to 150 C	#	27.50▪	29.00▪	#	#
0 to 200 C	#	27.50▪	29.00▪	#	#
0 to 300 C	#	#	29.00▪	#	#
100 to 400 C	#	#	29.00▪	#	#

MODEL 4513 (FIG. B)

−100 to 100 F	#	#	#	#	#
−40 to 120 F	#	#	#	#	#
0 to 200 F	$40.00	$40.50▪	$42.50▪	#	#
20 to 240 F	40.00	40.50▪	42.50§	#	#
50 to 300 F	40.00	40.50▪	42.50§	#	#
50 to 400 F	#	40.50▪	#	#	#
50 to 500 F	#	40.50▪	42.50•	#	#
150 to 750 F	#	40.50▪	#	#	#
200 to 1000 F*	#	#	42.50▪	#	#
−100 to 50 C	#	#	#	#	#
−50 to 100 C	#	#	#	#	#
−10 to 100 C	#	40.50▪	#	#	#
0 to 100 C	#	40.50▪	#	#	#
0 to 150 C	#	40.50▪	#	#	#
0 to 200 C	#	#	#	#	#
0 to 300 C	#	#	#	#	#
100 to 400 C	#	#	#	#	#

*Not recommended for continuous operation above 800° F. †Stocked in 4″ only. §9″ only. •12″ only. #Non-stock items; available on special order. ▪For the longer stem length, add **$0.50** to price shown.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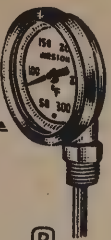
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C

MODELS 2281 AND 2282 GENERAL PURPOSE THERMOMETERS

Model 2281: General industrial thermometers equipped with 18-8 stainless steel, ¼″ diameter stem and threaded ¼″ National Pipe Thread connection nut. Can be supplied with ⅜″ or ½″ NPT connection nut at extra charge. Standard lengths listed below include threads. Intermediate stem lengths available on special order.

Model 2282: General testing thermometers supplied with 18-8 stainless steel, .142″ dia. stem, without connection nut. Standard length 8″ including hub. Other stem lengths available on special order. **Head** (Both models): 2″ dia., 18-8 stainless case and bezel. Standard glass window. **Scale Length** (Both models): 4½″. **Accuracy (Both models):** Within 1% of range over entire scale.

MODEL 2281 (FIG. A)

Range, Degrees	List Price* (Specify Stem Length) 2½″	4″, 6″	9″, 12″	18″	24″
−100 to 100 F	#	#	#	#	#
−40 to 120 F	$15.50	$16.00▪	#	#	#
25 to 125 F	#	16.00▪	$17.50•	#	#
0 to 200 F	15.50	16.00▪	17.50†	#	#
20 to 240 F	15.50	16.00▪	17.50•	#	#
50 to 300 F	15.50	16.00†	17.50†	#	#
50 to 400 F	15.50	16.00▪	#	#	#
50 to 500 F	15.50	16.00▪	17.50§	#	#
150 to 750 F	15.50	16.00▪	17.50§	#	#
200 to 1000 F	#	16.00‡	17.50§	#	#
−100 to 50 C	#	#	#	#	#
0 to 50 C	#	#	#	#	#
−50 to 100 C	#	#	#	#	#
0 to 100 C	15.50	16.00‡	#	#	#
−10 to 110 C	#	#	#	#	#
0 to 150 C	15.50	#	#	#	#
0 to 200 C	15.50	#	#	#	#
0 to 300 C	#	#	#	#	#
100 to 400 C	#	#	#	#	#

MODEL 2282—8″ STEM ONLY

Ranges, Degrees	List Price*	Range, Degrees	List Price*
−100 to 40 C	#	−100 to 100 F	#
0 to 50 C	#	25 to 125 F	$15.00
−50 to 100 C	#	−40 to 160 F	#
−10 to 110 C	#	0 to 180 F	15.00
0 to 100 C	#	0 to 220 F	15.00
0 to 150 C	#	50 to 250 F	#
0 to 250 C	#	50 to 300 F	15.00
−100 to 540 C −150 to 1000 F	$18.50*	50 to 400 F	15.00
		50 to 500 F	15.00
−100 to 260 C −150 to 500 F	18.00▲		

*Scale calibrated in both °C and °F; with .25″ dia. stem. ▲ Scale calibrated in both °C and °F. †Stocked in 4″ only. ‡6″ only. §9″ only. •12″ only. #Non-stock items; available on special order. ▪For the longer stem length, add **$0.50** to price shown.

MODEL 2292 BIMETAL POCKET THERMOMETER WITH EXTERNAL ADJUSTMENT (FIG. C)

Ideal for spot checking. Includes plastic case with attached pocket clip. Head, 1″ dia. with 18-8 stainless steel case and bezel, plastic window; head temps. should not exceed 220° F. Metal scale plate has permanent black figures and markings. Spiking stem, 5″ long x .142″ dia. made of 18-8 Type 304 stainless steel. Inserts easily into meat, food or other semi-solid material. **Accuracy:** Within 1% of range over entire scale. **Scale Length:** 2.1″. Case also serves as handle for thermometer. Thermometer can be recalibrated externally by immersing stem in controlled temperature bath and turning hex nut until pointer indicates correct temperature. **Specify range when ordering.**

Weston Model 2292 Pocket Thermometer—Ranges: −40 to 160° F or 25 to 125° F. List Price........................**$13.50***

Weston Model 2292 Pocket Thermometer—Ranges: 0–220° F; 50 to 500° F; 0 to 150° C or 0–250° C. List Price........**$13.50***

★QUANTITY DISCOUNTS

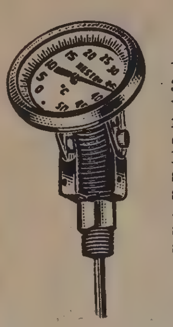
Specify Model, Range and Stem Length when ordering.

Description	Discount, Lots of 1-24	25-49	50 Up
Bimetal Thermometers	List	−20%	−25%
Thermometer Wells	List	−10%	−10%

WESTON® Bimetal Thermometers

MODELS 4304 AND 4504 UNIVERSAL ANGLE THERMOMETERS

- REMOVABLE FRONTS
- 3″ AND 5″ SIZES
- STAINLESS STEEL CONSTRUCTION
- HELIARC WELDED
- PIVOTED YOKE
- EXTERNAL CALIBRATION
- ±1% ACCURACY



Unique, highly dependable, fully adjustable 3-inch Model 4304 and 5-inch Model 4504 universal angle thermometer can be mounted for viewing at any angle. Dial can be twisted or tilted on the stem for ease of installation. Highly engineered thermometer features all stainless steel construction with heavy gauge stainless steel bellows; external calibration and removable fronts. A minimum of set screw adjustment combined with simple design which virtually eliminates pointer shift. Pivoted yoke is stronger and more rigid than eccentric gear linkages. Bimetal element designed to assure long term stability and accuracy. All Heliarc welded. **Accuracy:** Within ±1% of range over entire scale. Range of 25° to 125° F and 0° to 50° C also available on special order; prices on request. *Patent pending.

3″ MODEL 4304

Prices are for thermometers with fixed connection ½″ NPT. For union connection ½″ NPT, specify and add **$6.75** to price given. Specify range and stem length when ordering.

Range, Degrees	°/Div.	List Price*			
		2½″ Lg. Stem	4″ Lg. Stem	6″ Lg. Stem	9″ or 12″ Lg. Stem
−100 to 100 F	2	**	**	**	**
−40 to 120 F	1	**	**	**	**
0 to 200 F	2	$34.50	$35.00	$35.50	**
20 to 240 F	2	34.50	35.00	35.50	**
50 to 300 F	2	**	35.00	**	**
50 to 400 F	5	**	35.00	35.50	**
50 to 500 F	5	**	35.00	35.50	**
150 to 750 F	10	**	**	35.50	**
200 to 1000 F†	10	**	**	35.50	**
−100 to 50 C	1	**	35.00	**	**
−50 to 100 C	1	**	35.00	**	**
0 to 100 C	1	**	35.00	**	**
−10 to 110 C	1	**	35.00	**	**
0 to 150 C	1	**	35.00	**	**
0 to 200 C	2	**	35.00	**	**
0 to 300 C	5	**	35.00	**	**
100 to 400 C	5	**	35.00	**	**

†Not recommended for continuous operation above 800° F. **Non-stock item; available on special order.

5″ MODEL 4504

Prices are for thermometers with fixed connection ½″ NPT. For union connection ½″ NPT, specify and add **$6.75** to price given. Specify range and stem length when ordering.

Range, Degrees	°/Div.	List Price*			
		2½″ Lg. Stem	4″ Lg. Stem	6″ Lg. Stem	9″ or 12″ Lg. Stem
−100 to 100 F	2	**	**	**	**
−40 to 120 F	1	**	$41.50	$42.00	$43.50■
0 to 200 F	2	**	41.50	42.00	43.50■
20 to 240 F	2	$41.00	41.50	42.00	43.50■
50 to 300 F	2	**	41.50	42.00	43.50■
50 to 400 F	5	**	41.50	42.00	43.50■
50 to 500 F	5	**	41.50	42.00	43.50■
150 to 750 F	10	**	**	**	43.50■
200 to 1000 F*	10	**	**	**	43.50■
−100 to 50 C	1	**	**	**	**
−50 to 100 C	1	**	**	**	**
0 to 100 C	1	**	41.50	42.00	43.50†
−10 to 110 C	1	**	**	**	**
0 to 150 C	1	**	**	42.00	**
0 to 200 C	2	**	41.50	42.00	**
0 to 300 C	5	**	41.50	42.00	**
100 to 400 C	5	**	**	**	**

*Not recommended for continuous operation above 800° C. †Available in 9″ length stem only. **Non-stock item; available on special order. ■For the longer stem length, add **$0.50** to price shown.

MODELS 4304 AND 4504 18″ AND 24″ STEM LENGTH

Centigrade thermometers are available on special order only. same ranges available as listed above for other stem lengths.

Range, Degrees	°/Div.	List Price*		List Price*	
		Model 4304		Model 4504	
		15″ or 18″ Lg. Stem	24″ Lg. Stem	15″ or 18″ Lg. Stem	24″ Lg. Stem
−100 to 100 F	2	**	**	**	**
−40 to 120 F	1	**	**	**	**
0 to 200 F	2	**	**	**	**
20 to 240 F	2	**	**	$46.50■	**
50 to 300 F	2	**	**	**	**
50 to 400 F	5	**	**	46.50■	**
50 to 500 F	5	**	**	46.50■	**
150 to 750 F	10	**	**	46.50■	**
200 to 1000 F*	10	**	**	46.50■	**

*Not recommended for continuous operation above 800° F. **Non-stock item; available on special order. ■For the longer stem length, add **$0.50** to price shown.

MODEL 2284 MIRROBAND® PRECISION TESTING THERMOMETERS

Feature mirror scale and knife-edge pointer to eliminate parallax error. Completely encased in welded stainless steel except for the scale glass. Head, 2″ dia. with 18-8 type 304 stainless steel, .142″ dia. stem. Standard length is 8″. **Accuracy:** Within ½% of range over the entire scale.

Weston Model 2284 Mirroband® Thermometer—Ranges: 25 to 125° F; −20 to 100° F; 0 to 220° F; 50 to 250° F; 50 to 500° F; −10 to 110° C; 0 to 250° C. Specify range. List Price. . **$16.00***

MODELS 4360 AND 4370 NAVY TYPE THERMOMETERS

Bimetal thermometers meet MIL-T-17244C specifications.

Complete information, prices and quantity discounts available on request.

MODEL 9966 WELLS FOR MODELS 4360 AND 4370

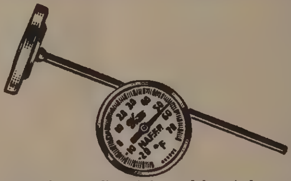
Complete information, prices and quantity discounts available on request.

★QUANTITY DISCOUNTS

Specify Model, Range and Stem Length when ordering.

Description	Discount, Lots of		
	1-24	25-49	50 Up
Bimetal Thermometers	List	−20%	−25%
Thermometer Wells	List	−10%	−10%

MODEL 2261 BIMETAL TESTING THERMOMETER



Completely encased in stainless steel for protection against acids and gases. Ideal for use as meat or food testing thermometer, with addition of spike stem. Available for internal oven use at continuous high temperatures. Head, 1¾″ dia. with 18-8 stainless steel case and bezel. Pointer and metal scale plate designed for easy reading with permanent black figures and markings. Sensitive bimetal multiple wound helix element is rigidly connected directly to indicating needle. Plastic window should not exceed 150° F. Stem, 18-8 Type 304 stainless steel, .142″ dia. Standard stem length, 8″ including hub; other stem lengths are available. **Scale Length:** 3.4″. **Accuracy:** Within ½ of 1% over entire scale range. Specify range when ordering.

Range, Degrees	List Price*	Range, Degrees	List Price*
−100 to 100 F	$12.00	50 to 500 F	$12.00
25 to 125 F	12.00	−100 to 40 C	12.00
−40 to 160 F	12.00	0 to 50 C	12.00
0 to 180 F	12.00	−50 to 100 C	12.00
0 to 220 F	12.00	−10 to 110 C	12.00
50 to 250 F	12.00	0 to 100 C	12.00
50 to 300 F	12.00	0 to 150 C	12.00
50 to 400 F	12.00	0 to 250 C	12.00

MODEL 2261 SPIKE STEM THERMOMETERS

Stem length, 5″ or 8″. **Single Range:** −40 to 160° F, 0 to 180° F, 0 to 220° F or 25 to 125° F. Any range listed.

5″ Stem—List Price. **$14.00***
8″ Stem—List Price. **15.00***

MODEL 2261 PLASTIC WINDOW THERMOMETERS

8″ stem length. **Single Range:** 25 to 125° F, 0 to 180° F or 0 to 220° F. Specify range. List Price. **$13.00***

Note: All Weston Thermometers can be supplied with plastic windows at extra charge.

SANGAMO WESTON
Schlumberger

WESTON® Precision Test Instruments

Clamp-On AC Current Probe

The Model 9740-0275768 is a rugged, lightweight probe designed for one-hand use. For use with voltmeters having a 200 mV AV range at 1 megohm or higher impedance. Output is linear with respect to input and the probe is rated from 60—400 Hz. Output leads end in banana plugs. Accuracy is ±4% F.S. on 2 A range, ±3% F.S. on 20 A range and ±2% F.S. on 200 A range.

Weston Model 9740-0275768 Clamp-On Probe—
Net Price $52.50

Model 633
AC Clamp Volt-Ammeter

The ideal maintenance tool for on-the-job testing. Rapidly measures AC voltage and current without breaking the circuit. Combines in one instrument three AC voltage ranges and five AC current ranges, completely covering voltages and current most frequently encountered. Dependable magnetic circuit; rugged Bakelite* case; non-shatterable glass; easily read double scale; pear-shaped pointer; adjustable pointer stop; six-position range and selector switch; safety-type trigger. 1000/250/100/10 amperes full scale; 700/350/175 volts full scale. Flexible leads supplied. Well damped movement. Complete instrument insulated for 750-volt use. For conductors up to 2″ in diameter.

Weston Model 633—Type VA-1. List Price $246.60

Clamp Ammeter Type A—Similar to above except not provided with voltage features or regularly equipped with adjustable pointer stop.

Type A-1—500/250/100/50/25/10 amps. List Price $232.15
Type A-2—1000/500/250/100/25/10 amps. List Price 232.15
Type A-3—2000/1000/500/250/100/50 amps. List Price 232.15

*Registered Bakelite Corp. trademark.

Model 749
AC Pocket Clamp
Volt-Ammeter

Designed particularly for the electrician, serviceman, engineer and motor repair shop. Contains six current ranges and three voltage ranges quickly readable from any angle on one, large-size scale. Supplied complete with carrying case, voltage test leads with insulated battery clips and three accessory probes. Accurate within ±3%. **Size:** 7½″ x 3″ x 1¼″. Approx. Wt. 14 oz. Accommodates conductors up to 1″ round or 1¾″ x ⅜″ rectangular. Large, smooth-action trigger; positive action range selector switch; shatterproof wrap-around plastic window; only one scale for all ranges; bright red pointer for easy reading (scale length, 2.36″). Uses new shock-mounted core magnet mechanism. Fully insulated for 750-volt service. Sturdy carrying case with convenient lead compartment. Precision-ground face provides positive jaw contact. Lightweight, compact, handfitting design, easily slipped into pocket. Satin-finish black Bakelite* case.

Weston Model 749—Ranges 300/150/60/30/15/6 amps AC; 600/300/150 VAC. Complete with carrying case, leads, and three accessory probes. List Price $82.30

Weston Model 9886 Plug-In Adapter—Provides a single or 10-loop conductor for current measurements. Rated 250 volts AC, measures current to 25 amperes on "Direct Reading"; up to 10 amperes for "Amperes Divided by 10" connection. List Price $9.70

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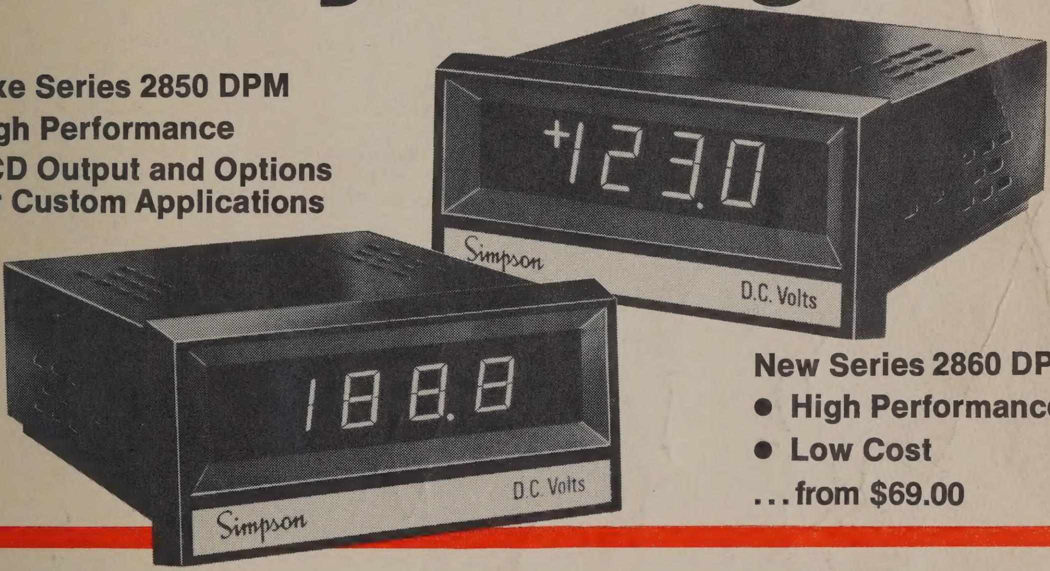
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- High Performance
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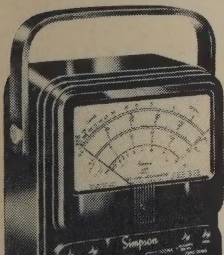
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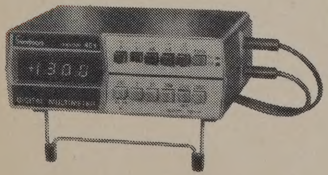

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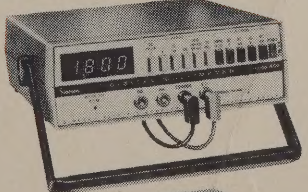

Model 464 DMM

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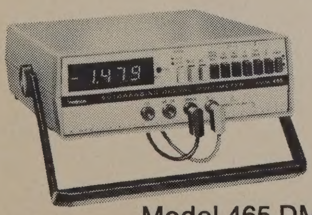

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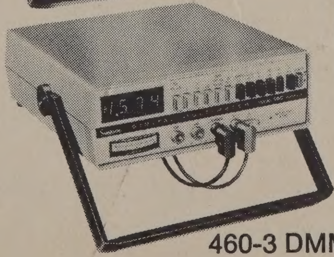


460-3 DMM

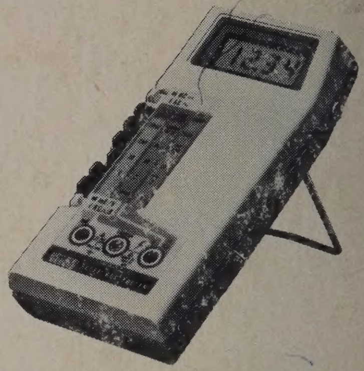
See the Complete Simpson Line on Pages 638 to 661

FLUKE OFF-THE-SHELF PRODUCTS

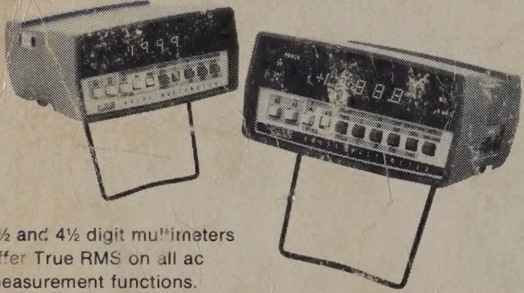
Low Cost Solutions to Your Measurement Problems

MIGHTY MINI 8020A DMM

- 5 Functions -- 26 Ranges plus new Conductance Function for up to 10,000 MΩ Leakage Measurements
- 200 Hour Battery Life
- In-circuit Resistance and Diode Testing
- Extensive Overload and Transient Protection
- One Hand Operation

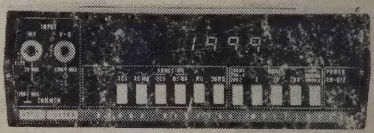


8030A AND 8040A TRUE RMS DMM'S



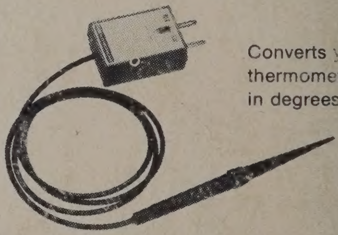
3½ and 4½ digit multimeters offer True RMS on all ac measurement functions.

8000A FAMILY OF DMM'S



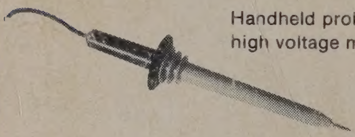
Family of versatile multimeters offer a wide range of measurement options including high current, high voltage, low ohms and milliamp-seconds.

80T-150 TEMPERATURE PROBE



Converts your DMM to a thermometer. Reads out directly in degrees C or F.

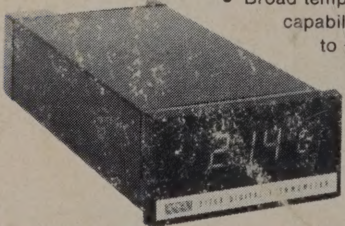
80K-40 HIGH VOLTAGE PROBE



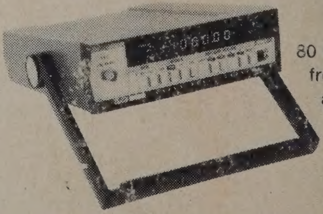
Handheld probe for general purpose high voltage measurements to 40 kV.

2160A/2170A
DIGITAL THERMOMETER SERIES

- Broad temperature measurement capability from -200°C to +2328°C.
- Resolution 1° or 0.2° F or C.



1900A MULTIFUNCTION COUNTER



80 MHz counter measures frequency, period, period average and totalize.

FLUKE®

For complete listing of low cost Fluke products see pages 596 to 601